

REFINITIV

DELTA REPORT

10-K

ECL - ECOLAB INC.

10-K - DECEMBER 31, 2023 COMPARED TO 10-K - DECEMBER 31, 2022

The following comparison report has been automatically generated

TOTAL DELTAS	9737
CHANGES	569
DELETIONS	2905
ADDITIONS	6263

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2022 2023

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to

Commission File No. 1-9328

ECOLAB INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

41-0231510

(I.R.S. Employer
Identification No.)

1 Ecolab Place, St. Paul, Minnesota 55102

(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: 1-800-232-6522

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, \$1.00 par value	ECL	New York Stock Exchange
2.625% Euro Notes due 2025	ECL 25	New York Stock Exchange
1.000% Euro Notes due 2024	ECL 24	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. ☒ Yes ☐ No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. ☐ Yes ☒ No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. ☒ Yes ☐ No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (\$232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). ☒ Yes ☐ No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

- Large accelerated filer ☒
- Accelerated filer ☐
- Non-accelerated filer ☐
- Smaller reporting company ☐
- Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management’s assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant’s executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). ☐ YES ☒ NO

Aggregate market value of voting and non-voting common equity held by non-affiliates of registrant on **June 30, 2022** **June 30, 2023**, the last business day of the Registrant’s most recently completed second fiscal quarter: **\$43,775,885,223** **\$53,175,318,295** (see Item 12, under Part III hereof), based on a closing price of registrant’s Common Stock of **\$153.76** **\$186.69** per share.

The number of shares of registrant’s Common Stock, par value \$1.00 per share, outstanding as of **January 31, 2023** **January 31, 2024**: **284,462,087** **285,513,155** shares.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant’s Proxy Statement for the Annual Meeting of Stockholders to be held **May 4, 2023** **May 2, 2024**, and to be filed within 120 days after the registrant’s fiscal year ended **December 31, 2022** **December 31, 2023** (hereinafter referred to as “Proxy Statement”), are incorporated by reference into Part III.

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ECOLAB INC.
FORM 10-K
For the Year Ended **December 31, 2022** **December 31, 2023**

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[PART I](#)

Except where the context otherwise requires, references in this Form 10-K to (i) "Ecolab," "Company," "we" and "our" are to Ecolab Inc. and its subsidiaries, collectively; (ii) "Nalco" are to Nalco Company LLC, a wholly-owned subsidiary of the Company; (iii) "Nalco transaction" and "Nalco merger" are to the merger of Ecolab and Nalco Holding Company completed in December 2011; (iv) "Purolite" are to Purolite LLC, a wholly-owned subsidiary of the Company and its subsidiaries, collectively; and (v) "Purolite transaction" are to the Company's acquisition of the shares of the subsidiaries and certain other affiliated entities of Purolite Corporation and substantially all of the assets of Purolite Corporation used or held for use in connection with its filtration and purification resins business in December 2021.

[Item 1. Business.](#)

[General Development of Business.](#)

Ecolab was incorporated as a Delaware corporation in 1924. Our fiscal year is the calendar year ending December 31. International subsidiaries are included in the consolidated financial statements on the basis of their U.S. GAAP (accounting principles generally accepted in the United States of America) November 30 fiscal year ends to facilitate the timely inclusion of such entities in our consolidated financial reporting.

In June 2020, we completed the separation of our Upstream Energy business (the "ChampionX business") in a Reverse Morris Trust transaction (the "Transaction") through the split-off of ChampionX Holding Inc. ("ChampionX"), formed by Ecolab as a wholly owned subsidiary to hold the ChampionX business, followed immediately by the merger (the "Merger") of ChampionX with a wholly owned subsidiary of ChampionX Corporation (f/k/a Apergy Corporation, "Apergy").

As discussed in Note 5 Discontinued Operations, the ChampionX business met the criteria to be reported as discontinued operations in 2020 because the separation of ChampionX was a strategic shift in business that had a major effect on our operations and financial results. Therefore, we reported the historical results of ChampionX, including the results of operations and cash flows as discontinued operations, and related assets and liabilities were retrospectively reclassified for all periods presented herein. Unless otherwise noted, the accompanying financial information has been revised to reflect the effect of the separation of ChampionX and prior year balances have been revised accordingly to reflect continuing operations only.

On December 1, 2021, we acquired Purolite for total consideration of \$3.7 billion in cash, net of cash acquired. Purolite is a leading and fast-growing global provider of high-end ion exchange resins for the separation and purification of solutions that is highly complementary to our current offering and critical to safe, high quality drug production and biopharma product purification in the life sciences industries. It also provides purification and separation solutions for critical industrial markets like microelectronics, nuclear power and food and beverage. Headquartered in King of Prussia, Pennsylvania, Purolite operates in more than 30 countries. Purolite is reported within our Life Sciences operating segment.

[Narrative Description of Business.](#)

General

A trusted partner for millions of customers, we are a global sustainability leader offering water, hygiene and infection prevention solutions and services that protect people and the resources vital to life. Building on a century of innovation, we have annual sales of \$14 billion \$15 billion, employ more than 47,000 48,000 associates and operate sell to customers in more than 170 countries around the world. We deliver comprehensive science-based solutions, data-driven insights and world-class service to advance food safety, maintain clean and safe environments, and optimize water and energy use. Our innovative solutions improve operational efficiencies and sustainability for customers in the food, healthcare, life sciences, hospitality and industrial markets.

We pursue a "Circle the Customer – Circle the Globe" strategy by providing an array of innovative programs, products and services designed to meet the specific operational and sustainability needs of our customers throughout the world. Through this strategy and our varied product and service mix, one customer may utilize the offerings of several of our operating segments. Important in our business proposition for customers is our ability to produce improved results while reducing their water and energy use. With that in mind, we focus on continually innovating to optimize both our own operations and the solutions we provide to customers, aligning with our corporate strategy to address some of the world's most pressing and complex sustainability challenges such as water scarcity and climate change. The work we do matters, and the way we do it matters to our employees, customers, investors and the communities in which we and our customers operate.

Sustainability is core to our business strategy. We deliver sustainable solutions that help companies around the world achieve their business goals while reducing environmental impacts. We partner with customers around the world to reduce water and energy use as well as greenhouse gas emissions through our high-efficiency solutions. By partnering with our customers to help them do more with less through the use of our innovative and differentiated solutions, we aim to help our customers conserve more than 300 billion gallons of water annually by 2030. In 2021, 2022, we helped our customers conserve more than 215 billion 219 billion gallons of water and avoid more than 3.5 million 3.6 million metric tons of greenhouse gas emissions.

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The following description of our business is based upon our reportable segments as reported in our consolidated financial statements for the year ended **December 31, 2022** **December 31, 2023**, which are located in Item 8 of Part II of this Form 10-K. Operating segments that share similar economic characteristics and future prospects, including the nature of the products and production processes, end-use markets, channels of distribution and regulatory environment, have been aggregated into three reportable segments: Global Industrial, Global Institutional & Specialty and Global Healthcare & Life Sciences. Operating segments that were not aggregated and do not exceed the quantitative criteria to be separately reported have been combined into Other. We provide similar information for Other as compared to our three reportable segments as we consider the information regarding its underlying operating segments useful in understanding our consolidated results.

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Global Industrial

This reportable segment consists of the Water, Food & Beverage **Downstream** and Paper operating segments, which provide water treatment and process applications, and cleaning and sanitizing solutions, primarily to large industrial customers within the manufacturing, food and beverage processing, transportation, chemical, primary metals and mining, power generation, global refining, petrochemical, pulp and paper industries. The underlying operating segments exhibit similar manufacturing processes, distribution methods and economic characteristics. Descriptions of the **four three** operating segments which comprise our Global Industrial reportable segment follow below.

Water

Water serves customers across industrial and institutional markets. Within Water, our light industry markets include food and beverage, manufacturing and transportation, institutional clients including commercial buildings, hospitals, universities and hotels, and global high technology serving customers including data centers and microelectronics. Heavy industries served include power, chemicals and primary metals, **mining and mining, petroleum refining and fuels industry.**

Water provides water treatment products and technology programs for cooling water, wastewater, boiler water and process water applications. **In addition to these solutions, we offer specialty programs to the petroleum and fuels industry – refining process applications, fuels and feedstocks additives.** Our cooling water treatment programs are designed to control challenges associated with cooling water systems — corrosion, scale and microbial fouling and contamination — in open recirculating, once-through and closed systems. Our wastewater products and programs focus on improving overall plant economics, addressing compliance issues, optimizing equipment efficiency and improving operator capabilities and effectiveness. We provide integrated chemical and digitally-based solutions, process improvements and mechanical component modifications to optimize boiler performance and control corrosion and scale build-up. Our programs assist in more effectively managing water use for plant processes by optimizing the performance of treatment chemicals and equipment in order to minimize costs and maximize returns on investment.

Our offerings include specialty products such as scale and corrosion inhibitors, antifoulants, pre-treatment solutions, membrane treatments, coagulants and flocculants, **anti-foamers, hydrogen sulfide removal, cold flow improvers, lubricity inhibitors, crude desalting and anti-foamers, reactive monomer inhibitors,** as well as our 3D TRASARTM technologies, which **combines combine** chemistry, remote services and monitoring and control. We provide products and programs for water treatment and process applications aimed at combining environmental benefits with economic gains for our customers. Typically, water savings, energy savings and operating efficiency are among our primary sources of value creation for our customers, with product quality and production enhancement improvements also providing key differentiating features for many of our offerings. Our offerings are sold primarily by our corporate account and field sales employees.

We believe we are one of the leading global suppliers of products and programs for chemical applications within the industrial water treatment **industry, and petroleum refining industries.**

Food & Beverage

Food & Beverage provides cleaning and sanitation products and programs to facilitate the processing of products for human consumption. Food & Beverage provides detergents, cleaners, sanitizers, lubricants and animal health products, as well as cleaning systems, digitally-based dispensers, monitors and chemical injectors for the

application of chemical products, primarily to dairy plants; dairy, swine and poultry farms; breweries and soft-drink bottling plants as well as meat, poultry and other food processors. Food & Beverage is also a leading developer and marketer of antimicrobial products used in direct contact with meat, poultry, seafood and produce during processing in order to reduce microbial contamination. Food & Beverage also designs, engineers and installs CIP ("clean-in-place") process control systems and facility cleaning systems for its customer base. Water savings, energy savings, and operating efficiency are among our sources of value creation for our customers. Products for use in processing facilities are sold primarily by our corporate account and field sales employees, while products for use on farms are sold through dealers and independent, third-party distributors.

We believe we are one of the leading global suppliers of cleaning and sanitizing products to the dairy plant, dairy, swine and poultry farm, beverage/brewery, food, meat and poultry, and beverage/brewery processing industries.

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Downstream

Downstream provides products and programs for process and water treatment applications specific to the petroleum refining and fuels industry, enabling our customers to profitably refine and upgrade hydrocarbons. We solve our customers' toughest process and water challenges so they can reliably, sustainably and profitably refine fuels and process petrochemicals. Our proven chemistry and digital technologies combined with service increase refinery and petrochemical plant reliability and the useful life of customer assets while improving product quality and yields. Our product portfolio includes corrosion inhibitors, antifoulants, hydrogen sulfide removal, cold flow improvers, lubricity inhibitors, crude desalting, reactive monomer inhibitors, olefins, anti-polymerants, anti-oxidants and water treatment.

Our customers include many of the largest publicly traded oil, refining and petrochemical companies, as well as national refining and petrochemical companies, and large independent refining companies. Our downstream offerings are sold primarily by our corporate account and field sales employees and, to a lesser extent, through engineering, procurement, and construction contractors (EPC), technology licensors, distributors, sales agents and joint ventures.

We believe we are one of the leading global providers of products and programs for specialty chemical applications to downstream refineries and petrochemicals operations.

Paper

Paper provides water and process applications for the pulp and paper industries, offering a comprehensive portfolio of programs that are used in all principal steps of the papermaking process and across all grades of paper, including graphic grades, board and packaging, and tissue and towel. While Paper provides its customers similar types of products and programs for water treatment and wastewater treatment as those offered by Water, Paper also offers two specialty programs that differentiate its offerings from Water—pulp applications and paper applications. Our pulp applications maximize process efficiency and increase pulp cleanliness and brightness in bleaching operations, as well as predict and monitor scaling potential utilizing on-line monitoring to design effective treatment programs and avoid costly failures. Our paper process applications focus on improving our customers' operational efficiency, in part through water savings, energy savings and operating efficiency. Advanced digital sensing, monitoring and automation combine with innovative chemistries and detailed process knowledge to provide a broad range of customer solutions. Specialty products include flocculants, coagulants, dewatering aids and digester yield additives. Our offerings are sold primarily by our corporate account and field sales employees.

We believe we are one of the leading global suppliers of water treatment products and process aids to the pulp and papermaking industry.

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Global Institutional & Specialty

This reportable segment consists of the Institutional and Specialty operating segments, which provide specialized cleaning and sanitizing products to the foodservice, hospitality, lodging, government, education and retail industries. The underlying operating segments exhibit similar manufacturing processes, distribution methods and economic characteristics. Descriptions of the two operating segments which comprise our Global Institutional & Specialty reportable segment follow below.

Institutional

Institutional sells specialized cleaners and sanitizers for washing dishes, glassware, flatware, foodservice utensils and kitchen equipment ("warewashing"), plus specialized cleaners for various applications throughout food service operations, on-premise laundries (typically used by hotel and healthcare customers) and general housekeeping functions. We also sell food safety products and equipment, water filters, dishwasher racks and related kitchen sundries to the foodservice, lodging, educational and healthcare industries. Institutional also provides pool and spa treatment programs for hospitality and other commercial customers, as well as a broad range of janitorial cleaning and floor care products and programs to customers in hospitality, healthcare and commercial facilities. Institutional develops various digital monitoring and chemical dispensing systems which are used by our customers to efficiently and safely dispense our cleaners and sanitizers, and through these products, systems and our on-site sales and service expertise, develop better results for our customers including water savings, energy savings and operating efficiency. In addition, Institutional markets a lease program comprised of energy-efficient dishwashing machines, detergents, rinse additives and sanitizers, including full machine maintenance. Through our EcoSure Food Safety Management business, Institutional also provides customized on-site evaluations, training and quality assurance services to foodservice operations. With the Lobster Ink business, Institutional provides our customers with end-to-end digital training solutions designed to drive corrective actions and optimal frontline execution.

Institutional sells its products and programs primarily through its direct field sales and corporate account sales personnel. Corporate account sales personnel establish relationships and negotiate contracts with larger multi-unit or "chain" customers. We also utilize independent, third-party foodservice, broad-line and janitorial distributors to provide logistics to end customers that prefer to work through these distributors. Many of these distributors also participate in marketing our product and service offerings to the end customers. Through our field sales personnel, we generally provide the same customer support to end-use customers supplied by these distributors as we do to direct customers.

We believe we are one of the leading global suppliers of warewashing and laundry products and programs to the food service, hospitality and lodging markets.

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Specialty

Specialty supplies cleaning and sanitizing **chemical** products and related items primarily to regional, national and international quick service restaurant ("QSR") chains and food retailers (i.e., supermarkets and grocery stores). Its products include specialty and general purpose hard surface cleaners, degreasers, sanitizers, polishes, hand care products and assorted cleaning tools and equipment which are primarily sold under the "Ecolab" and "Kay" brand names. **QSR's program also includes a lease program comprised of energy-efficient dishwashing machines, detergents, rinse additives and sanitizers, including full machine maintenance.** Specialty's cleaning and sanitation programs are customized to meet the needs of the market segments it serves and are designed to provide highly effective cleaning performance, promote food safety, reduce labor, water and energy costs and enhance user and guest safety. A number of dispensing options are available for products in the core product range. Specialty supports its product sales with training programs and technical support designed to meet the special needs of its customers.

Both Specialty's QSR business and its food retail business utilize their corporate account sales force which manages relationships with customers at the corporate and regional office levels (and, in the QSR market segment, at the franchisee level) and their field sales force which provides program support at the individual restaurant or store level. QSR customers are primarily supplied through third party distributors while most food retail customers utilize their own distribution networks. While Specialty's customer base has broadened significantly over the years, Specialty's business remains largely dependent upon a limited number of major QSR chains and franchisees and large food retail customers.

Food Safety Solutions supplies a digital platform that combines software, hardware and multiple services to automate kitchen procedures for efficiency and compliance. It also offers a unique variety of products, tools and equipment for food preparation, food rotation labeling, temperature management, cleaning and employee safety across all food service customers. Food Safety Solutions also offers digital applications that automate kitchen procedures for efficiency and compliance.

We believe we are one of the leading suppliers of cleaning and sanitizing products to the global QSR market and a leading supplier of cleaning and sanitizing products to the global food retail market.

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Global Healthcare & Life Sciences

This reportable segment consists of the Healthcare and Life Sciences operating segments, which provide specialized cleaning and sanitizing products to the healthcare, personal care and pharmaceutical industries. The underlying operating segments exhibit similar manufacturing processes, distribution methods and economic characteristics. Descriptions of the two operating segments which comprise our Global Healthcare & Life Sciences reportable segment follow below.

Healthcare

Healthcare provides infection prevention and surgical solutions to acute care hospitals, surgery centers and medical device Original Equipment Manufacturers ("OEM"). Healthcare's proprietary infection prevention and surgical solutions (hand hygiene, hard surface disinfection, digital monitoring systems, instrument cleaning, patient drapes, equipment drapes and surgical fluid warming and cooling systems) are sold primarily under the "Ecolab," "Microtek," and "Anios" brand names to various departments within the acute care environment (Infection Control, Environmental Services, Central Sterile and Operating Room). Healthcare sells its products and programs principally through its field sales personnel and corporate account personnel but also sells through healthcare distributors.

We believe we are one of the leading suppliers of infection prevention and surgical solutions in the United States and Europe.

Life Sciences

Life Sciences provides end-to-end cleaning and contamination control solutions to pharmaceutical and personal care manufacturers. These products are primarily sold under the "Ecolab" brand name, and include detergents, cleaners, sanitizers, disinfectants, surface wipes, as well as cleaning systems, electronic dispensers and chemical injectors for the application of chemical products. With the acquisition of Purolite, the portfolio now includes premium fluid treatment and purification solutions with a broad range of unique products sold under the "Purolite" brand name, particularly focusing on biopharma purification solutions, active pharmaceutical ingredients ("API's") and high value industrial applications. The Life Sciences portfolio also includes decontamination systems and services utilizing hydrogen peroxide vapor, which are sold under the "Bioquell" brand name. The pharmaceutical clean room environment is the primary area that Ecolab and Bioquell products are utilized. Purolite products are primarily used in the purification of biologic therapeutics, API's and high value industrial applications. Products and programs are sold primarily through our field sales and corporate account personnel, and to a lesser extent through distributors.

Life Sciences is comprised of customers and accounts related to manufacturing in the following industries: pharmaceutical, animal health and medicine, blood purification and dialysis, biologic products, cosmetics and medical devices. Our tailored, comprehensive solutions and technical know-how focus on ensuring product quality, safety and compliance standards are met while improving operational efficiency in customers' cleaning, sanitation and disinfection processes. We believe we are one of the leading suppliers of process purification solutions in Europe and North America and of contamination control solutions in Europe, with a growing presence in North America and other regions.

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Other

Other consists of the Pest Elimination, Textile Care and Colloidal Technologies Group operating segments. These operating segments do not meet the quantitative criteria to be separately reported. We disclose these operating segments within Other as we consider the information useful in understanding our consolidated results.

Pest Elimination

Pest Elimination provides services designed to detect, eliminate prevent, and prevent eliminate pests such as rodents and insects in full-service and quick-service restaurants, food and beverage processors, educational, life science and healthcare facilities, hotels, quick service restaurant and grocery operations and other institutional commercial segments including education, life sciences and commercial customers. The services of Pest Elimination are sold and performed by our field sales and service personnel, healthcare.

In addition to the United States, which constitutes our largest operation, we operate in various countries in Asia Pacific, Greater China, Western Europe, Latin America, and South Africa.

We believe Pest Elimination is a leading supplier service provider of effective, high-quality outcome pest elimination programs that deliver high quality outcomes to the commercial hospitality and institutional markets segments in the geographies it serves.

Textile Care

Textile Care provides products and services that manage the entire wash process through custom designed programs, premium products, dispensing equipment, water and energy management and reduction, and real time data management for large scale, complex commercial laundry operations including uniform rental, hospitality, linen rental and healthcare laundries. Textile Care's programs are designed to meet our customers' needs for exceptional cleaning, while extending the useful life of linen and reducing our customers' overall operating costs. Products and programs are marketed primarily through our field sales employees and, to a lesser extent, through distributors. We believe we are one of the leading global suppliers in the laundry markets in which we compete.

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Colloidal Technologies Group

The Colloidal Technologies Group ("CTG") produces and sells colloidal silica, which is comprised of nano-sized particles of silica in water. These products and associated programs are used primarily for binding and polishing applications. CTG serves customers across various industries, including semiconductor manufacturing, catalyst manufacturing, chemicals and aerospace component manufacturing.

CTG incorporates strong collaboration with customers to develop customized solutions that meet the technical demands of their operations. Our silica-based applications are widely used for polishing of silicon wafers, semiconductor substrates and the precision surface finishing of optics, watch crystals and other glass components. We offer a

variety of silica-based particles that can be used as binders in heterogeneous catalyst systems and as silica nutrients for manufacturing specialty zeolites. Our silica products are used worldwide as a binder for precision investment casting slurries, which ultimately facilitate the manufacture of near net-shape metal parts such as turbine blades and golf club heads.

Our products are sold primarily by our corporate account employees. We believe we are one of the leading global suppliers of colloidal silica.

Additional Information

International Operations

We directly operate in approximately 100 countries outside of the United States through wholly-owned subsidiaries or, in some cases, through a joint venture with a local partner. In certain countries, selected products are sold by our export operations to distributors, agents or licensees, although the volume of those sales is not significant in terms of our overall revenues. In general, our businesses conducted outside the United States are similar to those conducted in the United States.

Our business operations outside the United States are subject to the usual risks of foreign operations, including possible changes in trade and foreign investment laws, international business laws and regulations, tax laws, currency exchange rates and economic and political conditions. The profitability of our international operations is generally lower than the profitability of our businesses in the United States, due to (i) the additional cost of operating in numerous and diverse foreign jurisdictions with varying laws and regulations, (ii) higher costs of importing certain raw materials and finished goods in some regions, (iii) the smaller scale of international operations where certain operating locations are smaller in size, and (iv) the additional reliance on distributors and agents in certain countries which can negatively impact our margins. Proportionately larger investments in sales and technical support are also necessary in certain geographies in order to facilitate the growth of our international operations.

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Competition

In general, the markets in which the businesses in our Global Industrial reportable segment compete are led by a few large companies, with the rest of the market served by smaller entities focusing on more limited geographic regions or a smaller subset of products and services. Our businesses in this segment compete on the basis of their demonstrated value, technical expertise, innovation, digital technology, chemical formulations, global customer support, detection equipment, monitoring capabilities, and dosing and metering equipment. Through the combination of our digitally enabled end-to-end water management and hygiene solutions, data-driven insights and personalized service, our Global Industrial businesses deliver outcomes that help our customers optimize water and energy use, improve productivity, advance food safety, and achieve sustainability and net zero goals, while optimizing total cost of operations.

The businesses in our Global Institutional & Specialty reportable segment and Other have two significant classes of competitors. First, we compete with a small number of large companies selling directly or through distributors on a national or international scale. Second, we have numerous smaller regional or local competitors which focus on more limited geographies, product lines and/or end-use customer segments. We believe we compete principally by providing superior value, premium customer support, training, service, and innovative and differentiated products to help our customers protect their brand reputation and improve their operational efficiency.

Within the Global Healthcare & Life Sciences reportable segment, the Healthcare business competes geographically with companies primarily focused on a smaller range of product categories, with few globally scaled competitors. The Life Sciences business competes in the European market versus several mid-size and regional competitors and competes against two large and other mid-size or regional competitors in North America. Outside of North America and Europe competitors are much more fragmented and do not offer the same level of service or coverage as Ecolab. Our businesses in this segment compete by enabling our customers success through improved hygiene, digitally enabled programs in operating room and patient room space as well as a tailored approach to delivering key inputs that directly impact our customers patients globally.

Sales

Our products, systems and services are primarily marketed in domestic and international markets by our Company-trained direct field sales personnel who also advise and assist our customers in the proper and most efficient use of the products and systems in order to meet a full range of cleaning and sanitation, water treatment and process chemistry needs. Independent, third-party distributors and, to a lesser extent, sales agents, are utilized in several markets, as described in the segment descriptions found above.

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Customers and Classes of Products

We believe our business is not materially dependent upon a single customer. Additionally, although we have a diverse customer base and no customer or distributor constituted 10 percent or more of our consolidated revenues in 2023, 2022 2021 or 2020, 2021, we do have customers and independent third-party distributors, the loss of which could have a material adverse effect on results of operations for the affected earnings periods; however, we consider it unlikely that such an event would have a material adverse impact on our financial position. No material part of our business is subject to renegotiation or termination at the election of a governmental unit.

We sold one class of products within the Global Institutional & Specialty reportable segment which comprised 10% or more of consolidated net sales in the last three years. Sales of warewashing products were approximately 12%, 10% 12%, and 11% 10% of consolidated net sales in 2023, 2022 2021 and 2020, 2021, respectively.

Human Capital

As of December 31, 2022 December 31, 2023, Ecolab employed approximately 47,000 48,000 employees, including approximately 26,000 sales and service and 1,100 research, development, and engineering employees. Approximately 41% 42% of the employees are employed in North America, 21% 20% in Europe, 7% in Asia Pacific, 17% in Latin America, 6% 7% in India, Middle East and Africa, and 8% 7% in Greater China.

We believe that doing the right thing, the right way, is good for business. We believe that driving performance and growing fast, we can deliver a net positive impact in our own operations and what we deliver for our customers. We are committed to developing a culture that is diverse, equitable, inclusive, and fully leverages our employees' talents as we work together to serve the needs of our customers. We believe that our culture is more creative and helps deliver the innovation needed to grow our business. We believe in providing comprehensive training and career development opportunities to all employees and in compensating and rewarding our employees equitably.

Our commitment to the safety of our employees, contractors, and customers is evident in all we do, from the way we operate, to the products we develop, and to the customers we serve. In addition, we are committed to promoting the health and well-being of our employees, our customers, and their customers by contributing to programs and initiatives that enhance the quality of life in the communities where they work and live. In support of these overall objectives, key areas of focus include:

Diversity, Equity, and Inclusion: We have a long-standing belief that a diverse, equitable, and inclusive workforce is a critical strong foundation for the shared success of our employees, our company, our customers, and our communities. To build that strong foundation, we have worked to embed diversity and inclusion throughout all our people processes, including in the areas of recruitment, promotional practices, training retention and development, and total rewards development. To help guide our work and ensure a support our broad commitment to progress, Ecolab utilizes has a Diversity Council made up of senior leaders throughout our company and chaired by our CEO. We review with the Council, senior executives and business leads key metrics and practices, including diverse representation hiring practices, of backgrounds and experiences, along with many aspects of our recruiting and retention with the Council and with senior executives and business leads monthly. We set diversity goals at or above market availability and utilize diverse slates for all hiring activity, practices. These programs are designed to facilitate equitable employment opportunities, while promoting an inclusive workforce.

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We also have a vibrant and growing community of 11 Employee Resource Groups (ERGs) (ERGs) that are open to all, to help employees connect with colleagues, take part in career and leadership development experiences, and provide important insights in support of advancing our work in diversity, equity, and inclusion. These employee-led ERGs create community and focus across on several dimensions of diversity, including gender, race/ethnicity, gender identity, sexual orientation, ability/disability, military service, generational, global, and more. career skill development. All employees are welcome and encouraged to join, participate, or become leaders and allies within any of our 12 ERGs.

Employee Training and Development: At our core, Ecolab's growth is rooted in decades has been characterized by a century of supporting customers by combining science, learning technology and innovation. We have ambitious solution-oriented teams and we continually look for ways to help innovation with the expertise of our employees learn and grow. associates. Beyond rigorous technical, functional, and business-specific training courses, our Global Corporate Flagship Development Programs for supervisors, managers and leaders are designed to deepen leadership capability and prepare potential successors for key leadership roles.

Compensation and Benefits: Ecolab has a market-competitive and performance-based pay philosophy, and we believe in compensating our employees fairly and equitably. We are committed to rewarding and recognizing employees for their contributions to the success of the organization. This includes our global merit increase program and our short- and long-term variable pay programs, which include goals and targets that are tied to the success of the business. We test our pay and wage data against compensation surveys to align our pay with the competitive external market. In the U.S., we conduct pay equity studies, and we are in the process of expanding pay equity studies outside the U.S.

Ecolab also provides market-competitive benefits based on country-specific needs and government requirements. While our benefits packages vary by market, they are designed to attract top talent and build long-term connections with our associates. Aligned to the applicable market and local regulations, elements of our benefits programs may include medical and dental insurance, retirement savings, employee stock purchase plan, paid time off, parental leave and adoption assistance, life and disability insurance, and employee assistance plans.

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Safety, Health, and Wellness: At Ecolab, the safety of our employees and contractors is a top priority and is embedded into our company values. Our safety goals are simple: zero accidents, zero injuries, and zero violations. We communicate that this is a collective goal all employees commit to, own, and deliver on every day. Our leadership teams and a network of Safety, Health, and Environment professionals around the world support employees with robust safety programs, processes, and platforms. Understanding underlying and potential risks is a critical component to improving safety outcomes. Our Global Safety Dashboard tracks our performance on a range of leading and lagging safety indicators and helps us measure the effectiveness of our safety programs.

Additionally, a Be Well Program is available to U.S. employees and their families to empower, educate and support their personal journey to overall well-being by making positive lifestyle choices while creating a culture of wellness throughout Ecolab. Over the last few years, we've expanded our offerings to include comprehensive child and elder caregiver resources to help employees balance the demands of work and personal responsibilities. To ensure Wellness initiatives are also underway outside the safety of our employees amidst an ongoing COVID-19 pandemic environment, we follow CDC U.S. aligned to country-specific needs and local guidance. We've continued to help our global employees garner access to vaccines and COVID-19 testing, have provided the option for employees who can do their work remotely to work from home on a hybrid schedule, and have implemented additional safety measures for our employees working in the field and in our plant and warehouse locations.

Future of Work: Ecolab is committed to building a best-in-class, thriving work environment for all employees—from those who work in the field serving our customers, to those who work in our manufacturing facilities, to our employees who work in an office environment—our focus extends across all segments of our workforce. The Future of Work at Ecolab will embrace enhanced tools and technology and evolved practices to optimize performance, productivity, and collaboration. We offer a hybrid work model that balances evolving work practices and norms while preserving the practices we believe are core and fundamental to our success.

For additional detail regarding our Human Capital Management metrics and focus areas, please refer to our website for additional detail regarding our Human Capital Management metrics and focus areas, Diversity, Equity and Inclusion initiatives and other information and metrics, including our latest Corporate Responsibility GRI Report and EEO-1 report, market practices.

Patents and Trademarks

We own and license a number of patents, trademarks and other intellectual property, including intellectual property from our recent acquisition of Purolite. While we have an active program to protect our intellectual property by filing for patents or trademarks and pursuing legal action, when appropriate, to prevent infringement, except for the items listed below, we do not believe our overall business is materially dependent on any individual patent or trademark.

- Patents related to our TRASAR and 3D TRASAR technology, which are material to our Global Industrial reportable segment. U.S. and foreign patents protect aspects of our key TRASAR and 3D TRASAR technology until at least 2024.
- Trademarks related to Ecolab, Nalco and 3D TRASAR, which collectively are material to all of our reportable segments. The Ecolab, Nalco and 3D TRASAR trademarks are registered or applied for in all of our key markets and we anticipate maintaining them indefinitely.

Seasonality

We experience variability in our quarterly operating results due to seasonal sales volume and business mix fluctuations in our operating segments. Part II, Item 8, Note 20, entitled "Quarterly Financial Data" of this Form 10-K is incorporated herein by reference.

Investments in Equipment

We have invested, and plan to continue to invest, in process control and monitoring equipment consisting primarily of systems used by customers to dispense our products as well as to monitor water systems. The investment in such equipment is discussed under the heading "Investing Activities" in Management's Discussion and Analysis of Financial Condition and Results of Operations of this Form 10-K.

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Manufacturing and Distribution

We manufacture most of our products and related equipment in Company-operated manufacturing facilities. Some products are also produced for us by third-party contract manufacturers. Other products and equipment are purchased from third-party suppliers. Additional information on product/equipment sourcing is found in the segment discussions above and additional information on our manufacturing facilities is located under Part I, Item 2, "Properties," of this Form 10-K.

Deliveries to customers are made from our manufacturing plants and a network of distribution centers and third-party logistics service providers. We use common carriers, our own delivery vehicles, and distributors for transport. Additional information on our plant and distribution facilities is located under Part I, Item 2, "Properties," of this Form 10-K.

Raw Materials

Raw materials purchased for use in manufacturing our products are inorganic chemicals, including alkalis, acids, biocides, phosphonates, phosphorous materials, silicates and salts; and organic chemicals, including acids, alcohols, amines, fatty acids, surfactants, solvents, monomers and polymers. Healthcare purchases plastic films and parts to manufacture medical devices that serve the surgical and infection prevention markets. Pesticides used by Pest Elimination are purchased as finished products under contract or purchase order from the producers or their distributors. We also purchase packaging materials for our manufactured products and components for our specialized cleaning equipment and systems. We purchase more than 10,000 raw materials, with the largest single raw material representing approximately four percent of raw material purchases. Our raw materials, with the exception of a few specialized chemicals which we manufacture, are generally purchased on an annual contract basis and are ordinarily available in adequate quantities from a diverse group of suppliers globally. We have encountered supply chain disruptions with impacts of the COVID-19 pandemic, war in Ukraine and the

overall energy crisis (mainly in Europe). These events have impacted the availability and cost of many raw materials. When practical, global sourcing is used so that purchasing or production locations can be shifted to control product costs.

Research and Development

Our research and development program consists principally of developing and validating the performance of new products, processes, techniques and equipment, improving the efficiency of those already existing, improving service program content, evaluating the environmental compatibility of products and technical support. Key disciplines include analytical and formulation chemistry, microbiology,

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data science and predictive analytics, process and packaging engineering, digital and remote monitoring engineering and product dispensing technology. Substantially all of our principal products have been developed by our research, development and engineering personnel.

We believe continued research and development activities are critical to maintaining our leadership position within the industry and will provide us with a competitive advantage as we seek additional business with new and existing customers.

Joint Ventures

Over time, we have entered into partnerships or joint ventures in order to meet local ownership requirements, to achieve quicker operational scale, to expand our ability to provide our customers a more fully integrated offering or to provide other benefits to our business or customers. During 2022, 2023, the impact on our consolidated net income of our joint ventures, in the aggregate, was approximately three percent. We will continue to evaluate the potential for partnerships and joint ventures that can assist us in increasing our geographic, technological and product reach.

Environmental and Regulatory Considerations

Our businesses are subject to various legislative enactments and regulations relating to the protection of the environment and public health. While we cooperate with governmental authorities and take commercially practicable measures to meet regulatory requirements and avoid or limit environmental effects, some risks are inherent in our businesses. Among the risks are costs associated with transporting and managing hazardous materials and waste disposal and plant site clean-up, fines and penalties if we are found to be in violation of law, as well as modifications, disruptions or discontinuation of certain operations or types of operations including product recalls and reformulations. Similarly, the need for certain of our products and services is dependent upon or might be limited by governmental laws and regulations. Changes in such laws and regulations, including among others, air, water, chemical and product regulations, could impact the sales of some of our products or services. In addition to an increase in costs of manufacturing and delivering products, a change in production regulations or product regulations could result in interruptions to our business and potentially cause economic or consequential losses should we be unable to meet the demands of our customers for products.

Additionally, although we are not currently aware of any such circumstances, there can be no assurance that future legislation or enforcement policies will not have a material adverse effect on our consolidated results of operations, financial position or cash flows. Environmental and regulatory matters most significant to us are discussed below.

Ingredient Legislation: Various laws and regulations have been enacted by state, local and foreign jurisdictions pertaining to the sale of products which contain phosphorous, volatile organic compounds, per- and polyfluoroalkyl substances ("PFAS") or other ingredients that may impact human health or the environment. Under California Proposition 65, for example, label disclosures are required for certain products containing chemicals listed by California. Chemical management initiatives that promote pollution prevention through research and development of safer chemicals and safer chemical processes are being advanced by several states.

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Environmentally preferable purchasing programs for cleaning products have been enacted in a number of states to date, and in recent years have been considered by several other state legislatures. Cleaning product ingredient disclosure legislation has been introduced in the U.S. Congress in each of the past few years but has not passed, and several states are considering further regulations in this area. In 2017, California passed the Cleaning Product Right to Know Act of 2017, that required ingredient transparency on-line and on-label by 2020 and 2021, respectively. New York has proposed similar ingredient disclosure regulation. The U.S. Government is monitoring "green chemistry" initiatives through a variety of initiatives, including its "Design for the Environment" ("DfE")/"Safer Choice" program. DfE/Safer Choice has three broad areas of work (recognition of safer products on a DfE/Safer Choice label, development of best practices for industrial processes and evaluation of safer chemicals), and we are involved in these to varying degrees. Our Global Institutional and Global Industrial cleaning products are subject to the regulations and may incur additional stay-in-market expenses associated with conducting the required alternatives analyses for chemicals of concern. To date, we generally have been able to comply with such legislative requirements by reformulation or labeling modifications. Such legislation has not had a material adverse effect on our consolidated results of operations, financial position or cash flows to date.

TSCA: The nation's primary chemicals management law, the Toxic Substances Control Act ("TSCA"), was updated for the first time in 40 years with the passage of the Frank R. Lautenberg Chemical Safety for the 21st Century Act ("LCSA") in 2016. The LCSA modernizes the original 1976 legislation, aiming to establish greater public confidence in the safety of chemical substances in commerce and improve the U.S. Environmental Protection Agency's ("EPA") capability and authority to regulate existing and new chemical substances. For Ecolab, the TSCA changes mainly impact testing and submission costs for new and existing chemical substances in the United States. As a result of reform and administration changes, EPA reviews are resulting in the majority of new substances being regulated in some manner by the agency. Compliance with new requirements under TSCA are similar to the costs associated with REACH in the European Union, which is discussed below.

REACH: The European Union has enacted a regulatory framework for the Registration, Evaluation and Authorization of Chemicals ("REACH"), which aims to manage chemical safety risks. REACH established a European Chemicals Agency ("ECHA") in Helsinki, Finland, which is responsible for evaluating data to determine hazards and risks and to manage this program for authorizing chemicals for sale and distribution in Europe. We met all REACH registration requirements. To help manage this program, we have been simplifying our product lines and working with chemical suppliers to comply with registration requirements. In addition, Korea, Taiwan, Turkey, India, Chile and Colombia and other countries have implemented or are implementing similar requirements. In addition, the European Green Deal will include the revision of chemical

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management regulation to achieve a circular economy and toxic-free environment (Chemical Strategy for Sustainability) which may impact sales in Ecolab's raw material portfolio. Potential costs to us are not yet fully quantifiable but are not expected to have a material adverse effect on our consolidated results of operations or cash flows in any one reporting period or on our financial position.

GHS: In 2003, the United Nations adopted a standard on hazard communication and labeling of chemical products known as the Globally Harmonized System of Classification and Labeling of Chemicals ("GHS"). GHS is designed to facilitate international trade and increase safe handling and use of hazardous chemicals through a worldwide system that classifies chemicals based on their intrinsic hazards and communicates information about those hazards through standardized product labels and safety data sheets ("SDSs"). **Most As of 2023, most** countries in which we operate have adopted or are expected to adopt GHS-related **legislation by 2023, legislation**. The primary cost of compliance revolves around reclassifying products and revising SDSs and product labels. We have met applicable deadlines and are working toward a phased-in approach to mitigate the costs of GHS implementation in remaining countries (e.g., Peru, Chile, India). Potential costs to us are not expected to have a material adverse effect on our consolidated results of operations or cash flows in any one reporting period or on our financial position.

Pesticide and Biocide Legislation: Various international, federal and state environmental laws and regulations govern the manufacture and/or use of pesticides. We manufacture and sell certain disinfecting, sanitizing and material preservation products that kill or reduce microorganisms (bacteria, viruses, fungi) on hard environmental surfaces, in process fluids and on certain food products. Such products constitute "pesticides" or "antimicrobial pesticides" under the current definitions of the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA"), as amended by the Food Quality Protection Act of 1996, the principal federal statute governing the manufacture, labeling, handling and use of pesticides. We maintain several hundred product registrations with the U.S. Environmental Protection Agency ("EPA"). Registration entails the necessity to meet certain efficacy, toxicity and labeling requirements and to pay on-going registration fees. In addition, each state in which these products are sold requires registration and payment of a fee. In general, the states impose no substantive requirements different from those required by FIFRA. However, California and certain other states have adopted additional regulatory programs, and California imposes a tax on total pesticide sales in that state. While the cost of complying with rules as to pesticides has not had a material adverse effect on our consolidated results of operations, financial condition, or cash flows to date, the costs and delays in receiving necessary approvals for these products continue to increase. Total fees paid to the EPA and the states to obtain or maintain pesticide registrations are not expected to significantly affect our consolidated results of operations or cash flows in any one reporting period or our financial position.

In Europe, the Biocidal Products Regulation established a program to evaluate and authorize marketing of biocidal active substances and products. We are working with suppliers and industry groups to manage these requirements and have met all relevant deadlines of the program by the timely submission of dossiers for active substances and biocide products. Anticipated registration costs, which will be incurred through the multi-year phase-in period, will be significant; however, these costs are not expected to significantly affect our consolidated results of operations or cash flows in any one reporting period or our financial position. The same is true for emerging biocide regulations in Asia.

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In addition, Pest Elimination applies restricted-use pesticides that it generally purchases from third parties. That business must comply with certain standards pertaining to the use of such pesticides and to the licensing of employees who apply such pesticides. Such regulations are enforced primarily by the states or local jurisdictions in conformity with federal regulations. We have not experienced material difficulties in complying with these requirements.

FDA Antimicrobial Product Requirements: Various laws and regulations have been enacted by federal, state, local and foreign jurisdictions regulating certain products manufactured and sold by us for controlling microbial growth on humans, animals and foods. In the United States, these requirements generally are administered by the U.S. Food and Drug Administration ("FDA"). However, the U.S. Department of Agriculture and EPA also may share in regulatory jurisdiction of antimicrobials applied to food. The FDA codifies regulations for these product categories in order to ensure product quality, safety and effectiveness. The FDA also has been expanding requirements applicable to such products, including proposing regulations for over-the-counter antiseptic drug products, which may impose additional requirements associated with antimicrobial hand care products and associated costs when finalized by the FDA. FDA regulations associated with the Food Safety Modernization Act may impose additional requirements related to safety product lines. To date, such requirements have not had a material adverse effect on our consolidated results of operations, financial position or cash flows.

Medical Device and Drug Product Requirements: As a manufacturer, distributor and marketer of medical devices and human drugs, we also are subject to regulation by the FDA and corresponding regulatory agencies of the state, local and foreign governments in which we sell our products. These regulations govern the development, testing, manufacturing, packaging, labeling, distribution and marketing of medical devices and medicinal products, including Advanced Pharmaceutical Ingredients ("API"), excipients and resins for biopharmaceutical processing. We also are required to register with the FDA as a medical device and drug manufacturer, comply with post-market reporting (e.g., Adverse Event Reporting, MDR and Recall) requirements, and to comply with the FDA's current Good Manufacturing Practices and Quality System Regulations which require that we have a quality system for the design and production of our products intended for commercial distribution in the United States and satisfy recordkeeping requirements with respect to our manufacturing, testing and control activities. Countries in the European Union require that certain products being sold within their jurisdictions obtain a "CE mark," an international symbol of adherence to quality assurance standards, and be manufactured in compliance with certain requirements (e.g., Medical Device Directive 93/42/EEC, EEC, Medical Device Regulation (EU) 2017/745 ("MDR"), and ISO 13485). We have CE mark approval to sell various medical device and medicinal products in Europe. Implementation of the MDR will require additional certifications and investments, including system, product and process upgrades. Our other international **non-European non-**

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European operations also are subject to government regulation and country-specific rules and regulations. Regulators at the federal, state and local level have imposed, are currently considering and are expected to continue to impose regulations on medical devices and drug products. No prediction can be made of the potential effect of any such future regulations, and there can be no assurance that future legislation or regulations will not increase the costs of our products or prohibit the sale or use of certain products.

Equipment: Ecolab's products are dispensed by equipment that is subject to state and local regulatory requirements, as well as being subject to UL, NSF, and other approval requirements. For certain digitally connected product offerings, Federal Communication Commission ("FCC") and corresponding international requirements are applicable. We have both dedicated manufacturing facilities and third-party production of our equipment. We are developing processes to monitor and manage changing regulatory regimes and assist with equipment systems compliance. To date, such requirements have not had a material adverse effect on our consolidated results of operations, financial position or cash flows.

Other Environmental Legislation: Our manufacturing plants are subject to federal, state, local or foreign jurisdiction laws and regulations relating to discharge of hazardous substances into the environment and to the transportation, handling and disposal of such substances. The primary federal statutes that apply to our activities in the United States are the Clean Air Act, the Clean Water Act and the Resource Conservation and Recovery Act. We are also subject to the Superfund Amendments and Reauthorization Act of 1986, which imposes certain reporting requirements as to emissions of hazardous substances into the air, land and water. The products we produce and distribute into Europe are also subject to directives governing electrical waste (WEEE Directive 2012/19/EU) and restrictive substances (RoHS Directive 2011/65/EU). Similar legal requirements apply to Ecolab's facilities globally. We make capital investments and expenditures to comply with environmental laws and regulations, to promote employee safety and to carry out our announced environmental sustainability principles. To date, such expenditures have not had a significant adverse effect on our consolidated results of operations, financial position or cash flows. Our capital expenditures for environmental, health and safety projects worldwide were approximately \$46 million in 2023, \$35 million in 2022 and \$28 million in 2021 and \$18 million in 2020, 2021. Approximately \$41 million \$51 million has been budgeted globally for projects in 2023. The increase in the projected spend reflects a return to historical annual expenditure levels prior to the COVID-19 pandemic. 2024.

Climate Change: Various laws and regulations pertaining to climate change have been implemented or are being considered for implementation at the international, national, regional and state levels, particularly as they relate to the reduction of greenhouse gas (GHG) ("GHG") emissions. These include regulations passed by the State of California in 2023 relating to GHG emissions, climate-related risk, and emissions reduction claims, proposed regulations introduced by the SEC in March 2022 relating to climate change disclosure, and the European Commission's Corporate Sustainability Reporting Directive, which came into force in December 2022 on January 2024 and will apply applies to both EU and certain non-EU companies with a phased introduction. These laws We are or may directly impact the Company. become subject to many of these laws. We continue to monitor the development and implementation of such laws and regulations; however, as a matter of corporate policy, we support a balanced approach to reducing GHG emissions while sustaining economic growth. regulations, and are preemptively evaluating and, where appropriate, including reporting and disclosure obligations.

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Furthermore, climate-related Ecolab recognizes that climate change poses potential risks to and creates potential opportunities for our organization. Climate-related risks are assessed within our Enterprise Risk Management process and Annual Business Significance Risks Assessment, which is aligned with recommendations of the Financial Stability Board (FSB) ("FSB") Task Force on Climate-related Financial Disclosures (TCFD) ("TCFD"). We report TCFD disclosures in our annual CDP Climate report located at <https://www.ecolab.com/sustainability/sustainability-reporting-resources>. We are evaluating further application of the recommendations of the TCFD in alignment with the recommended timeline from the TCFD.

on our website. Ecolab recognizes that climate change poses potential continues to focus on climate-related risks and creates potential opportunities to since our organization. Ecolab has taken steps to further identify and assess the nature and magnitude of these risks and opportunities. Ecolab has been focused on assessing climate risks for the past three years, leading up to our first TCFD-aligned climate risk assessment conducted in 2021. We expect 2021 – we plan to continue our efforts to assess additional climate-related risks and opportunities including, exploring our supply chain resiliency, as appropriate. Subsequently, Ecolab plans to regularly review the results of our analysis and consider adaptation and management plans for any relevant climate change risks and to further benefit from identified opportunities for customer impact. Ecolab also evaluates potential water-related risks in our direct operations that may be exacerbated by climate change and discloses the results in our Corporate Responsibility Report. We plan to explore additional analyses of potential nature-related risks that may link to climate- and water-related risks in the future, aligned with the emerging recommendations of the Task Force on Nature-Related Financial Disclosures (“TNFD”).

As a matter of corporate policy, we support a balanced approach to reducing GHG emissions while sustaining economic growth. To further our climate commitment, in 2019 we announced new goals to reduce our operational GHG emissions by half by 2030 and achieve net zero by 2050, in alignment with the United Nations Global Compact’s Business Ambition for 1.5°C. In 2020, we further committed to attempt to move to 100% renewable energy by 2030 and set a science-based target (SBT) (“SBT”) addressing our Scope 1, 2 and 3 GHG emissions, emissions, and in 2022 we committed to submitting our net zero target to the Science Based Targets initiative (“SBTi”) for formal validation. With the increasing complexity of supply chain emissions, in 2023 we decided to develop a revised Scope 3 target that prioritizes absolute emissions reduction. We plan to continue our supplier engagement practices to advance climate action outside of our operations. We submitted our new Scope 3 target along with our net zero target in early 2024 for validation by the SBTi. Our near-term SBT targets continues to target reduction of absolute Scope 1 and 2 emissions by 50% by 2030 from a 2018 base year and to work with we report our suppliers representing 70% of progress in our Scope 3 emissions to set science-based reduction targets by 2024. annual Corporate Responsibility Report.

In 2021, 2022, we invested over \$1.2 million \$65 million in capital and \$6 million in operating expenses to implement continuous improvement projects focused on water and energy reductions at over 20 of positively impacting our facilities across the globe, environmental performance. In all, these 2022, we completed process improvement projects that reduced annual total energy consumption by almost 5.4 billion 21.4 billion BTUs, reduced GHG emissions by 324 MT 11,000 metric tons CO2e and saved 27 million 12.7 million gallons (~103,000 48,000 cubic meters) of water across our global supply chain manufacturing facilities, savings. The scope of reduction in energy consumption reductions is calculated using a combination of direct measurements and estimations using best-practice methodologies. The scope of reduction in GHG emissions consumption data is an estimated annual impact and includes both Scope 1 and 2 emissions. Water reduction data from meter readings and utilities reports is calculated using used to quantify the water meters and utilities data that measure the savings since with 2018 as our base year of calculations which was 2018, baseline year.

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In addition to managing our operational and supply chain sustainability performance, we partner with help our customers at in more than three million customer locations around the world 170 countries to reduce their energy and GHG emissions through our high-efficiency solutions in cleaning and sanitation, water, paper, and energy services. Showcasing our global team’s dedication to helping our customers thrive and make a positive impact in the world, we have set a 2030 goal to help our customers reduce their GHG emissions by 6.0 million metric tons. Ecolab recognizes the climate-water nexus. As part of our 2030 Impact Goals, we have planned to restore greater than 50% of our water withdrawal and achieve Alliance for Water Stewardship Standard certification in high-risk watersheds. In addition, we aim to reduce net water withdrawals by 40% per unit of production across our enterprise. We also magnify our impact through the water-saving solutions we deliver to our customers and have set a goal to help our customers conserve more than 300 billion gallons of water annually by 2030.

The science of sustainability is an evolving one. For a discussion of the factors that may cause our sustainability initiatives, goals and targets to differ from those expressed above, see Item 1A of this Form 10-K, entitled “Risk Factors.”

Environmental Remediation and Proceedings: Along with numerous other potentially responsible parties (“PRP”), we are currently involved with waste disposal site clean-up activities imposed by the federal Comprehensive Environmental Response, Compensation and Liability Act (“CERCLA”) or state equivalents at 17 16 sites in the United States. Additionally, we have similar liability at five six sites outside the United States. In general, under CERCLA, we and each other PRP that

actually contributed hazardous substances to a Superfund site are jointly and severally liable for the costs associated with cleaning up the site. Customarily, the PRPs will work with the EPA to agree and implement a plan for site remediation.

Based on an analysis of our experience with such environmental proceedings, our estimated share of all hazardous materials deposited on the sites referred to in the preceding paragraph, and our estimate of the contribution to be made by other PRPs which we believe have the financial ability to pay their shares, we have accrued our best estimate of our probable future costs relating to such known sites. In establishing accruals, potential insurance reimbursements are not included. The accrual is not discounted. It is not feasible to predict when the amounts accrued will be paid due to the uncertainties inherent in the environmental remediation and associated regulatory processes.

We have also been named as a defendant in a number of lawsuits alleging personal injury due to exposure to hazardous substances, including multi-party lawsuits alleging personal injury in connection with our products and services. While we do not believe that any of these suits will be material to us based upon present information, there can be no assurance that these environmental matters could not have, either individually or in the aggregate, a material adverse effect on our consolidated results of operations, financial position or cash flows.

We have also been named as a defendant in lawsuits where our products have not caused injuries, but the claimants wish to be monitored for potential future injuries. We cannot predict with certainty the outcome of any such tort claims or the involvement we or our products might have in such matters in the future, and there can be no assurance that the discovery of previously unknown conditions will not require significant expenditures. In each of these chemical exposure cases, our insurance carriers have accepted the claims on our behalf (with or without reservation) and our financial exposure should be limited to the amount of our deductible; however, we cannot predict the number of claims that we may have to defend in the future and we may not be able to continue to maintain such insurance.

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Our worldwide net expenditures for contamination remediation were approximately \$0.3 million in 2023, \$1.4 million in 2022 and \$0.5 million in 2021 and \$0.6 million in 2020, 2021. Our worldwide accruals at December 31, 2022 December 31, 2023 for probable future remediation expenditures, excluding potential insurance reimbursements, totaled approximately \$9.6 million \$9.3 million. We review our exposure for contamination remediation costs periodically and our accruals are adjusted as considered appropriate. While the final resolution of these issues could result in costs below or above current accruals and, therefore, have an impact on our consolidated financial results in a future reporting period, we believe the ultimate resolution of these matters will not have a material effect on our consolidated results of operations, financial position or cash flows.

[Available Information.](#)

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy and information statements, and other information regarding issuers, including us, that file electronically with the SEC at <https://www.sec.gov>.

General information about us, including our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as any amendments and exhibits to those reports, are available free of charge through our website at <https://investor.ecolab.com> as soon as reasonably practicable after we file them with, or furnish them to, the SEC.

In addition, the following governance materials are available on our web site at <https://investor.ecolab.com/corporate-governance>: (i) charters of the Audit, Compensation, Finance, Governance and Safety, Health and Environment Committees of our Board of Directors; (ii) our Board's Corporate Governance Principles; and (iii) our Code of Conduct.

We include our website addresses throughout this report for reference only. The information contained on our websites, including the corporate responsibility, EEO-1, and climate reports identified in this report, is not incorporated by reference into this report.

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[Information about our Executive Officers.](#)

The persons listed in the following table are our current executive officers. Officers are elected annually. There is no family relationship among any of the directors or executive officers and no executive officer has been involved during the past ten years in any legal proceedings described in applicable Securities and Exchange Commission regulations.

Name	Age	Office	Positions Held Since Jan. 1,
			2018 2019
Nicholas J. Alfano	62	Executive Vice President and President – Global Industrial Group Executive Vice President and General Manager – Global Light Sector Executive Vice President and General Manager – Global Food & Beverage	Apr. 2023 – Present Jan. 2021 – Mar. 2023 Jan. 2019 – Dec. 2020
Christophe Beck	55 56	Chairman and Chief Executive Officer Chairman, Chief Executive Officer and President President and Chief Executive Officer President and Chief Operating Officer Executive Vice President and President – Industrial Executive Vice President and President – Global Nalco Water	Oct. 2022 – Present May 2022 – Oct. 2022 Jan. 2021 – May 2022 Apr. 2019 – Dec. 2020 May 2018 Jan. 2019 – Mar. 2019 Jan. 2018 – May 2018
Larry L. Berger	62 63	Executive Vice President and Chief Technical Officer	Jan. 2018 2019 – Present
Jennifer J. Bradway	46 47	Senior Vice President and Corporate Controller Senior Vice President and Controller, Finance – Global Institutional Vice President Finance – Institutional North America Vice President and Controller, Institutional U.S.	Jan. 2022 – Present Jan. 2020 – Dec. 2021 May 2018 Jan. 2019 – Dec. 2019 Jan. 2018 – Apr. 2018
Darrell R. Brown	59 60	President and Chief Operating Officer Executive Vice President and President – Global Industrial Executive Vice President and President – Energy Services	Oct. 2022 – Present Apr. 2019 – Oct. Sept. 2022 Jan. 2018 2019 – Mar. 2019
Angela M. Busch	56 57	Executive Vice President – Corporate Strategy & Business Development	Aug. 2018 Jan. 2019 – Present
Gregory B. Cook	55	Executive Vice President and President – Institutional Group Executive Vice President and General Manager – Global Institutional Senior Vice President and General Manager – Corporate Development Global Pest Senior Vice President and General Manager – Institutional Latin America	Aug. 2023 – Present June 2021 – July 2023 Jan. 2018 2020 – Aug. 2018 May 2021 Jan. 2019 – Dec. 2019
Alexander A. De Boo	55 56	Executive Vice President and President – Global Markets Executive Vice President and President – Western Europe Senior Vice President and General Manager – Industrial, Europe Senior Vice President and General Manager – Food & Beverage, Europe	Feb. 2021 – Present Apr. 2020 – Jan. 2021 Oct. 2018 Jan. 2019 – Apr. 2020 Jan. 2018 – Oct. 2018
Machiel Duijser (1)	51 52	Executive Vice President and Chief Supply Chain Officer	Feb. 2020 – Present

Nicolas A. Granucci	49	Executive Vice President and President - Global Pest	Aug. 2023 – Present
		Senior Vice President and General Manager – Global Pest	June 2021 – July 2023
		Senior Vice President and General Manager – Institutional & Specialty Greater China	Jan. 2019 – May 2021
Scott D. Kirkland	49 50	Chief Financial Officer	Jan. 2022 – Present
		Senior Vice President and Corporate Controller	June 2019 – Dec. 2021
		Senior Vice President – Finance, Global Energy Services	Jan. 2018 2019 – May 2019
Laurie M. Marsh	59 60	Executive Vice President – Human Resources	Jan. 2018 2019 – Present
Lanesha T. Minnix (2)	47 48	Executive Vice President, General Counsel and Secretary	June 2022 – Present
Gail Peterson	44 45	Executive Vice President – Global Marketing & Communications	Apr. 2022 – Present
		Senior Vice President – Global Marketing & Communications	Jan. 2021 – Present Mar. 2022
		Vice President – Marketing Global Healthcare	Jan. 2018 2019 – Dec. 2020
Gergely Sved (3)	49 50	Executive Vice President and President – Global Healthcare and Life Sciences	Apr. 2022 – Present
		SVP Senior Vice President and General Manager - Global Healthcare	Jan. 2019 – Mar. 2022

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(1) Prior to joining Ecolab in February 2020, Mr. Duijser was employed by Reckitt Benckiser Group plc (RB), a global provider of health, hygiene and home products, as Chief Supply Officer since November 2018. Mr. Duijser joined RB from Amazon.com, Inc., a global service provider for e-commerce, cloud computing, digital streaming, and artificial intelligence, where he served as Vice President Worldwide Engineering from 2017 to 2018, 2018 until 2020.

(2) Prior to joining Ecolab in June 2022, Ms. Minnix was employed by Flowserve Corporation, a global industrial manufacturer of engineered flow control systems, as Senior Vice President, Chief Legal Officer and Corporate Secretary from 2018 until 2022. Ms. Minnix joined Flowserve from BCM Stock Holdings, Inc., a buildings material company, where she served as Senior Vice President, General Counsel and Corporate Secretary from 2017 to 2018.

(3) Prior to joining Ecolab in January 2019, Mr. Sved was employed by GE Healthcare Technologies Inc., a global medical technology company, where he served as Chief Executive Officer Europe Services from 2013 until 2018, and held numerous other commercial leadership roles, including COO for Services Europe and GM for Northern Europe.

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Forward-Looking Statements

This Form 10-K, including Part I, Item 1, entitled “Business,” and the MD&A within Part II, Item 7, contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements include expectations concerning items such as:

- amount, funding and timing of cash expenditures relating to our restructuring and other initiatives, as well as savings from such initiatives
- future cash flows, access to capital, targeted credit rating metrics and impact of credit rating downgrade
- adequacy of cash reserves
- uses for cash, including dividends, share repurchases, debt repayments, capital investments and strategic business acquisitions
- global **market risk economic and political environment**
- long-term potential of our business
- impact of changes in exchange rates and interest rates
- customer retention rate
- bad debt experience, non-performance of counterparties and losses due to concentration of credit risk
- disputes, claims and litigation
- environmental contingencies
- impact and cost of complying with laws and regulations
- sustainability **and human capital** targets
- returns on pension plan assets
- contributions to pension and postretirement healthcare plans
- amortization expense
- impact of new accounting pronouncements
- income taxes, including tax attributes, valuation allowances, **uncertain unrecognized tax positions, benefits**, permanent reinvestment assertions and goodwill deductibility
- recognition of share-based compensation expense
- payments under operating leases
- future benefit plan payments
- market position
- **the impact of the Covid-19 pandemic, including global economic recovery, supply shortages, inflation and delivered product costs**

Without limiting the foregoing, words or phrases such as “will likely result,” “are expected to,” “will be,” “will continue,” “is anticipated,” “we believe,” “we expect,” “estimate,” “project” (including the negative or variations thereof), “intends,” “could,” or similar terminology, generally identify forward-looking statements. Forward-looking statements may also represent challenging goals for us. These statements, which represent our expectations or beliefs concerning various future events, are based on current expectations that involve a number of risks and uncertainties that could cause actual results to differ materially from those of such forward-looking statements. We caution that undue reliance should not be placed on such forward-looking statements, which speak only as of the date made. For a further discussion of these and other factors which could cause results to differ from those expressed in any forward-looking statement, see Item 1A of this Form 10-K, entitled “Risk Factors.” Except as may be required under applicable law, we undertake no duty to update our forward-looking statements.

Forward-looking and other statements in this document may also address our sustainability initiatives, goals, targets and progress, and the inclusion of such statements is not an indication that these contents are necessarily material to investors or required to be disclosed in our filings with the SEC. In addition, historical, current, and forward-looking sustainability-related statements may be based on standards for measuring progress that are still developing, internal controls and processes that continue to evolve, and assumptions that are subject to change in the future and performance against our goals and targets may differ from such forward-looking statements in such event.

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[Item 1A. Risk Factors.](#)

The following are important factors which could affect our financial performance and could cause our actual results for future periods to differ materially from our anticipated results or other expectations, including those expressed in any forward-looking statements made in this Form 10-K. See the section entitled “Forward-Looking Statements” set forth above.

We may also refer to this disclosure to identify factors that may cause results to differ materially from those expressed in other forward-looking statements including those made in oral presentations, including telephone conferences and/or webcasts open to the public.

Economic & Operational Risks

Our results are impacted by general worldwide economic factors.

The Over the past year, global interest rates aimed at curbing inflation, as well as implications of geopolitical situations in Europe, the Middle East and China, have resulted in economic and demand uncertainty. Previously, the COVID pandemic, geopolitical instability including the conflict between Russia and Ukraine, and other global events have significantly increased economic and demand uncertainty. Some of the results of these events, including resulted in supply chain challenges, inflation, high interest rates, foreign currency exchange volatility, and volatility in global capital markets, which have affected our business in the past and could continue to have a material adverse impact on our business in the future. Countries such as Russia, Argentina and Turkey and Argentina have recently experienced economic upheaval and similar upheaval in other countries with Ecolab operations could have a material adverse impact on our consolidated results of operations, financial position and cash flows by negatively impacting economic activity, including in our key end-markets, and by further weakening the local currency versus the U.S. dollar, resulting in reduced sales and earnings from our foreign operations, which are generated in the local currency, and then translated to U.S. dollars.

Our results depend upon the continued vitality of the markets we serve.

Economic downturns, and in particular downturns in our larger markets including the foodservice, hospitality, travel, health care, food processing, refining, pulp and paper, mining and steel industries, can adversely impact our customers. In particular, customers, and we expect may find it difficult to restore margins by maintaining pricing due to easing inflation from slowing economic growth. Recently, the war and energy crisis in Europe have resulted in a more challenging macroeconomic environment especially in Europe, as the war and the energy crisis are having a significant impact on with significantly impacted costs and demand. Additionally, the last three years we have experienced the negative impact of Previously, the COVID-19 pandemic on negatively impacted the demand for our products and services provided to customers in the full-service restaurant, hospitality, lodging and entertainment industries. In prior years, the a weaker global economic environment has also negatively impacted certain of our other end-markets. During these periods of weaker economic activity, our customers and potential customers may reduce or discontinue their volume of purchases of cleaning and sanitizing products and water treatment and process chemicals, which has had, and may continue to have, a material adverse effect on our business, financial condition, results of operation or cash flows.

Our significant non-U.S. operations expose us to global economic, political and legal risks that could impact our profitability.

We have significant operations outside the United States, including joint ventures and other alliances. We conduct business in more than 170 countries and, in 2022, 2023, approximately 47% of our net sales originated outside the United States. There are inherent risks in our international operations, including:

- exchange controls and currency restrictions;
- currency fluctuations and devaluations;
- tariffs and trade barriers;
- export duties and quotas;
- changes in the availability and pricing of raw materials, energy and utilities;
- changes in local economic conditions;
- changes in laws and regulations, including the imposition of economic or trade sanctions affecting international commercial transactions;
- difficulties in managing international operations and the burden of complying with international and foreign laws;
- requirements to include local ownership or management in our business;
- economic and business objectives that differ from those of our joint venture partners;
- exposure to possible expropriation, nationalization or other government actions;
- restrictions on our ability to repatriate dividends from our subsidiaries;
- unsettled political conditions, military action, civil unrest, acts of terrorism, force majeure, war or other armed conflict; conflict, including the Russian invasion of Ukraine, the Israel-Hamas conflict and other hostilities in the Middle East; and
- countries whose governments have been hostile to U.S.-based businesses.

In light of Following Russia's invasion of Ukraine and the United States' and other countries' sanctions against Russia, we announced in April 2022 that we will focus have limited our Russian business on to operations that are essential to life, providing minimal support for our healthcare, life sciences, food and beverage and certain water businesses. We businesses, and we may further narrow our presence in Russia depending on developments in the conflict or otherwise. Our Russian While our operations represented approximately 1% for both our 2022 and 2021 annual sales. During 2022 we recorded pre-tax charges of \$13.1 million related to recoverability risk of certain assets in both Russia and Ukraine. Depending on developments, we may incur further charges relating areas experiencing conflict are not material to our Russia and Ukraine businesses. The conflict in Ukraine may escalate and/or expand in scope and the broader consequences of this conflict, which have included and/or may in the future include sanctions, embargoes, regional instability and geopolitical shifts; potential retaliatory action by the Russian government against companies, including us, such as nationalization of foreign businesses in Russia; and increased tensions between the United States and countries in which we operate cannot be predicted, nor can we predict the conflict's impact on the global economy and on our business and financial results. The Russia and Ukraine conflict results, the escalation of these conflicts may also heighten many other risks disclosed in our report on Form 10-K, any of which could

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materially and adversely affect our business and financial results. Such risks include, but are not limited to, adverse effects on macroeconomic conditions, including increased inflation, constraints on the availability of commodities, supply chain disruption and decreased business spending; disruptions to our or our business partners' global technology infrastructure, including through cyber-attack or cyber-intrusion; adverse changes in international trade policies and relations; claims, litigation and regulatory enforcement; our ability to implement and execute

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our business strategy; terrorist activities; our exposure to foreign currency fluctuations; reputational risk; and constraints, volatility, or disruption in the capital markets.

Additionally, changes in U.S. or foreign government policy on international trade, including the imposition or continuation of tariffs, could materially and adversely affect our business. In 2018, the U.S. imposed tariffs on certain imports from China and other countries, resulting in retaliatory tariffs by China and other countries. While the U.S. and China signed a Phase One trade agreement in January 2020, which included the suspension and rollback of tariffs, the CHIPS and Science Act of 2022 with objectives including countering China's technical ambitions was signed into law in August 2022. Any new tariffs or policies imposed by the U.S., China or other countries or any additional retaliatory measures by any of these countries, could increase our costs, reduce our sales and earnings or otherwise have an adverse effect on our operations.

Further, our operations outside the United States require us to comply with a number of United States and non-U.S. laws and regulations, including anti-corruption laws such as the United States Foreign Corrupt Practices Act and the United Kingdom Bribery Act, as well as U.S. and non-U.S. economic sanctions regulations. We have internal policies and procedures relating to such laws and regulations; however, there is risk that such policies and procedures will not always protect us from the misconduct or reckless acts of employees or representatives, particularly in the case of recently acquired operations that may not have significant training in applicable compliance policies and procedures. Violations of such laws and regulations could result in disruptive investigations, significant fines and sanctions, which could have a material adverse effect on our consolidated results of operations, financial position or cash flows.

Also, because of uncertainties regarding the interpretation and application of laws and regulations and the enforceability of intellectual property and contract rights, we face risks in some countries that our intellectual property rights and contract rights would not be enforced by local governments. We are also periodically faced with the risk of economic uncertainty, which has impacted our business in some countries. Other risks in international business also include difficulties in staffing and managing local operations, including managing credit risk to local customers and distributors.

Our overall success as a global business depends, in part, upon our ability to succeed in differing economic, social, legal and political conditions. We may not continue to succeed in developing and implementing policies and strategies that are effective in each location where we do business, which could have a material adverse effect on our consolidated results of operations, financial position or cash flows.

We may experience business disruption if we fail to execute organizational change and management transitions.

Our continued success will depend on the efforts and abilities of our executive officers and certain other key employees, particularly those with sales and sales management responsibilities, to drive business growth, development and profitability. Our operations could be materially and adversely affected if for any reason we are unable to successfully execute organizational change and management transitions at leadership levels.

We are subject to information technology system failures, network disruptions and breaches in data security.

We rely to a large extent upon information technology systems and infrastructure to operate our business. The size and complexity of our information technology systems and those of strategic vendors make them vulnerable to failure, malicious intrusion and random attack. Acquisitions have resulted in further de-centralization of systems and additional complexity in our systems infrastructure. Likewise, data security breaches by employees or others with permitted access to our systems or to the systems of strategic vendors pose a risk that sensitive data may be exposed to unauthorized persons or to the public. Geopolitical tensions or conflicts, such as Russia's invasion of Ukraine, may further heighten the risk of cybersecurity attacks. While we have continually matured our security program and capabilities and have had no material incidents to date, cyber threats continue to evolve and there can be no assurance that our efforts will prevent cybersecurity attacks or breaches in our systems or in the systems of strategic vendors, including cloud providers, that could cause reputational damage, business disruption or legal and regulatory costs; could result in third-party claims; could result in compromise or misappropriation of our intellectual property, trade secrets or sensitive information; or could otherwise materially adversely affect our business, including our business strategy, results of operations, or financial condition. Certain of our customer offerings include digital components, such as remote monitoring of certain customer operations. A breach of those remote monitoring systems could expose customer data giving rise to potential third-party claims and reputational damage. There may be other related challenges and risks as we complete implementation of our ERP system upgrade.

Our results could be materially and adversely affected by difficulties in securing the supply of certain raw materials or by fluctuations in the cost of raw materials.

The prices of raw materials used in our business fluctuate, and in recent years we have experienced periods of significant increased raw material costs. Changes in raw material prices, unavailability of adequate and reasonably priced raw materials or substitutes for those raw materials, or the inability to obtain or renew supply agreements on favorable terms has materially and adversely affected our business and can in the future materially and adversely affect our consolidated results of operations, financial position or cash flows. In addition, volatility and disruption in economic activity and conditions could disrupt or delay the performance of our suppliers and thus impact our ability to obtain raw materials at favorable prices or on favorable terms, which may materially and adversely affect our business.

We depend on key personnel to lead our business; the labor market is very dynamic.

Our continued success will largely depend on our ability to attract, retain and develop a high caliber of talent and on the efforts and abilities of our executive officers and certain other key employees, particularly those with sales and sales management responsibilities to drive business growth, development and profitability. As we continue to grow our business, make acquisitions, expand our geographic scope and offer new products and services, we need the organizational talent necessary to ensure effective succession for executive officer and key employee roles in order to meet the growth, development and profitability goals of our business. Our operations could be materially and adversely affected if for any reason we were unable to attract, retain or develop such officers or key employees and successfully execute organizational change and management transitions at leadership levels. More generally, in the wake of the COVID-19 pandemic, expectations from qualified talent in many areas of the labor market have evolved. In light of this, if we are unable to attract and retain employees on terms and conditions that are consistent with our historical operating model, our business could be disrupted or our costs could increase, which may materially and adversely affect our business.

We are subject to information technology system failures, network disruptions and breaches in data security.

We rely to a large extent upon information technology systems and infrastructure to operate our business. The size and complexity of our information technology systems and those of strategic vendors make them vulnerable to failure, malicious intrusion and random attack. Acquisitions have resulted in further de-centralization of systems and additional complexity in our systems infrastructure. Likewise, data security breaches by employees or others with permitted access to our systems or to the systems of strategic vendors pose a risk that sensitive data may be exposed to unauthorized persons or to the public. Geopolitical tensions or conflicts, such as Russia's invasion of Ukraine, may further heighten the risk of cybersecurity attacks. While we have invested in protection of data and information technology, we have experienced immaterial cybersecurity attacks and incidents, and there can be no assurance that our efforts will prevent failures, cybersecurity attacks or breaches in our systems or in the systems of strategic vendors that could cause reputational damage, business

operations. A breach of those remote monitoring systems could expose customer data giving rise to **Severe public health outbreaks not limited to potential third-party claims and reputational damage. There COVID-19 may be other related challenges and risks as we complete implementation of our ERP system upgrade.**

The COVID-19 pandemic and measures taken in response thereto have materially and adversely impacted, and we expect may continue to materially and adversely impact our business and results of operations, and the full impact of the pandemic will depend on future developments, which are highly uncertain and cannot be predicted. business.

Beginning in March 2020, the COVID-19 pandemic had a rapid and significant negative impact on the global economy, including a significant downturn in the foodservice, hospitality and travel industries. Measures taken to alleviate the pandemic (such as stay-at-home orders and other responsive measures) significantly impacted our restaurant and hospitality customers and negatively affected demand for our products and services in these segments, resulting in a material adverse effect on our business and results of operations. There is continued uncertainty regarding the duration, scope and severity of the pandemic, particularly with the emergence of new variants of COVID-19 and periodic spikes in COVID-19 cases in various geographic regions, and the impacts on our business and the global economy from the effects of the pandemic and response measures. Travel and logistics restrictions, lockdowns, vaccine requirements and other measures from time to time implemented by foreign and domestic authorities have resulted in, and may continue to result in, supply chain and transportation disruptions, production delays and capacity limitations at Ecolab and some of its customers and suppliers, as well as reduced workforce availability or productivity at Ecolab and customer sites, and additional data, information and cyber security risks associated with an extensive workforce working remotely.

The degree to which the pandemic ultimately impacts our business, financial condition and results of operations and the global economy will depend on future developments beyond our control, which are highly uncertain and difficult to predict, including the severity, duration and any resurgence of the pandemic, the extent, duration and effectiveness of periodic lockdowns and other containment actions, the availability, public adoption and efficacy of COVID vaccines, how quickly and to what extent normal economic and operating activity can resume, and the severity and duration of resulting global economic volatility.

Besides the COVID-19 pandemic, the United States and other countries have experienced, and may experience in the future, public health outbreaks such as Zika virus, Avian Flu, SARS and H1N1 influenza. A prolonged occurrence of a contagious disease such as these could result in a significant downturn in the foodservice, hospitality and travel industries and also may result in health or other government authorities imposing restrictions on travel further impacting our end markets. Any of these events could result in a significant drop in demand for some of our products and services and materially and adversely affect our business.

Strategic Risks

If we are unsuccessful in integrating acquisitions including Purolite, our business could be materially and adversely affected.

In December 2021 We seek to acquire complementary businesses as part of our long-term strategy. There can be no assurance that we will find attractive acquisition candidates or succeed at effectively managing the integration of acquired businesses, including Purolite, which operates in the highly regulated life sciences, pharma and biopharma industries and has extensive international operations which complicate integration execution. If we have difficulty integrating Purolite operations or lose key employees or customers, our business could be materially and adversely affected. Additionally, as part of our long-term strategy, we seek to acquire complementary businesses. There can be no assurance that we will find attractive acquisition candidates or succeed at effectively managing the integration of acquired businesses into existing businesses. If the underlying business performance of such acquired businesses deteriorates, the expected synergies from such transactions do not materialize or we fail to successfully integrate new businesses into our existing businesses, our consolidated results of operations, financial position or cash flows could be materially and adversely affected.

If we are unsuccessful in executing on key business initiatives, including restructurings and our Enterprise Resource Planning ("ERP") system upgrades, our business could be materially and adversely affected.

We continue to execute key business initiatives including restructurings and investments to develop business systems, as part of our ongoing efforts to improve our efficiency and returns. In particular, we are undertaking the three restructuring plans, i.e. the Europe Program, the Institutional Advancement Program making supply chain investments to secure supply and Accelerate 2020 plan to simplify and automate processes and tasks, reduce complexity and management layers, consolidate facilities and focus on key long term growth areas by leveraging technology and structural improvements as discussed under Note 3 entitled "Special (Gains) and Charges" of this Form 10-K, add new capacity in our Life Sciences business. Additionally, we are continuing implementation of our ERP system upgrades, which are expected to continue in phases over the next several years. These upgrades, which include sales, supply chain and certain finance functions, are expected to improve the efficiency of certain financial and related transactional processes. These upgrades involve complex business process design and a failure of certain of these processes could result in business disruption. We are also undertaking the Combined Program focused on optimizing the cost structure of our business in Europe and our Institutional and Healthcare businesses, which is discussed along with other restructuring activities under Note 3 of this Form 10-K. If the projects in which we are investing or the initiatives which we are pursuing are not successfully executed, our consolidated results of operations, financial position or cash flows could materially and adversely be affected.

Our growth depends upon our ability to compete successfully with respect to value, innovation and customer support.

We have numerous global, national, regional and local competitors. Our ability to compete depends in part on providing high quality and high value-added products, technology and service. We must also continue to identify, develop and commercialize innovative, profitable and high value-added products for niche applications and commercial digital applications. We have made significant investments in commercial digital product offerings, and our culture and expertise must continue to evolve to develop, support and profitably deploy commercial digital offerings, which are becoming an increasingly important part of our business. There can be no assurance that we will

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be able to accomplish our technology development goals or that technological developments by our competitors, including in the area of artificial intelligence, will not place certain of our products, technology or services at a competitive disadvantage in the future. In addition, certain of the new products that we have under development will be offered in markets in which we do not currently compete, and there can be no assurance that we will be able to compete successfully in those new markets. If we fail to introduce new technologies or commercialize our digital offerings on a timely and profitable basis, we may lose market share and our consolidated results of operations, financial position or cash flows could be materially and adversely affected.

Consolidation of our customers and vendors could materially and adversely affect our results.

Customers and vendors in the foodservice, hospitality, travel, healthcare, energy, life sciences, food processing and pulp and paper industries, as well as other industries we serve, have consolidated in recent years and that trend may continue. This consolidation could have a material adverse impact on our ability to retain customers and on our pricing, margins and consolidated results of operations.

We enter into multi-year contracts with customers that could impact our results.

Our multi-year contracts with some of our customers include terms affecting our pricing flexibility. There can be no assurance that these restraints will not have a material adverse impact on our margins and consolidated results of operations.

Legal, Regulatory & Compliance Risks

Our business depends on our ability to comply with laws and governmental regulations and meet our contractual commitments and failure to do so could materially and adversely impact our business; and we may be materially and adversely affected by changes in laws and regulations.

Our business is subject to numerous laws and regulations relating to the environment, including evolving climate change standards, and to the manufacture, storage, distribution, sale and use of our products as well as to the conduct of our business generally, including

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employment and labor laws and anti-corruption laws. Furthermore, increasing public and governmental awareness and concern regarding the effects of climate change has led to significant legislative and regulatory efforts to limit greenhouse gas emissions and will likely result in further environmental and climate change laws and regulations. Compliance with these laws and regulations exposes us to potential financial liability and increases our operating costs. A violation of these laws and regulations could expose us to financial liability that may have a material adverse effect on our results of operations and cash flows. Regulation of our products and operations continues to increase with

more stringent standards, causing increased costs of operations and potential for liability if a violation occurs. The potential cost to us relating to environmental and product registration laws and regulations is uncertain due to factors such as the unknown magnitude and type of possible contamination and clean-up costs, the complexity and evolving nature of laws and regulations, and the timing and expense of compliance. Changes to current laws (including tax laws), regulations and policies could impose new restrictions, costs or prohibitions on our current practices which would have a material adverse effect on our consolidated results of operations, financial position or cash flows. Changes to labor and employment laws and regulations, as well as related rulings by courts and administrative bodies, could materially and adversely affect our operations and expose us to potential financial liability.

Defense of litigation, particularly certain types of actions such as antitrust, patent infringement, personal injury, product liability, breach of contract, wage hour and class action lawsuits, can be costly and time consuming even if ultimately successful, and if not successful could have a material adverse effect on our consolidated results of operations, financial position or cash flows.

A chemical spill or release could materially and adversely impact our business.

As a manufacturer and supplier of chemical products, there is a potential for chemicals to be accidentally spilled, released or discharged, either in liquid or gaseous form, during production, transportation, storage or use. Such a release could result in environmental contamination as well as a human or animal health hazard. Accordingly, such a release could have a material adverse effect on our consolidated results of operations, financial position or cash flows.

Potential indemnification liabilities pursuant to the separation and split-off of our Upstream Energy business could materially and adversely affect our business and financial statements.

With respect to the separation and subsequent split-off of our Upstream Energy business, we entered into a separation and distribution agreement with ChampionX Holding Inc. and ChampionX Corporation (f/k/a Apergy Corporation and taken together with ChampionX Holding Inc., "ChampionX") as well as certain other agreements to govern the separation and related transactions and our relationship with ChampionX going forward. These agreements provide for specific indemnity and certain other obligations of each party and could lead to disputes between ChampionX and us. If we are required to indemnify ChampionX under the circumstances set forth in these agreements, we may be subject to substantial related liabilities. In addition, with respect to the liabilities for which ChampionX has agreed to indemnify us under these agreements, there can be no assurance that the indemnity rights we have against ChampionX will be sufficient to protect us against the full amount of such liabilities, or that ChampionX will be able to fully satisfy its indemnification obligations. Each of these risks could negatively affect our business and our consolidated results of operations, financial position or cash flows could be materially and adversely affected.

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Extraordinary events may significantly impact our business.

The occurrence of (a) litigation or claims, (b) the loss or insolvency of a major customer or distributor, (c) repeated or prolonged federal government shutdowns or similar events, (d) war (including acts of terrorism or hostilities which impact our markets), (e) natural or manmade disasters, (f) water shortages or (g) severe weather conditions affecting our operations or the energy, foodservice, hospitality and travel industries may have a material adverse effect on our business.

While we have a diverse customer base and no customer or distributor constitutes 10 percent or more of our consolidated revenues, we do have customers and independent, third-party distributors, the loss of which could have a material adverse effect on our consolidated results of operations or cash flows for the affected earnings periods.

Government shutdowns can have a material adverse effect on our consolidated results of operations or cash flows by disrupting or delaying new product launches, renewals of registrations for existing products and receipt of import or export licenses for raw materials or products.

War (including acts of terrorism or hostilities), natural or manmade disasters, water shortages or severe weather conditions, including the effects of climate change, affecting the energy, foodservice, hospitality, travel, health care, food processing, pulp and paper, mining, steel and other industries can cause a downturn in the business of our customers, which in turn can have a material adverse effect on our consolidated results of operations, financial position or cash flows. In particular, the U.S. Gulf Coast is a

region with significant refining, petrochemicals and chemicals operations which provide us raw materials, as well as being an important customer base for our **Downstream and Water operating segments**. Hurricanes or other severe weather events impacting the Gulf Coast, such as the winter freeze in Texas and the Gulf Coast in February 2021, can materially and adversely affect our ability to obtain raw materials at reasonable cost, or at all, and could adversely affect our business with our customers in the region.

Our commitments, goals, targets, objectives and initiatives related to sustainability, and our public statements and disclosures regarding them, expose us to numerous risks.

We have developed, and will continue to establish, goals, targets, and other objectives related to sustainability matters, including our sustainability goals in alignment with the United Nations Global Compact's Business Ambition for 1.5°C and our commitments to science-based targets addressing Scope 1, 2 and 3 GHG emissions, discussed in Item 1 of Part I of this Form 10-K, entitled "Business."

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Achieving these goals and commitments will require evolving our business, capital investment and the development of technology that might not currently exist. We might incur additional expense or be required to recognize impairment charges in connection with our efforts. These commitments, goals, targets and other objectives reflect our current plans and there is no guarantee that they will be achieved. Our efforts to research, establish, accomplish, and accurately report on these commitments, goals, targets, and objectives expose us to operational, reputational, financial, legal, and other risks. Our ability to achieve any stated commitment, goal, target, or objective is subject to factors and conditions, many of which are outside of our control, including the pace of changes in technology, the availability of requisite financing, and the availability of suppliers that can meet our sustainability and other standards.

Our business may face increased scrutiny from the investment community, other stakeholders, regulators, and the media related to our sustainability activities, including our commitments, goals, targets, and objectives, and our methodologies and timelines for pursuing them. If our sustainability practices do not meet investor or other stakeholder expectations and standards, which continue to evolve, our reputation, our ability to attract or retain employees, and our attractiveness as an investment, business partner, or as an acquiror could be negatively impacted. Similarly, our failure or perceived failure to pursue or fulfill our commitments, goals, targets, and objectives, to comply with ethical, environmental, or other standards, regulations, or expectations, or to satisfy reporting standards with respect to these matters, within the timelines we announce, or at all, could have operational, reputational, financial and legal impacts.

Financial Risks

If the separation and split-off of our Upstream Energy business or certain internal transactions undertaken in anticipation of the divestiture are determined to be taxable in whole or in part, we and our stockholders may incur significant tax liabilities.

In connection with the separation and split-off of our Upstream Energy business that was consummated on June 3, 2020, we obtained opinions of outside tax counsel that the related merger and exchange offer will qualify as tax-free transactions to us and our stockholders, except to the extent that cash was paid to Ecolab stockholders in lieu of fractional shares. We have not sought or obtained a ruling from the Internal Revenue Service (**IRS**) (**IRS**) on the tax consequences of these transactions. An opinion of counsel is not binding on the IRS or the courts, which may disagree with the opinion. Even if the merger and exchange offer otherwise qualified as tax-free transactions, they may become taxable to us if certain events occur that affect either Ecolab or ChampionX Corporation. While ChampionX Corporation has agreed not to take certain actions that could cause the transactions not to qualify as tax-free transactions and is generally obligated to indemnify us against any tax consequences if it breaches this agreement, the potential tax liabilities could have a material adverse effect on us if we were not entitled to indemnification or if the indemnification obligations were not fulfilled. If the merger or exchange offer were determined to be taxable, we could be subject to a substantial tax liability, and each U.S. holder of our common stock who participated in the exchange offer could be treated as exchanging the Ecolab shares surrendered for ChampionX Corporation shares in a taxable transaction.

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Changes in tax laws and unanticipated tax liabilities could materially and adversely affect the taxes we pay and our profitability.

We are subject to income and other taxes in the United States and foreign jurisdictions, and our operations, plans and results are affected by tax and other initiatives around the world. In particular, we are affected by the impact of changes to tax laws or related authoritative interpretations in the United States, such as the Inflation Reduction Act (IRA) signed into law on August 16, 2022, which includes a corporate alternative minimum tax on certain large corporations, incentives to address climate change mitigation and other non-income tax provisions, including an excise tax on the repurchase of corporate stock. We are also subject to changes in tax law outside the United States and impacted by actions taken with respect to tax-related matters by associations such as the Organization for Economic Co-operation and Development ("OECD"), which represents a coalition of member countries, and the European Commission which influence tax policies in countries where we operate. For example, approximately in particular, the OECD is coordinating negotiations among more than 140 countries have agreed jurisdictions with the goal of achieving consensus on various substantial changes to the OECD's two-pillar base erosion and profit shifting project ("BEPS"). This international tax framework, which could be implemented in some countries as early as 2023, is focused on including a number of issues, including shifting taxing rights on income from residence countries to source countries and establishing a minimum 15% global tax rate. Some of the BEPS minimum taxation regime ("Pillar Two"). Pillar Two takes effect in several jurisdictions in which we operate starting in 2024 and related proposals, if enacted into law in the United States and in the foreign countries where we do business, could will increase the burden and costs of our tax compliance, compliance. The company continues to monitor these legislative developments, but based on information available does not anticipate material impacts to the amount of taxes we incur in those jurisdictions and our global effective tax rate. 2024 financial statements. In addition, we are impacted by settlements of pending or any future adjustments proposed by the IRS or other taxing authorities in connection with our tax audits, all of which will depend on their timing, nature and scope. Increases in income tax rates, changes in income tax laws or unfavorable resolution of tax matters could have a material adverse impact on our financial results.

Future events may impact our deferred tax position, including the utilization of foreign tax credits and undistributed earnings of international affiliates that are considered to be reinvested indefinitely.

We evaluate the recoverability of deferred tax assets and the need for deferred tax liabilities based on available evidence. This process involves significant management judgment about assumptions that are subject to change from period to period based on changes in tax laws or variances between future projected operating performance and actual results. We are required to establish a valuation allowance for deferred tax assets if we determine, based on available evidence at the time the determination is made, that it is more likely than not that some portion or all of the deferred tax assets will not be realized. In making this determination, we evaluate all positive and negative evidence as of the end of each reporting period. Future adjustments (either increases or decreases), to the deferred tax asset valuation allowance are determined based upon changes in the expected realization of the net deferred tax assets. The realization of the deferred tax assets ultimately depends on the existence of sufficient taxable income in either the carry-back or carry-forward periods under the tax law. Due to significant estimates used to establish the valuation allowance and the potential for changes in facts and circumstances, it is reasonably possible that we will be required to record adjustments to the valuation allowance in future reporting periods. Changes to the valuation allowance or the amount of deferred tax liabilities could have a material adverse effect on our consolidated results of operations or financial position. Further, should we change our assertion regarding the permanent reinvestment of the undistributed earnings of international affiliates, a deferred tax liability may need to be established.

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Our indebtedness may limit our operations and our use of our cash flow, and any failure to comply with the covenants that apply to our indebtedness could materially and adversely affect our liquidity and financial statements.

As of December 31, 2022 December 31, 2023, we had approximately \$8.6 billion \$8.2 billion in outstanding indebtedness, with approximately \$1.5 billion in the form of floating rate debt. Our debt level and related debt service obligations may have negative consequences, including:

- requiring us to dedicate significant cash flow from operations to the payment of principal and interest on our debt, which reduces the funds we have available for other purposes such as acquisitions and capital investment;
- reducing our flexibility in planning for or reacting to changes in our business and market conditions;
- exposing us to interest rate risk since a portion of our debt obligations are at variable rates. For example, a one percentage point increase in the average interest rate on our floating rate debt at **December 31, 2022** **December 31, 2023** would increase future interest expense by approximately \$15 million per year; and
- increasing our cost of funds and materially and adversely affecting our liquidity and access to the capital markets should we fail to maintain the credit ratings assigned to us by independent rating agencies.

If we add new debt, the risks described above could increase.

We incur significant expenses related to the amortization of intangible assets and may be required to report losses resulting from the impairment of goodwill or other assets recorded in connection with the Nalco and Purolite transactions and other acquisitions.

We expect to continue to complete selected acquisitions and joint venture transactions in the future. In connection with acquisition and joint venture transactions, applicable accounting rules generally require the tangible and intangible assets of the acquired business to be recorded on the balance sheet of the acquiring company at their fair values. Intangible assets other than goodwill are required to be amortized over their estimated useful lives and this expense may be significant. Any excess in the purchase price paid by the acquiring company over the fair value of tangible and intangible assets of the acquired business is recorded as goodwill. If it is later determined that the anticipated future cash flows from the acquired business may be less than the carrying values of the assets and goodwill of the acquired business, the assets or goodwill may be deemed to be impaired. In this case, the acquiring company may be required under applicable accounting rules to write down the value of the assets or goodwill on its balance sheet to reflect the extent of the impairment. This write-down of assets or goodwill is generally recognized as a non-cash expense in the statement of operations of the acquiring company for the accounting period during which the write down occurs. As of **December 31, 2022** **December 31, 2023**, we had goodwill of **\$8.0 billion** **\$8.1 billion** which

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is maintained in various reporting units, including goodwill from the Nalco and Purolite transactions. If we determine that any of the assets or goodwill recorded in connection with the Nalco **transaction** and **Purolite transactions** or any other prior or future acquisitions or joint venture transactions have become impaired, we will be required to record a loss resulting from the impairment. Impairment losses could be significant and could have a material adverse effect on our consolidated results of operations and financial position.

[Item 1B. Unresolved Staff Comments.](#)

We have no unresolved comments from the staff of the Securities and Exchange Commission.

[Item 1C. Cybersecurity.](#)

Since 2014, when the Ecolab Cybersecurity program was established, we have continuously matured our cybersecurity program to proactively address evolving cybersecurity trends and risks. Ecolab has an Information Security Steering Committee ("ISSC"), a cross-functional team chaired by our Chief Information Security Officer ("CISO") that is described more fully below.

Senior management provides in-depth reviews of cybersecurity matters to the Board and the Audit Committee. Cybersecurity is also considered in the annual enterprise risk assessment presented to the Board by management as part of the Board's oversight of our enterprise risk management ("ERM") program.

Ecolab's cybersecurity policies, standards, processes, and practices are integrated into our ERM program and are based on recognized frameworks established by the National Institute of Standards and Technology ("NIST") Cybersecurity Framework ("CSF"), the International Organization for Standardization and other applicable industry standards. We are formally assessed by an independent third party against NIST CSF and industry standards, including peer benchmarking.

Risk Management and Strategy

Cybersecurity presents strategic and operating risks and is an area of continued focus for our Board and management under its ERM program. Ecolab's cybersecurity program addresses the following key areas:

- **Governance:** As discussed in more detail under the heading "Cybersecurity Governance," the Audit Committee and the Board of Directors provide oversight of cybersecurity risk management.

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- **Technical Safeguards:** We have implemented multi-layer controls designed to protect our information systems from cybersecurity threats, including general, backup, recovery, resiliency, processing, access, change and risk controls. These controls are evaluated by Ecolab's cybersecurity team and enhanced through controls audits and assessments, internal testing, and third-party cybersecurity threat intelligence.
- **Incident Response and Recovery Planning:** We have established and maintain comprehensive cybersecurity incident response and recovery plans that coordinate multidisciplinary internal teams and cybersecurity partners to assess, triage, escalate, contain, mitigate, investigate, remediate, and recover from a potential cybersecurity incident. Through ongoing communications with these teams, management monitors the incidents and reports incidents to the Audit Committee when appropriate. Management is responsible for timely disclosure of cybersecurity incidents as required by law.
- **Third-Party Risk Management:** We maintain a risk-based approach to identify, monitor, and manage third-party cybersecurity risks associated with our use of third-party service providers who have access to our systems, data or are critical to our continued business operations. Additionally, cybersecurity considerations affect the selection and oversight of our third-party service providers. We require certain third-party vendors to agree to manage their cybersecurity risks in specified ways, and to agree to be subject to cybersecurity audits, which we conduct as appropriate.
- **Education and Awareness:** We provide training for personnel regarding cybersecurity trends and threats to equip them with the knowledge to recognize and tools to report suspected cybersecurity threats. We also conduct simulations for employees and contractors to enhance awareness and responsiveness to such possible threats. In addition, we send global cybersecurity awareness communications to our personnel.
- **Assessment:** We engage in the periodic assessment, testing and updating of our policies, standards, processes, and practices that are designed to address cybersecurity threats and incidents. These efforts include a wide range of activities, including audits, assessments, tabletop exercises, threat modeling, vulnerability testing and other exercises focused on evaluating the effectiveness of our cybersecurity measures, and planning. We engage third parties to perform assessments on our cybersecurity measures, including information security maturity assessments, audits and independent reviews of our information security control environment and operating effectiveness. Additionally, we leverage third party cybersecurity rating agency data to inform our assessment of risk. The results of such assessments, audits and reviews are reported to the Audit Committee and the Board.

While we have continually matured our security program and capabilities and have had no material incidents to date, cyber threats continue to evolve and there can be no assurance that our efforts will prevent cybersecurity attacks or breaches in our systems such as those described in the risk factor entitled, "We are subject to information technology system failures, network disruptions and breaches in data security" under "Item 1A. Risk Factors" of this Form 10-K.

Cybersecurity Governance

Ecolab's ISSC, chaired by our CISO meets as needed. The Committee is comprised of executive leaders including the Chief Information Officer ("CIO"), Chief Digital Officer, Chief Operating Officer, Chief Financial Officer, Chief Technology Officer, the General Counsel, the Executive Vice Presidents of our commercial divisions, the Executive Vice President Global Supply Chain, the Executive Vice President Human Resources, the Vice President of Enterprise Business Solutions, and the Vice President Internal Audit.

The ISSC assists the CISO in fulfilling our responsibilities regarding our information security program to protect the confidentiality, integrity and availability of our information assets, financial assets, and information systems. ISSC responsibilities include, but are not limited to, evaluation of relevant information security risks, prioritization of information security initiatives, determination of, and advocacy for, appropriate investments, review of related legal and regulatory compliance initiatives, review of effective security communication initiatives, establishing specific requirements of the program in documented policies which all Ecolab associates, customers, and partners are obligated to follow, partner with Ecolab's business, functional and regional leaders to ensure effective, risk-based security controls and practices are in place to achieve the program's intent, and assist in monitoring the integrity and evaluating the effectiveness of the program.

The Board, in coordination with the Audit Committee, provides oversight of our ERM program, including the management of risks arising from cybersecurity threats. The Board and the Audit Committee each receive an overview from our CIO and CISO regarding our cybersecurity threat risk management and strategy processes. These reports cover a wide range of topics, and may include current and emerging cybersecurity threat risks, third-party assessments, risk-mitigation tactics and programs, information security considerations arising with respect to our peers and third parties, and our incident response plan.

Through a risk-based approach consistent with Ecolab's ERM framework, the CISO identifies cyber incidents that are brought forward to a cross-functional cyber-incident response team including our CEO, CFO, CIO, General Counsel, CISO and Executive Vice President Supply Chain. This cyber incident response team, or, in the event of more minor incidents, the CISO and her team, takes steps to promptly assess and address the incident, including engaging third parties according to pre-established guidelines. The Board and the Audit Committee also receive prompt and timely information regarding any cybersecurity incident that meets established reporting thresholds, including ongoing updates regarding any such incident until it has been addressed.

Ecolab's cybersecurity program is led by our CISO, who holds a CISO certification. She has been our CISO since 2020 and has more than 35 years of information systems experience in total.

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[Item 2. Properties.](#)

We operate 32 manufacturing facilities in 14 states in the U.S. Internationally, we operate 68 manufacturing facilities in 38 countries. We own most of our manufacturing locations. Our manufacturing philosophy is to manufacture products wherever an economic, process or quality assurance advantage exists or where proprietary manufacturing techniques dictate in-house production. Currently, most products that we sell are manufactured at our facilities. We position our manufacturing locations and warehouses in a manner to permit ready access to our customers. In general, manufacturing facilities located in the United States serve our U.S. markets and facilities located outside of the United States serve our international markets. However, most of the United States facilities do manufacture products for export. Many of our properties are used by multiple segments.

Our manufacturing facilities produce chemical products as well as medical devices and equipment for all of our operating segments, although Pest Elimination purchases the majority of their products and equipment from outside suppliers. Our chemical production process consists of blending purchased raw materials into finished products in powder, liquid, and solid form. Additionally, intermediates from reaction chemistries are used in some of the blends and are also packaged directly into finished goods. Our devices and equipment manufacturing operations consist of producing chemical product dispensers and injectors and other mechanical equipment, medical devices, dishwasher racks, related sundries, dish machine refurbishment and water monitoring and maintenance equipment system from purchased components and subassemblies.

The following table profiles our more significant physical properties with approximately 70,000 square feet or more with ongoing production activities, as well as certain other facilities important in terms of specialization and sources of supply. In general, manufacturing facilities located in the United States serve our U.S. markets and facilities located outside of the United States serve our international markets. However, most of the United States facilities do manufacture products for export.

PLANT PROFILES			
Location	Approximate Size (Sq. Ft.)	Segment	Majority Owned or

Joliet, IL USA	610,000	Global Institutional & Specialty, Global Industrial, Global Healthcare & Life Sciences	Owned
Asheville, NC USA	478,000	Global Industrial, Global Healthcare & Life Sciences	Leased
Tai Cang, CHINA	468,000	Global Institutional & Specialty, Global Industrial, Global Healthcare & Life Sciences	Owned
Hongzhou, CHINA	430,125	Global Healthcare & Life Sciences	Owned
Saighin, FRANCE	360,000	Global Institutional & Specialty, Global Industrial, Global Healthcare & Life Sciences	Owned
Mandras, GREECE	355,435	Global Industrial, Global Healthcare & Life Sciences	Owned
Victoria, ROMANIA	343,605	Global Healthcare & Life Sciences	Owned
South Beloit, IL USA	313,000	Global Institutional & Specialty, Global Industrial, Global Healthcare & Life Sciences, Other	Owned
Jianghai, CHINA	296,000	Global Industrial	Owned
Chalons, FRANCE	280,000	Global Institutional & Specialty, Global Industrial	Owned
Clearing, IL USA	270,000	Global Industrial, Global Healthcare & Life Sciences, Other (Colloidal)	Owned
Nanjing, CHINA	240,000	Global Industrial	Owned
Garland, TX USA	239,000	Global Institutional & Specialty, Global Industrial	Owned
Philadelphia, PA USA	232,000	Global Healthcare & Life Sciences	Owned
Martinsburg, WV USA	228,000	Global Institutional & Specialty, Global Industrial	Owned
Elwood City, PA USA	222,000	Global Industrial	Owned
Weavergate, UNITED KINGDOM	222,000	Global Institutional & Specialty, Global Industrial	Owned
Celra, SPAIN	218,000	Global Institutional & Specialty, Global Industrial, Global Healthcare & Life Sciences	Owned
Greensboro, NC USA	193,000	Global Institutional & Specialty, Global Healthcare & Life Sciences	Owned

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Location	Approximate Size (Sq. Ft.)	Segment	Majority Owned or
Fresno, TX USA	192,000	Global Industrial	Owned
Santiago, CHILE	188,000	Global Institutional & Specialty, Global Industrial, Global Healthcare & Life Sciences	Owned
Las Americas, DOMINICAN REPUBLIC	182,000	Global Institutional & Specialty, Global Healthcare & Life Sciences	Owned
Jacksonville, FL USA	181,000	Global Institutional & Specialty, Global Healthcare & Life Sciences	Leased
Garyville, LA USA	178,000	Global Industrial	Owned
Gul Lane, SINGAPORE	169,000	Global Industrial	Owned
Nieuwegein, NETHERLANDS	168,000	Global Institutional & Specialty, Global Industrial	Owned
La Romana, DOMINICAN REPUBLIC	160,000	Global Institutional & Specialty, Global Healthcare & Life Sciences	Leased
Middleton, UNITED KINGDOM	157,575	Global Industrial, Global Healthcare & Life Sciences	Owned
Tessenderlo, BELGIUM	153,000	Global Institutional & Specialty, Global Industrial	Owned
Cheltenham, AUSTRALIA	145,000	Global Institutional & Specialty, Global Industrial	Owned

Suzano, BRAZIL	142,000	Global Institutional & Specialty, Global Industrial, Global Healthcare & Life Sciences	Owned
McDonough, GA USA	141,000	Global Institutional & Specialty, Global Industrial	Owned
Darra, AUSTRALIA	138,000	Global Institutional & Specialty, Global Industrial	Owned
Burlington, ON CANADA	136,000	Global Industrial	Owned
Eagan, MN USA	133,000	Global Institutional & Specialty, Global Industrial, Global Healthcare & Life Sciences, Other	Owned
Huntington, IN USA	127,000	Global Institutional & Specialty, Global Industrial, Global Healthcare & Life Sciences	Owned
Rozzano, ITALY	126,000	Global Institutional & Specialty, Global Industrial	Owned
City of Industry, CA USA	125,000	Global Institutional & Specialty, Global Industrial, Global Healthcare & Life Sciences	Owned
Mississauga, ON CANADA	120,000	Global Institutional & Specialty, Global Industrial	Leased
Elk Grove Village, IL USA	115,000	Global Institutional & Specialty	Leased
Biebesheim, GERMANY	109,000	Global Institutional & Specialty, Global Industrial, Global Healthcare & Life Sciences	Owned
Fort Worth, TX USA	101,000	Global Institutional & Specialty	Leased
Johannesburg, SOUTH AFRICA	100,000	Global Institutional & Specialty, Global Industrial, Global Healthcare & Life Sciences	Owned
Andover, UNITED KINGDOM	99,762	Global Industrial, Global Healthcare & Life Sciences	Owned
Pilar, ARGENTINA	96,000	Global Institutional & Specialty, Global Industrial	Owned
Hamilton, NEW ZEALAND	96,000	Global Institutional & Specialty, Global Industrial	Owned
Konnagar, INDIA	88,000	Global Industrial	Owned
Kwinana, AUSTRALIA	87,000	Global Institutional & Specialty, Global Industrial	Owned
Yangsan, KOREA	85,000	Global Industrial	Owned
Cuautitlan, MEXICO	76,000	Global Institutional & Specialty, Global Industrial, Global Healthcare & Life Sciences	Owned
Barueri, BRAZIL	75,000	Global Institutional & Specialty, Global Industrial, Global Healthcare & Life Sciences	Leased
Citereup, INDONESIA	74,000	Global Industrial	Owned
King of Prussia, PA	74,000	Global Healthcare & Life Sciences	Owned
Mullingar, IRELAND	74,000	Global Institutional & Specialty, Global Industrial	Leased
Mosta, MALTA	73,000	Global Institutional & Specialty, Global Healthcare & Life Sciences	Leased
Aubagne, FRANCE	65,000	Global Institutional & Specialty, Global Healthcare & Life Sciences	Leased
Siegsdorf, GERMANY	56,000	Global Institutional & Specialty, Global Industrial, Global Healthcare & Life Sciences	Owned

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Location	Approximate Size (Sq. Ft.)	Segment	Majority Owned or
Verona, ITALY	55,000	Global Institutional & Specialty, Global Healthcare & Life Sciences	Owned
Guangzhou, CHINA	55,000	Global Institutional & Specialty, Global Industrial	Owned
Navanakorn, THAILAND	53,000	Global Institutional & Specialty, Global Industrial	Leased

Lerma, MEXICO	49,000	Global Industrial	Owned
Maribor, SLOVENIA	46,400	Global Institutional & Specialty, Global Industrial	Owned
Leeds, UNITED KINGDOM	25,000	Global Institutional & Specialty	Owned
Baglan, UNITED KINGDOM	24,400	Global Institutional & Specialty, Global Healthcare & Life Sciences	Leased
Noda, JAPAN	22,000	Global Institutional & Specialty, Global Industrial, Global Healthcare & Life Sciences	Owned

Generally, our manufacturing facilities are adequate to meet our existing in-house production needs. We continue to invest in our plant sites to maintain viable operations and to add capacity as necessary to meet business imperatives.

Most of our manufacturing plants also serve as distribution centers. In addition, we operate distribution centers around the world, most of which are leased, and utilize third party logistics service providers to facilitate the distribution of our products and services.

Our corporate headquarters is comprised of a 17-story building that we own in St. Paul, Minnesota. We also own a 115-acre campus in Eagan, Minnesota that houses a significant research and development center a data center and training facilities as well as several of our administrative functions. We also have a significant business presence in Naperville, Illinois, where our Water and Paper operating segments maintain their principal administrative offices and research center, as well as in Greensboro, North Carolina, where our Specialty operating segment maintains its principal administrative offices and a research center. Our Downstream Water operating segment leases administrative and research facilities in Sugar Land, Texas Houston, Texas. Our Purolite business maintains leased and maintains additional Company-owned research owned facilities in Fresno, Texas; the greater King of Prussia, PA area for administrative functions, and research and development.

Significant regional administrative and/or research facilities are located in Campinas, Brazil; Leiden, Netherlands; and Pune, India, Netherlands, which we own, own; and in Bangalore, India; Dubai, UAE; Monheim, Germany; Pune, India; Singapore; Shanghai, China; and Zurich, Switzerland, which we lease. We also have a network of small leased sales offices in the United States and, to a lesser extent, in other parts of the world.

Item 3. Legal Proceedings.

Discussion of legal proceedings is incorporated by reference from Part II, Item 8, Note 16, 15, "Commitments and Contingencies," of this Form 10-K and should be considered an integral part of Part I, Item 3, "Legal Proceedings."

Discussion of other environmental-related legal proceedings is incorporated by reference from Part I, Item 1 above, under the heading "Environmental and Regulatory Considerations."

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Market Information

Our common stock is listed on the New York Stock Exchange under the symbol "ECL." Our common stock is also traded on an unlisted basis on certain other United States exchanges.

Holders

On **January 31, 2023** **January 31, 2024**, we had **5,031** **4,797** holders of record of our Common Stock.

Issuer Purchases of Equity Securities

Period			Total number of shares purchased as part of	Maximum number of shares that may yet be			Total number of shares purchased as part of	Maximum number of shares that may yet be
	Total number of shares purchased (1)	Average price paid per share (2)	publicly announced plans or programs (3)	purchased under the plans or programs (3)	Total number of shares purchased (1)	Average price paid per share (2)	publicly announced plans or programs (3)	purchased under the plans or programs (3)
October								
1-31,								
2022	1,362	\$157.0872	-	3,404,297				
November								
1-30,								
2022	487,200	147.8301	487,200	12,917,097				
December								
1-31,								
2022	3,723	149.8621	-	12,917,097				
October								
1-31,								
2023					1,352	(\$158.0400)	-	12,917,097
November								
1-30,								
2023					1,601	(174.2750)	-	12,917,097
December								
1-31,								
2023					7,821	(192.1285)	-	12,917,097
Total	492,285	\$147.8711	487,200	12,917,097	10,774	(\$185.1978)	-	12,917,097

- (1) Includes **5,085** **10,774** shares reacquired from employees and/or directors to satisfy the exercise price of stock options or shares surrendered to satisfy statutory tax obligations under our stock incentive plans.
- (2) The average price paid per share includes brokerage commissions associated with publicly announced plan purchases plus the value of such other reacquired shares.
- (3) As announced on February 24, 2015, our Board of Directors authorized the repurchase of up to 20,000,000 common shares. As announced on November 3, 2022, our Board of Directors authorized the repurchase of up to an additional 10,000,000 shares. Subject to market conditions, we expect to repurchase all shares under these authorizations, for which no expiration date has been established, in open market or privately negotiated transactions, including pursuant to Rule 10b5-1 and accelerated share repurchase program.

[Item 6. \[Reserved\].](#)

[Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.](#)

The following management discussion and analysis ("MD&A") provides information that we believe is useful in understanding our operating results, cash flows and financial condition. We provide quantitative information about the material sales drivers including the impact of changes in volume and pricing and the effect of acquisitions and changes in foreign currency at the corporate and reportable segment level. We also provide quantitative information regarding special (gains) and charges, discrete tax items and other significant factors we believe are useful for understanding our results. Such quantitative drivers are supported by comments meant to be qualitative in nature. Qualitative factors are generally ordered based on estimated significance.

The discussion should be read in conjunction with the consolidated financial statements and related notes included in this Form 10-K. Our consolidated financial statements are prepared in accordance with U.S. GAAP. This discussion contains various Non-GAAP Financial Measures and also contains various forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. We refer readers to the statements and information set forth in the sections entitled "Non-GAAP Financial Measures" at the end of this MD&A, and "Forward-Looking Statements" and "Risk Factors" within Items 1 and 1A of this Form 10-K. We also refer readers to the tables within the section entitled "Results of Operations" of this MD&A for reconciliation information of Non-GAAP measures to U.S. GAAP.

Comparability of Results

Purolite acquisition

In December 2021, we acquired Purolite for total consideration of \$3.7 billion in cash, net of cash acquired. Purolite is a leading and fast-growing global provider of high-end ion exchange resins for the separation and purification of solutions for pharmaceutical and industrial applications. Headquartered in King of Prussia, Pennsylvania, Purolite operates in more than 30 countries. Purolite is reported within our Life Sciences operating segment. Acquisition and integration charges are recorded within special (gains) and charges. The 2021 impacts of the Purolite acquisition including operating results, acquisition-related amortization and interest expense related to the transaction were also excluded from 2021 adjusted results.

ChampionX Transaction

In June 2020, we completed the previously announced separation of our Upstream Energy business (the "ChampionX business") in a Reverse Morris Trust transaction (the "Transaction") through the split-off of ChampionX Holding Inc. ("ChampionX"), formed by Ecolab as a wholly owned subsidiary to hold the ChampionX Business, followed immediately by the merger of ChampionX (the "Merger") with a wholly owned subsidiary of ChampionX Corporation (f/k/a Apergy Corporation, "Apergy").

The ChampionX business met the criteria to be reported as discontinued operations because the separation of ChampionX was a strategic shift in business that had a major effect on our operations and financial results. Therefore, we reported the historical results of ChampionX, including the results of operations, cash flows, and related assets and liabilities, as discontinued operations for 2020. Unless otherwise noted, the accompanying MD&A has been revised to reflect the ChampionX business as discontinued operations and 2020 balances have been revised accordingly to reflect continuing operations only.

Comparability of Reportable Segments

We have also made immaterial changes to our segment reporting, including the movement of certain customers and cost allocations between reportable segments.

Impact of Acquisitions and Divestitures

Acquisition adjusted growth rates Our non-GAAP financial measures for organic sales, organic operating income and organic operating income margin are at fixed currency and exclude the impact of special (gains) and charges, the results of our acquired businesses from the first twelve months post acquisition and the results of our divested businesses from the twelve months prior to divestiture. Further, we have excluded the results of our Purolite business for all of 2022 to remain comparable to 2021 when Purolite's results were excluded from adjusted results. As part of the separation of the ChampionX business, in 2020, we also entered into a Master Cross Supply and Product Transfer agreement with ChampionX to provide, receive or transfer certain products for a period up to of 36 months, months and for a small set of products with limited suppliers over the next few years. Sales of product to ChampionX under this agreement are recorded in product and equipment sales in the Corporate segment along with the related cost of sales. These transactions are removed from the consolidated results as part of the calculation of the impact of acquisitions and divestitures.

Comparability of Reportable Segments

Effective January 1, 2023, our former Downstream operating segment is now part of the Water operating segment. This change did not have any impact on the Global Industrial reportable segment.

Fixed Currency Foreign Exchange Rates

Management evaluates the sales and operating income performance of our non-U.S. dollar functional currency international operations based on fixed currency exchange rates, which eliminate the impact of exchange rate fluctuations on our international operations. Fixed currency amounts are updated annually at the beginning of each year based on translation into U.S. dollars at foreign currency exchange rates established by management, with all periods presented using such rates. Public currency rate data provided within the "Segment Performance" section of this MD&A reflect amounts translated at actual public average rates of exchange prevailing during the corresponding period and is provided for informational purposes only.

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EXECUTIVE SUMMARY

In 2022, 2023, we delivered double-digit high single digit sales growth as we accelerated our pricing and drove volume growth, continued strong pricing. Our strong pricing increases offset continued significant delivered product cost increases on a dollar basis, increases. Our team generated double-digit sales growth in the Institutional & Specialty, high single digit sales growth in Industrial, and Other segments while Healthcare & Life Sciences segment generated good sales were stable, growth. Operating income was stable, grew by strong double digits, as accelerating strong pricing was offset by higher delivered product costs and cost savings initiatives overcame investments in the business, business and higher supply chain costs.

Sales

Reported sales increased 11% 8% to \$15.3 billion in 2023 from \$14.2 billion in 2022 from \$12.7 billion in 2021, 2022. When measured in fixed rates of foreign currency exchange, fixed currency sales increased 16% 8% compared to the prior year. Acquisition adjusted fixed currency Organic sales increased 13% 9% compared to the prior year.

Gross Margin

Our reported gross margin was 37.8% 40.2% of sales for 2022, 2023, compared to our 2021 2022 reported gross margin of 40.2% 37.8%. Excluding the impact of special (gains) and charges and the 2021 impacts from the Purolite transaction included in cost of sales, our adjusted gross margin was 40.4% in 2023 and 38.2% in 2022 and 40.9% in 2021, 2022. Our gross profit increased as our strong pricing exceeded substantial delivered product cost inflation.

Operating Income

Reported operating income remained stable at \$1.6 billion increased 28% to \$2.0 billion in 2022, 2023, compared to \$1.6 billion in 2021, 2022. Adjusted operating income, excluding the impact of special (gains) and charges and the 2021 impacts of the Purolite transaction, decreased 1% increased 20% in 2022, 2023 as strong pricing offset substantial delivered product inflation and overcame investments in the business. When measured in fixed rates of foreign currency exchange, adjusted fixed currency business including incentive compensation, unfavorable mix and higher supply chain costs. Organic operating income increased 4% 20% in 2022, 2023.

Earnings from Continuing Operations Attributable to Ecolab Per Common Share ("EPS")

Reported diluted EPS decreased 3% increased 26% to \$4.79 in 2023 compared to \$3.81 in 2022 compared to \$3.91 in 2021, 2022. Special (gains) and charges had an impact on both years. Special (gains) and charges in 2022, 2023 were driven primarily by restructuring and pension settlement expense and 2021, 2022 was driven primarily by COVID-19 related charges, restructuring charges and pension settlement expense. Adjusted diluted EPS, which exclude excludes the impact of special (gains) and charges the 2021 impacts of the Purolite transaction and discrete tax items decreased 4% increased 16% to \$5.21 in 2023 compared to \$4.49 in 2022 compared to \$4.69 in 2021, as unfavorable our strong operating income performance was partially offset by foreign currency translation and increases in interest expense further offset our operating income performance. expense.

Balance Sheet

We remain committed to maintaining "A" range ratings metrics over the long-term, supported by our current credit ratings of A-/A3/A- by Standard & Poor's, Moody's Investor Services and Fitch, respectively. Our strong balance sheet has allowed us continued access to capital at attractive rates.

Cash Flow

Cash flow from continuing operations operating activities was \$2.4 billion in 2023 compared to \$1.8 billion in 2022 compared to \$2.1 billion in 2021, 2022. We continued to generate strong cash flow from operations, allowing us to fund our ongoing operations, investments in our business, acquisitions, debt repayments, pension obligations and return cash to our shareholders through share repurchases and dividend payments.

Dividends

Dividends declared per common share in 2022, 2023 was \$2.06 \$2.16 per share. In December 2022, 2023 we increased our quarterly cash dividend by 4% 8% to \$0.53 \$0.57 per share, representing our 31st 32nd consecutive annual dividend rate increase. We have paid cash dividends on our common shares for 86 87 consecutive years. Our outstanding dividend history reflects our long term long-term growth and development, strong cash flows, solid financial position and confidence in our business prospects for the years ahead.

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CRITICAL ACCOUNTING ESTIMATES

Our consolidated financial statements are prepared in accordance with U.S. GAAP. We have adopted various accounting policies to prepare the consolidated financial statements in accordance with U.S. GAAP. Our significant accounting policies are disclosed in Note 2 of the Notes to the Consolidated Financial Statements ("Notes").

Preparation of our consolidated financial statements, in conformity with U.S. GAAP, requires us to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Estimates are considered to be critical if they meet both of the following criteria: (1) the estimate requires

assumptions to be made about matters that are highly uncertain at the time the accounting estimate is made, and (2) different estimates that we reasonably could have used for the accounting estimate in the current period, or changes in the accounting estimate that are reasonably likely to occur from period to period, have a material impact on the presentation of our financial condition or results of operations.

In March 2020, COVID-19 was declared a pandemic by the World Health Organization. As the impact of the pandemic continues to evolve, estimates and assumptions about future events and their effects cannot be determined with certainty and therefore require judgment. These estimates and assumptions may change in future periods and will be recognized in the consolidated financial information as new events occur and additional information becomes known. To the extent actual results differ materially from those estimates and assumptions, our future financial statements could be affected.

Besides estimates that meet the "critical" estimate criteria, we make many other accounting estimates in preparing our financial statements and related disclosures. All estimates, whether or not deemed critical, affect reported amounts of assets, liabilities, revenues or expenses as well as disclosures of contingent assets and liabilities. Estimates are based on experience and other information available prior to the issuance of the financial statements. Materially different results can occur as circumstances change and additional information becomes known, even from estimates not deemed critical. Our critical accounting estimates include the following:

Revenue Recognition

Revenue is measured as the amount of consideration expected to be received in exchange for transferring goods or providing service. Revenue from product and sold equipment is recognized when obligations under the terms of a contract with the customer are satisfied, which generally occurs with the transfer of the product or delivery of the equipment. Revenue from service and leased equipment is recognized when the services are provided, or the customer receives the benefit from the leased equipment, which is over time. Service revenue is recognized over time utilizing an input method and aligns with when the services are provided. Typically, revenue is recognized over time using costs incurred to date because the effort provided by the field selling and service organization represents services provided, which corresponds with the transfer of control. Revenue for leased equipment is accounted for under Topic 842 Leases and recognized on a straight-line basis over the length of the lease contract.

Our revenue policies do not provide for general rights of return. We record estimated reductions to revenue for customer programs and incentive offerings including pricing arrangements, promotions and other volume-based incentives based primarily on historical experience and anticipated performance over the contract period. Depending on market conditions, we may increase customer incentive offerings, which could reduce gross profit margins over the term of the incentive. We also record estimated reserves for product returns and credits based on specific circumstances and credit conditions. We record an allowance for uncollectible accounts based on our estimates of expected future credit losses.

The revenue standard can be applied to a portfolio of contracts with similar characteristics if it is reasonable that the effects of applying the standard at the portfolio would not be significantly different than applying the standard at the individual contract level. We apply the portfolio approach primarily within each operating segment by geographical region. Application of the portfolio approach was focused on those characteristics that have the most significant accounting consequences in terms of their effect on the timing of revenue recognition or the amount of revenue recognized. We determined the key criteria to assess with respect to the portfolio approach, including the related deliverables, the characteristics of the customers and the timing and transfer of goods and services, which most closely aligned within the operating segments. In addition, the accountability for the business operations, as well as the operational decisions on how to go to market and the product offerings, are performed at the operating segment level. For additional information on revenue recognition, refer to Note 18, 17.

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Litigation and Environmental Liabilities

Our business and operations are subject to extensive environmental laws and regulations governing, among other things, air emissions, wastewater discharges, the use and handling of hazardous substances, waste disposal and the investigation and remediation of soil and groundwater contamination. Some risk of environmental liability is inherent in our operations.

We record liabilities related to pending litigation, environmental claims and other contingencies when a loss is probable and can be reasonably estimated. Estimates used to record such liabilities are based on our best estimate of probable future costs. We record the amounts that represent the points in the range of estimates that we believe are most probable or the minimum amount when no amount within the range is a better estimate than any other amount. Potential insurance reimbursements generally are not anticipated in our accruals for environmental liabilities or other insured losses. Expected insurance proceeds are recorded as receivables when recovery is deemed certain. While the final resolution of litigation and environmental contingencies could result in amounts different than current accruals, and therefore have an impact on our consolidated financial results in a future reporting period, we believe the ultimate outcome will not have a significant impact on our consolidated financial position. For additional information on our commitments and contingencies, refer to Note [16](#), [15](#).

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Actuarially Determined Liabilities

Pension and Postretirement Healthcare Benefit Plans

The measurement of our pension and postretirement benefit obligations are dependent on a variety of assumptions determined by management and used by our actuaries. actuaries in their valuations and calculations. These assumptions affect the amount and timing of future pension contributions, benefit payments and expense or income recognized.

The significant assumptions used in developing the required estimates are the discount rates, expected returns on assets, projected salary and health care cost increases and mortality tables.

- The discount rate assumptions for our U.S. plans are assessed using a yield curve constructed from a subset of bonds yielding greater than the median return from a population of non-callable, corporate bonds that have an average rating of AA when averaging available Moody's Investor Services, Standard & Poor's and Fitch ratings. The discount rates are calculated by matching each plans' projected cash flows to the bond yield curve. For [2022](#) [2023](#) and [2021](#), [2022](#), we measured service and interest costs by applying the specific spot rates along that yield curve to the plans' liability cash flows. We believe this approach provides a more precise measurement of service and interest costs by aligning the timing of the plans' liability cash flows to the corresponding spot rates on the yield curve. In determining our U.S. pension obligations for [2022](#) [2023](#), our weighted-average discount rate increased decreased to [5.17%](#) [4.95%](#) from [2.86%](#) [5.17%](#) at year-end [2021](#), [2022](#). In determining our U.S. postretirement health care obligation for [2022](#) [2023](#), our weighted-average discount rate increased decreased to [5.14%](#) [4.95%](#) from [2.75%](#) [5.14%](#) at year-end [2021](#), [2022](#).
- The expected rate of return on plan assets reflects asset allocations, investment strategies and views of investment advisors, and represents our expected long-term return on plan assets. Our weighted-average expected returns on U.S. plan assets used in determining the U.S. pension and U.S. postretirement health care expenses was [7.75%](#) for [2023](#) and [7.00%](#) for [2022](#) [7.00%](#) for [2021](#) and [7.25%](#) for [2020](#), [2021](#).
- Projected salary is based on our long-term actual experience, the near-term outlook and assumed inflation. Our weighted-average projected salary increase used in determining the U.S. pension expenses was [4.03%](#) for [2023](#), [2022](#) [2021](#) and [2020](#), [2021](#).
- For postretirement benefit measurement purposes as of [December 31, 2022](#) [December 31, 2023](#), the annual rates of increase in the per capita cost of covered health care were assumed to be [6.75%](#) [7.46%](#) for pre-65 costs. Post-65 costs are no longer used. The rates are assumed to decrease each year until they reach 4.5% in [2032](#) [2034](#) and remain at those levels thereafter.
- The Company uses We use mortality tables appropriate in the circumstances, which generally are the recently available mortality tables as of the respective U.S. and international measurement dates. Our year-end U.S. valuations reflect mortality tables that estimate the impacts of COVID in an endemic state. This represents a change from prior year when the impact of COVID on future mortality could not be reasonably estimated.

The effects of actual results differing from our assumptions, as well as changes in assumptions, are reflected in the unrecognized gains or losses and amortized into earnings in the future. Significant differences in actual experience or significant changes in assumptions may materially affect future pension and other postretirement obligations and income or expense. The unrecognized net losses on our U.S. qualified and non-qualified pension plans increased to [\\$495 million as of December 31, 2023](#) from [\\$412 million as of December 31, 2022](#) [from \\$397 million as of December 31, 2021](#) (both before tax), primarily due to lower actual return on assets partially offset by current year net actuarial gains.

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The effect of a decrease in the discount rate or decrease in the expected return on assets assumption as of December 31, 2022 December 31, 2023, on the December 31, 2022 December 31, 2023 defined benefit obligation and 2023 2024 expense is shown below, assuming no changes in benefit levels. Expense amounts reflect the accounting for gains or losses as a component of other comprehensive income or expense and recognition of the impacts into earnings over time:

(millions)	Effect on U.S. Pension Plans			Effect on U.S. Pension Plans		
	Assumption Change	Increase in Recorded Obligation	Higher 2023 Expense	Increase in Higher		
				Assumption Change	Recorded Obligation	2024 Expense
Discount rate	-.25 pts	\$42.4	\$1.1	-.25 pts	\$37.7	\$2.9
Expected return on assets	-.25 pts	N/A	(4.7)	-.25 pts	N/A	(4.7)

(millions)	Effect on U.S. Postretirement Health Care Benefits Plans		
	Assumption Change	Increase in Recorded Obligation	Higher 2023 2024 Expense
Discount rate	-.25 pts	\$2.7 2.3	\$-
Expected return on assets	-.25 pts	N/A	-

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Our international pension obligations and underlying plan assets represent approximately one third of our global pension plans, with the majority of the amounts held in the U.K. and Eurozone countries. We use assumptions similar to our U.S. plan assumptions to measure our international pension obligations, however, the assumptions used vary by country based on specific local country requirements and information.

Refer to Note 17 16 for further discussion concerning our accounting policies, estimates, funded status, contributions and overall financial positions of our pension and postretirement plan obligations.

Self-Insurance

Globally we have insurance policies with varying deductible levels for property and casualty losses. We are insured for losses in excess of these deductibles, subject to policy terms and conditions and have recorded both a liability and an offsetting receivable for amounts in excess of these deductibles. We are self-insured for health care claims for eligible participating employees, subject to certain deductibles and limitations. We determine our liabilities for claims on an actuarial basis.

Income Taxes

Judgment is required to determine the annual effective income tax rate, deferred tax assets and liabilities, valuation allowances recorded against net deferred tax assets and **uncertain unrecognized tax positions, benefits**.

Effective Income Tax Rate

Our effective income tax rate is based on annual income, statutory tax rates and tax planning available in the various jurisdictions in which we operate. Our annual effective income tax rate includes the impact of **reserve provisions, unrecognized tax benefits**. We recognize the amount of tax benefit that is greater than 50% likely of being realized upon settlement with a taxing authority. We adjust these **reserves liabilities for unrecognized tax benefits** in light of changing facts and circumstances.

Tax regulations require items to be included in our tax returns at different times than the items are reflected in our financial statements. As a result, the effective income tax rate reflected in our financial statements differs from that reported in our tax returns. Some of these differences are permanent, such as expenses that are not deductible on our tax return, and some are temporary differences, such as depreciation expense.

Deferred Tax Assets and Liabilities and Valuation Allowances

Deferred tax assets and liabilities are determined based on temporary differences between the financial reporting and tax bases of assets and liabilities, applying enacted tax rates expected to be in effect for the year in which the differences are expected to reverse. Based on the evaluation of available evidence, both positive and negative, we recognize tax assets, such as net operating loss carryforwards and tax credit carryforwards, to the extent that realizing these benefits is considered to be more likely than not. Relevant factors in determining the realizability of deferred tax assets include historical results, sources of future taxable income, the expected timing of the reversal of temporary differences, tax planning strategies and the expiration dates of the various tax attributes.

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Uncertain Unrecognized Tax Positions Benefits

A number of years may elapse before a particular tax matter, for which we have established a liability for **uncertain unrecognized tax position, benefits**, is audited and finally resolved. The number of tax years with open tax audits varies depending on the tax jurisdiction. The Internal Revenue Service ("IRS") has completed examinations of our U.S. federal income tax returns through 2016 and the years 2017 through 2020 are currently under audit. In addition to the U.S. federal examinations, we have ongoing audit activity in several U.S. state and foreign jurisdictions.

The tax positions we take are based on our interpretations of tax laws and regulations in the applicable federal, state and international jurisdictions. We believe our tax returns properly reflect the tax consequences of our operations, and our liabilities for **uncertain unrecognized tax positions benefits** are appropriate and sufficient for the positions taken. Because of the uncertainty of the final outcome of these examinations, we have **established established** a liability for potential reductions of tax benefits (including related interest and penalties) for amounts that do not meet the more-likely-than-not thresholds for recognition and measurement as required by authoritative guidance. The liability for **uncertain unrecognized tax positions benefits** is reviewed throughout the year, taking into account new legislation, regulations, case law and audit results. Settlement of any particular issue could result in offsets to other balance sheet accounts, cash payments or receipts and/or adjustments to tax expense. Liabilities for **uncertain unrecognized tax positions benefits** are presented in the Consolidated Balance Sheets within other non-current liabilities. Our gross liability for **uncertain unrecognized tax positions benefits** was **\$24.9 million \$24.2 million** and **\$25.1 million \$24.9 million** as of **December 31, 2022 December 31, 2023** and **2021, 2022**, respectively. For additional information on income taxes refer to Note **13, 12**.

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Long-Lived Assets, Intangible Assets and Goodwill

Long-Lived and Amortizable Intangible Assets

Purchased long-lived and amortizable intangible assets not acquired as part of a business combination are recorded as of their acquisition date at cost, whereas long-lived and amortizable assets acquired as part of a business combination are recorded as of their acquisition date at their fair values based on the fair value requirements defined in U.S. GAAP. This requires us to make significant estimates and assumptions relating to the present value of its future cash flows, such as growth rates, royalty rates or discount rates.

We review our long-lived and amortizable intangible assets, the net value of which was \$6.3 billion and \$6.8 billion as of December 31, 2022, December 31, 2023 and 2021, respectively, 2022, for impairment when significant events or changes in business circumstances indicate that the carrying amount of the assets may not be recoverable. Such circumstances may include a significant decrease in the market price of an asset or asset group, a significant adverse change in the manner in which asset or asset groups are being used or history of operating or cash flow losses associated with the use of the asset or asset group. Impairment losses could occur when the carrying amount of an asset or asset group exceeds the anticipated future undiscounted cash flows expected to result from the use of the asset or asset group and its eventual disposition. The amount of the impairment loss to be recorded, if any, is calculated as the excess of the asset's or assets group's carrying amount over its estimated fair value.

We use the straight-line method to recognize amortization expense related to our amortizable intangible assets, including our customer relationships. We consider various factors when determining the appropriate method of amortization for our customer relationships, including projected sales data, customer attrition rates and length of key customer relationships.

Globally, we have a broad customer base. Our retention rate of significant customers has aligned with our acquisition assumptions, including the customer bases acquired from our Nalco, Laboratoires Anios ("Anios"), Copal Invest NV, including its primary operating entity CID Lines (collectively, "CID Lines") and Purolite transactions, which make up the majority of our unamortized customer relationships. Our historical retention rates, coupled with our consistent track record of keeping long-term relationships with our customers, supports our expectation of consistent sales generation for the foreseeable future from the acquired customer bases. If our customer retention rates or other post-acquisition operational activities change materially, we would evaluate the financial impacts and significance of the events given rise to the change which could result in impairment of our customer relationship intangible assets, or absent an impairment, an acceleration of amortization expense.

In addition, we periodically reassess the estimated remaining useful lives of our long-lived and amortizable intangible assets. Changes to estimated useful lives would impact the amount of depreciation and amortization expense recorded in earnings. We have experienced no significant changes in the carrying amount or estimated remaining useful lives of our long-lived or amortizable intangible assets.

Goodwill and Indefinite Life Intangible Assets

Goodwill arises from our acquisitions and represents the excess of the fair value of the purchase consideration exchanged over the fair value of net assets acquired. We had total goodwill of \$8.0 billion \$8.1 billion and \$8.1 billion \$8.0 billion as of December 31, 2022, December 31, 2023 and 2021, 2022, respectively. We test our goodwill for impairment at the reporting unit level. Our reporting units are largely our ten operating segments. Following the acquisition of Purolite on December 1, 2021, our Life Sciences Operating Segment consists of the Purolite and Global Life Sciences Reporting Units. We assess goodwill for impairment on an annual basis during the second quarter. If circumstances change or events occur that demonstrate it is more likely than not that the carrying amount of a reporting unit exceeds its fair value, we complete an interim goodwill impairment assessment of that reporting unit prior to the next annual assessment. If the results of an annual or interim goodwill impairment assessment demonstrate the carrying amount of a reporting unit is greater than its fair value, we will recognize an impairment loss for the amount by which the reporting unit's carrying amount exceeds its fair value, but not to exceed the carrying amount of goodwill assigned to that reporting unit.

For our annual 2022 2023 goodwill impairment assessment, we completed our impairment assessment for eleven of our twelve ten reporting units using discounted cash flow analyses that incorporated assumptions regarding future growth rates, terminal values and discount rates. Our goodwill impairment assessments for 2022 2023 indicated the estimated fair values of each of these eleven ten reporting units exceeded the carrying amounts of the respective reporting units by a significant margin. Given the recent acquisition of Purolite, our annual goodwill impairment assessment of the Purolite Reporting Unit was qualitative in nature and considered information regarding its operations, financial performance and the macroeconomic environment. After weighting both positive and negative information, it is more likely than not that the fair value of the Purolite Reporting Unit exceeds its carrying amount. We evaluate the need to complete interim goodwill impairment assessments when significant events or changes in business circumstances indicate that it is more likely than not that the carrying amount of a reporting unit may be higher than its fair value. No events were noted during the second half of 2022 2023 that required completion of an interim goodwill impairment assessment in the second half of 2022 2023 for any of our twelve ten reporting units. There has been no impairment of goodwill in any of the periods presented.

The Nalco trade name is our only indefinite-lived indefinite life intangible asset, which is tested for impairment on an annual basis during the second quarter. For our annual 2022 indefinite-lived 2023 indefinite life intangible asset impairment assessment, we completed our impairment assessment of the Nalco trade name using the relief from royalty discounted cash flow method, which incorporates assumptions regarding future sales projections, royalty rates and discount rates. Our Nalco tradename impairment assessment for 2022 2023 indicated the estimated fair value of the Nalco trade name exceeded its \$1.2 billion carrying amount by a significant margin. No events were noted during the second half of 2022 2023 that required completion of an interim impairment assessment of our Nalco trade name in the second half of 2022. 2023. There has been no impairment of the Nalco trade name intangible since it was acquired.

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RESULTS OF OPERATIONS

Net Sales

(millions)	Percent Change					Percent Change				
	2022	2021	2020	2022	2021	2023	2022	2021	2023	2022
Product and equipment sales	\$11,446.2	\$10,153.3	\$9,466.6			\$12,316.8	\$11,446.2	\$10,153.3		
Service and lease sales	2,741.6	2,579.8	2,323.6			3,003.4	2,741.6	2,579.8		
Reported GAAP net sales	14,187.8	12,733.1	11,790.2	11 %	8 %	15,320.2	14,187.8	12,733.1	8 %	11 %
2021 impact of Purolite on net sales	-	12.0	-			-	-	12.0		
Non-GAAP adjusted net sales	14,187.8	12,721.1	11,790.2	12 %	8 %	15,320.2	14,187.8	12,721.1	8 %	12 %
Effect of foreign currency translation	285.3	(249.5)	(15.4)			(44.8)	(94.4)	(566.9)		
Non-GAAP adjusted fixed currency sales	\$14,473.1	\$12,471.6	\$11,774.8	16 %	6 %	15,275.4	14,093.4	12,154.2	8 %	16 %
Effect of acquisitions and divestitures						(113.4)	(123.7)	*		
Non-GAAP organic sales						\$15,162.0	\$13,969.7	*	9 %	*

* Not meaningful

The percentage components of the year-over-year sales change are shown below:

(percent)		2022	2021	2023	2022
Volume		2 %	3 %	- %	2 %
Price changes		10	2	8	10
Acquisition adjusted fixed currency sales change		13	5		
Acquisitions & divestitures		3	1		
Organic sales change				9	13
Acquisitions and divestitures				-	3
Fixed currency sales change		16	6	8	16
Foreign currency translation		(4)	2	-	(4)
Reported GAAP net sales change		11 %	8 %	8 %	11 %

Amounts do not necessarily sum due to rounding.

Cost of Sales ("COS") and Gross Profit Margin ("Gross Margin")

	2022		2021		2020		2023		2022		2021	
(millions/percent)	COS	Gross Margin	COS	Gross Margin	COS	Gross Margin	COS	Gross Margin	COS	Gross Margin	COS	Gross Margin
Product and equipment cost of sales	\$7,212.8		\$6,100.9		\$5,481.3		\$7,389.2		\$7,212.8		\$6,100.9	
Service and lease cost of sales	1,618.2		1,514.9		1,424.5		1,765.7		1,618.2		1,514.9	
Reported GAAP COS and gross margin	8,831.0	37.8 %	7,615.8	40.2 %	6,905.8	41.4 %	9,154.9	40.2 %	8,831.0	37.8 %	7,615.8	40.2 %
Special (gains) and charges	69.9		93.9		48.2		22.5		69.9		93.9	
2021 impact of Purolite on COS	-		7.6		-		-		-		7.6	
Non-GAAP adjusted COS and gross margin	\$8,761.1	38.2 %	\$7,514.3	40.9 %	\$6,857.6	41.8 %	\$9,132.4	40.4 %	\$8,761.1	38.2 %	\$7,514.3	40.9 %

Our COS values and corresponding gross margin are shown above. Our gross margin is defined as sales less cost of sales divided by sales.

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Our reported gross margin was 37.8%, 40.2%, 40.2% 37.8%, and 41.4% 40.2% for 2023, 2022 2021 and 2020, 2021, respectively. Our 2023, 2022 2021 and 2020 2021 reported gross margins were negatively impacted by special (gains) and charges of \$69.9 million \$22.5 million, \$93.9 million \$69.9 million, and \$48.2 million \$93.9 million, respectively. Special (gains) and charges items impacting COS are shown within the "Special (Gains) and Charges" table below.

Excluding the impact of special (gains) and charges, and the 2021 impacts of the Purolite transaction, our 2023 adjusted gross margin was 40.4% compared against a 2022 adjusted gross margin was of 38.2% compared against a 2021 adjusted gross margin of 40.9%. The decrease increase primarily reflected accelerating pricing that was more than offset by overcame higher delivered product cost and unfavorable mix, supply chain costs.

Excluding the impact of special (gains) and charges and the 2021 impacts of the Purolite transaction, our adjusted gross margin was 38.2% and 40.9% for 2022 and 41.8% for 2021, and 2020, respectively. The decrease primarily reflected increased accelerating pricing and higher volumes which were that was more than offset by significantly higher delivered product costs cost and supply constraints, unfavorable mix.

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Selling, General and Administrative Expenses ("SG&A")

(percent)	2022	2021	2020	2023	2022	2021
SG&A Ratio	25.8 %	26.8 %	28.1 %	26.5 %	25.8 %	26.8 %

The increased SG&A ratio (SG&A expenses as a percentage of reported net sales) comparing 2023 against 2022 was driven by higher incentive compensation compared to last year which was partially offset by strong productivity including cost savings initiatives. The decreased SG&A ratio (SG&A expenses as a percentage of reported net sales) comparing 2022 against 2021 was driven primarily by strong productivity including cost savings initiatives, partially offset by higher cost of compensation compared to last year. The decreased SG&A ratio (SG&A expenses as a percentage of reported net sales) comparing 2021 against 2020 was driven primarily by higher net sales, cost savings initiatives and reduction in bad debt, partially offset by higher variable compensation compared to last year.

Special (Gains) and Charges

Special (gains) and charges reported on the Consolidated Statements of Income included the following items:

(millions)	2022	2021	2020	2023	2022	2021
Cost of sales						
Restructuring activities	\$21.4	\$24.7	\$7.4	\$22.5	\$21.4	\$24.7
Acquisition and integration activities	25.0	4.2	3.9	-	25.0	4.2
COVID-19 activities, net	16.3	64.7	12.5			
Russia/Ukraine	7.2	-	-	-	7.2	-
Other	-	0.3	24.4	-	16.3	65.0
Cost of sales subtotal	69.9	93.9	48.2	22.5	69.9	93.9
Special (gains) and charges						
Restructuring activities	85.8	11.9	71.4	63.2	85.8	11.9
Acquisition and integration activities	14.5	29.9	8.5	16.1	14.5	29.9
Disposal and impairment activities	-	-	41.4			
COVID-19 activities, net	10.2	42.4	23.6			
Russia/Ukraine	5.9	-	-	1.4	5.9	-
Other	24.1	18.4	34.7	30.7	34.3	60.8
Special (gains) and charges subtotal	140.5	102.6	179.6	111.4	140.5	102.6
Operating income subtotal	210.4	196.5	227.8	133.9	210.4	196.5
Other (income) expense	50.6	37.2	0.4	-	50.6	37.2
Interest expense, net	-	33.1	83.8	-	-	33.1
Total special (gains) and charges	\$261.0	\$266.8	\$312.0	\$133.9	\$261.0	\$266.8

For segment reporting purposes, special (gains) and charges are not allocated to reportable segments, which is consistent with our internal management reporting.

Restructuring Activities

Restructuring activities are primarily related to the Europe Combined Program Institutional Advancement Program, Accelerate 2020 and other immaterial restructuring programs which are is described below. These activities have been included as a component of cost of sales, special (gains) and charges, and other (income) expense on the Consolidated Statements of Income. Restructuring liabilities have been classified as a component of other current and other noncurrent liabilities on the Consolidated Balance Sheets.

Further details related to our restructuring charges are included in Note 3.

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Europe Combined Program

In November 2022, we approved a Europe Program (the "Europe Program") targeting \$80 million of annualized pre-tax cost savings after completion of the program. In connection with these actions, we expect expected to incur pre-tax charges of \$130 million (\$110 million after tax) or \$0.38 per diluted share. In February 2023, we expanded our previously announced Europe cost savings program to focus on its Institutional and Healthcare businesses in other regions. In connection with the expanded program ("Combined Program"), we expect to incur total pre-tax charges of \$195 million (\$150 million after tax) or \$0.52 per diluted share. We expect that these restructuring charges will be completed by the end of 2024. Program actions include headcount reductions from terminations, not filling certain open positions, and facility closures. The Europe Combined Program charges are expected to be primarily cash expenditures related to severance and asset disposals. Actual costs may vary from these estimates depending on actions taken.

In anticipation of this Combined Program, a limited number of actions were taken in the fourth quarter of 2022. As a result, we reclassified \$19.3 million (\$14.5 million after tax) or \$0.05 per diluted share from other restructuring to the Combined Program in the first quarter of 2023.

In 2023 and 2022 we recorded total Combined Program restructuring charges of \$77.7 million (\$66.4 million after tax) or \$0.23 per diluted share and \$67.2 million (\$56.0 million after tax) or \$0.20 per diluted share, primarily related to severance, respectively. We have recorded \$164.2 million (\$136.9 million after tax), or \$0.48 per diluted share of cumulative charges under the Combined Plan. The net liability related to the Europe Combined Program was \$43.1 million and \$62.0 million as of December 31, 2022 December 31, 2023 and 2022, respectively. The remaining liability is expected to be paid over a period of a few months to several quarters and will continue to be funded from operating activities.

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The Europe Combined Program has delivered \$5 million \$131 million of cumulative cost savings with estimated annual annualized cost savings of \$80 million \$175 million in continuing operations by 2024.

On February 14, 2023, we expanded our previously announced Europe cost savings program to focus on our Institutional and Healthcare businesses in other regions. In connection with the expanded program, we now expect to incur pre-tax charges of \$195 million (\$150 million after tax) or \$0.52 per diluted share. We expect that these

restructuring actions will be completed by 2024. Program actions include headcount reductions from terminations, not filling certain positions and facility closures. The expanded program charges are expected to be primarily cash expenditures related to severance and asset disposals. We now expect an estimated annual total cost savings of \$175 million by 2024.

Institutional Advancement Program

We approved a restructuring plan in 2020 focused on the Institutional business ("the Institutional Plan") which is intended to enhance our Institutional sales and service structure and allow the sales team to capture share and penetration while maximizing service effectiveness by leveraging our ongoing investments in digital technology. In February 2021, we expanded the Institutional Plan, and expect that these restructuring charges will be completed in 2023, with total anticipated costs of \$70 million (\$55 million after tax) or \$0.19 per diluted share. The remaining costs are expected to be primarily cash expenditures for severance and non-cash costs related to equipment disposals. Actual costs may vary from these estimates depending on actions taken.

In 2023, 2022 and 2021, we recorded total restructuring charges of \$8.0 million (\$6.0 million after tax) or \$0.03 per diluted share, \$6.3 million (\$4.8 million after tax) or \$0.02 per diluted share and \$12.6 million (\$10.2 million after tax) or \$0.04 per diluted share, respectively, primarily related to severance, disposals of equipment and office closures. We have recorded \$54.1 million. The Restructuring activities were completed at the end of 2023, with total costs of \$62.1 million (\$41.4 million after tax), or \$0.14 per diluted share of cumulative restructuring share. Net cash payments were \$2.6 million and non-cash net charges under the Institutional Plan. The were \$6.8 million in 2023. There was no remaining liability related to the Institutional Plan as of December 31, 2023. There was \$1.9 million as of liability related to the Institutional Plan of December 31, 2022 and is expected to be paid over a period of a few months to several quarters and will continue to be funded from operating activities.

The Institutional Plan has delivered \$49 million \$55 million of cumulative annual cost savings.

Accelerate 2020

During 2018, we formally commenced a restructuring plan Accelerate 2020 ("the A2020 Plan"), to leverage technology and system investments and organizational changes. The goals of the A2020 Plan are were to further simplify and automate processes and tasks, reduce complexity and management layers, consolidated consolidate facilities and focus on key long-term growth areas by further leveraging technology and structural improvements. During 2020, we expanded the Plan for additional costs and savings to further leverage the technology and structural improvements. We completed the plan with actual costs of \$254 million (\$198 million after tax), or \$0.69 per diluted share.

We recorded restructuring charges of \$9.9 million (\$8.4 million after tax) or \$0.03 per diluted share and \$5.3 million (\$6.2 million after tax) or \$0.02 per diluted share and \$41.8 million (\$33.0 million after tax) or \$0.11 per diluted share in 2022 2021 and 2020, respectively. Of these expenses, \$0.3 million (\$0.2 million after tax) or less than \$0.01 per diluted share during 2020 is recorded in other (income) expense and related to pension settlements and curtailments. The liability related to the Plan was \$18.1 million and \$32.7 million as of December 31, 2022 and 2021, respectively. We have recorded The restructuring activities were completed at the end of 2022, with total costs of \$254.4 million (\$198.4 million after tax), or \$0.69 per diluted share, share.

Net cash payments were \$13.2 million during 2023. The liability related to the A2020 Plan was \$4.9 million and \$18.1 million as of cumulative restructuring charges under the Plan. December 31, 2023 and 2022, respectively. The majority of the pretax charges represent net cash expenditures which are remaining liability is expected to be paid over a period of a few months to several quarters which continue to be funded from operating activities.

The Accelerate 2020 A2020 Plan has delivered \$315 million of cumulative annual cost savings.

Other Restructuring Activities

During 2022 and 2021, we incurred restructuring charges of \$23.8 million (\$17.9 million after tax), or \$0.06 per diluted share and \$18.7 million (\$17.0 million after tax), or \$0.06 per diluted share, respectively, related to other immaterial restructuring activity. The charges primarily related to severance and asset write-offs.

During 2021, we incurred restructuring charges of \$18.7 million (\$17.0 million after tax), or \$0.06 per diluted share, related to other immaterial restructuring activity. The charges primarily related to severance and asset write-offs.

During 2020, we incurred restructuring charges of \$1.8 million (\$1.2 million after tax), or less than \$0.01 per diluted share, related to other immaterial restructuring plan. The charges are comprised of severance, facility closure costs, including asset disposals, and consulting fees.

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The restructuring liability balance for all other restructuring plans excluding the Europe Combined Program, A2020 Plan and the Institutional Plan were \$23.2 million \$3.3 million and \$4.6 million \$23.2 million as of December 31, 2022 December 31, 2023 and 2021, 2022, respectively. The increase decrease in liability was driven primarily by severance expense, the reclass of \$19.3 million from other restructuring to the Combined Program in the first quarter of 2023. The remaining liability is expected to be paid over a period of a few months to several quarters and will continue to be funded from operating activities. Cash payments during 2022 2023 related to all other restructuring plans excluding the Europe Combined Program, A2020 and Institutional Plan were \$5.2 million \$0.6 million.

Acquisition and integration related costs

Acquisition and integration related costs reported in special (gains) and charges on the Consolidated Statements of Income in 2023 include \$16.1 million (\$12.0 million after tax) or \$0.04 per diluted share. Charges are integration related costs primarily related to the Purolite Corporation ("Purolite") acquisition.

Acquisition and integration related costs reported in special (gains) and charges on the Consolidated Statements of Income in 2022 include \$14.5 million (\$11.4 million after tax) or \$0.04 per diluted share. Charges are related primarily to the Purolite Corporation ("Purolite") acquisition and consist of integration related costs, and advisory and legal fees. Acquisition and integration related costs reported in product and equipment cost of sales on the Consolidated Statements of Income in 2022 include \$25.0 million (\$19.6 million after tax) or \$0.07 per diluted share. Charges are related primarily to the recognition of fair value step-up in the Purolite inventory and other integration costs.

Acquisition and integration related costs reported in special (gains) and charges on the Consolidated Statements of Income in 2021 include \$29.9 million (\$23.5 million after tax) or \$0.08 per diluted share. Charges are primarily related to the Purolite acquisition and consisted of deal costs, integration costs and advisory and legal fees. Acquisition and integration related costs reported in product and equipment cost of sales on the Consolidated Statements of Income in 2021 include \$4.2 million (\$3.3 million after tax) or \$0.01 per diluted share and are related to the recognition of fair value step-up in the Purolite inventory. In conjunction with its acquisitions, we incurred \$0.8 million (\$0.6 million after tax), or less than \$0.01 per diluted share, of special (gains) and charges reported in interest expense in 2021.

Acquisition and integration related costs reported in special (gains) and charges on the Consolidated Statements 33

Table of Income in 2020 include \$8.5 million (\$6.9 million after tax) or \$0.02 per diluted share. Charges are related to Copal Invest NV, including its primary operating entity CID Lines (collectively, "CID Lines"), Bioquell PLC ("Bioquell") and the Laboratoires Anios ("Anios") acquisitions and consist of integration costs and advisory and legal fees. Acquisition and integration related costs reported in product and equipment cost of sales on the Consolidated Statements of Income in 2020 include \$3.9 million (\$3.2 million after tax) or \$0.01 per diluted share and are related to the recognition of fair value step-up in the CID Lines inventory, severance and the closure of a facility. In conjunction with our acquisitions, we incurred \$0.7 million (\$0.6 million after tax), or less than \$0.01 per diluted share, of special (gains) and charges reported in interest expense in 2020. Contents

Disposal and impairment charges

Disposal and impairment charges reported in special (gains) and charges on the Consolidated Statements of Income include \$41.4 million (\$41.5 million after tax) or \$0.14 per diluted share in the 2020. During 2020, we recorded a \$28.6 million (\$28.6 million after tax) or \$0.10 per diluted share impairment for a minority equity method investment due to the COVID-19 impact on the economic environment and the liquidity of the minority equity method investment. In addition, we recorded charges of \$12.8 million (\$12.9 million after tax) or \$0.04 per diluted share related to the disposal of Holchem Group Limited ("Holchem") for the loss on sale and related transaction fees during 2020. Further information related to the disposal is included in Note 4.

COVID-19 activities

We have recorded inventory reserves of \$15 million and \$60 million during 2022 and 2021, respectively, for excess sanitizer inventory and estimated disposal costs. During 2022, 2021 and 2020, we recorded charges of \$2.4 million, \$36.8 million and \$57.1 million, respectively, to protect the wages of certain employees directly impacted by the COVID-19 pandemic. We also recorded charges of \$9.8 million, \$16.5 million and \$2.4 million related to employee COVID-19 testing and related expenses during 2022, 2021 and 2020, respectively. In addition, we received subsidies and government assistance, which were recorded as a special (gain) of (\$0.7) million, (\$6.2) million and (\$23.4) million during 2022, 2021 and 2020, respectively. COVID-19 pandemic charges are recorded in product and equipment cost of sales, service and lease cost of sales, and special (gains) and charges on the Consolidated Statements of Income. Total after tax net charges related to COVID-19 pandemic were \$20.2 million or \$0.07 per diluted share, \$81.3 million or \$0.28 per diluted share and \$27.4 million or \$0.09 per diluted share during 2022, 2021 and 2020, respectively.

Russia/Ukraine

In light of Russia's invasion of Ukraine and the sanctions against Russia by the United States and other countries, we have made the determination that we will limit our Russian business to operations that are essential to life, providing minimal support for our healthcare, life sciences, food and beverage and certain water businesses. We incurred charges of \$1.4 million (\$1.1 million after tax) or less than \$0.01 per diluted share and \$13.1 million (\$12.6 million after tax) or \$0.04 per diluted share during 2023 and 2022, respectively, primarily related to recoverability risk of certain assets in both Russia and Ukraine.

Other operating activities

Other special charges operating activities recorded in cost of \$24.1 million sales on the Consolidated Statements of Income of \$16.3 million (\$18.2 12.7 million after tax), or \$0.06 \$0.04 per diluted share in 2022, \$18.4 million and \$65.0 million (\$14.1 49.2 million after tax), or \$0.05 \$0.17 per diluted share in 2021 and \$34.7 million (\$33.9 million after tax) or \$0.12 per diluted share recorded in 2020 relate primarily to certain legal charges, which are COVID-19 activities.

Other operating activities recorded in special (gains) and charges on the Consolidated Statements of Income. In 2020, we recorded special charges income of \$24.4 million \$30.7 million (\$16.0 23.3 million after tax), or \$0.06 \$0.08 per diluted share in product 2023 relate primarily to certain legal charges. Other operating activities recorded in special (gains) and equipment cost of sales charges on the Consolidated Statements of Income related to a Healthcare product recall in Europe.

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We also recorded during 2020 a \$7.2 million \$34.3 million (\$25.7 million after tax), or \$0.02 \$0.09 per diluted share special charge related in 2022 and \$60.8 million (\$46.4 million after tax), or \$0.16 per diluted share in 2021 relate primarily to the separation of ChampionX as a tax expense on the Consolidated Statements of Income. COVID-19 activities and certain legal charges.

Other (income) expense

During 2022 and 2021, we incurred settlement expense recorded in other (income) expense on the Consolidated Statements of Income of \$50.6 million (\$38.2 million after tax) or \$0.13 per diluted share and \$37.2 million (\$28.7 million after tax) or \$0.10 per diluted share, respectively, related to U.S. pension plan lump-sum payments to retirees.

Interest expense, net

During 2021 and 2020, we recorded special charges of \$32.3 million (\$28.4 million after tax) or \$0.10 per diluted share and \$83.1 million (\$64.0 million after tax) or \$0.22 per diluted share, respectively, in interest expense on the Consolidated Statements of Income related to debt issuance and refinancing charges.

Operating Income and Operating Income Margin

(millions)	Percent Change					Percent Change				
	2022	2021	2020	2022	2021	2023	2022	2021	2023	2022

Reported GAAP operating income	\$1,562.5	\$1,598.6	\$1,395.7	(2)%	15 %	\$1,992.3	\$1,562.5	\$1,598.6	28 %	(2)%
Special (gains) and charges	210.4	196.5	227.8			133.9	210.4	196.5		
2021 impact of Purolite on operating income		3.8	-			-	-	3.8		
Non-GAAP adjusted operating income	1,772.9	1,798.9	1,623.5	(1)	11	2,126.2	1,772.9	1,798.9	20	(1)
Effect of foreign currency translation	50.1	(47.5)	(9.8)			(5.8)	(13.1)	(110.5)		
Non-GAAP adjusted fixed currency operating income	\$1,823.0	\$1,751.4	\$1,613.7	4 %	9 %	2,120.4	1,759.8	1,688.4		
Effect of acquisitions and divestitures						(2.9)	(0.4)	*		
Non-GAAP organic operating income						\$2,117.5	\$1,759.4	*	20 %	*
* Not meaningful										

(percent)	2022	2021	2020	2023	2022	2021
Reported GAAP operating income margin	11.0 %	12.6 %	11.8 %	13.0 %	11.0 %	12.6 %
Non-GAAP adjusted operating income margin	12.5 %	14.1 %	13.8 %	13.9 %	12.5 %	14.1 %
Non-GAAP adjusted fixed currency operating income margin	12.6 %	14.0 %	13.7 %	13.9 %	12.5 %	13.9 %
Non-GAAP organic operating income margin				14.0 %	12.6 %	*
* Not meaningful						

Our operating income and corresponding operating income margin are shown in the previous tables. Operating income margin is defined as operating income divided by sales.

Our reported operating income was \$1,992.3 million, \$1,562.5 million and \$1,598.6 for 2023, 2022 and 2021, respectively. Our 2023, 2022 and 2021 operating incomes were negatively impacted by special (gains) and charges and the 2021 impact of Purolite on operating income of \$133.9 million, \$210.4 million, and \$200.3 million, respectively.

Excluding the impacts of special (gains) and charges 2023 adjusted operating income increased 20% as strong pricing overcame investments in the business including incentive compensation, higher supply chain costs and unfavorable mix. Excluding the impacts of special (gains) and the 2021 impact of Purolite on operating income 2022 adjusted operating income decreased 2% when comparing 2022 to 2021 primarily 1% driven by accelerating pricing covering substantially higher delivered product costs, which was offset by investments in the business. Our reported operating income increased 15% when comparing 2021 to 2020 primarily driven by increased pricing and higher volume which more than offset significantly higher delivered product costs and supply constraints and higher variable compensation compared to last year. Our reported operating income for 2022, 2021 and 2020 was impacted by special (gains) and charges. Excluding the impact of special (gains) and charges and the 2021 impacts of the Purolite transaction, 2022 adjusted operating income decreased 1% when compared to 2021 adjusted operating income and 2021 adjusted operating income increased 11% when compared to 2020 adjusted operating income.

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Other (Income) Expense

(millions)	2022	2021	2020	2023	2022	2021
Reported GAAP other (income) expense	(\$24.5)	(\$33.9)	(\$55.9)	(\$59.9)	(\$24.5)	(\$33.9)
Special (gains) and charges	50.6	37.2	0.4	-	50.6	37.2
Non-GAAP adjusted other (income) expense	(\$75.1)	(\$71.1)	(\$56.3)	(\$59.9)	(\$75.1)	(\$71.1)

Our reported other income was \$24.5 million \$59.9 million, \$24.5 million and \$33.9 million in 2023, 2022 and \$55.9 million in 2021, respectively. Other (income) expense increased when comparing 2023 against 2022 2021 and 2020, respectively, as higher pension costs were more than offset by the comparison to last year's \$50.6 million settlement expense related to U.S. pension plan lump-sum payments to retirees. Other (income) expense decreased when comparing 2022 against 2021 primarily due to increased pension settlement charges in 2022 as a result of a higher volume of pension settlement activity and higher interest costs associated with rising interest rates throughout 2022. Other (income) expense decreased when comparing 2021 against 2020 reflecting lower interest costs associated with future payments of employee pension obligations. Excluding the impact of settlements and curtailments recorded in special (gains) and charges during 2023, 2022 2021 and 2020, 2021, our adjusted other income was \$75.1 million \$59.9 million, \$71.1 million \$75.1 million and \$56.3 million \$71.1 million, respectively.

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Interest Expense, Net

(millions)	2022	2021	2020	2023	2022	2021
Reported GAAP interest expense, net	\$243.6	\$218.3	\$290.2	\$296.7	\$243.6	\$218.3
Special (gains) and charges	-	33.1	83.8	-	-	33.1
2021 impact of Purolite on interest expense	-	3.5	-	-	-	3.5
Non-GAAP adjusted interest expense, net	\$243.6	\$181.7	\$206.4	\$296.7	\$243.6	\$181.7

Our reported net interest expense totaled \$243.6 million \$296.7 million, \$243.6 million and \$218.3 million during 2023, 2022 and \$290.2 million during 2022, 2021, and 2020, respectively.

We incurred \$33.1 million (\$29.0 million after tax) or \$0.10 per diluted share and \$83.8 million (\$64.6 million after tax) or \$0.22 per diluted share of interest expense special charges in conjunction with our debt issuances and refinancing activities during 2021 and 2020, respectively, 2021.

Adjusted for special (gains) and charges, the increase in interest expense when comparing 2023 against 2022 was driven primarily by the higher average interest rates on outstanding debt. Adjusted for special (gains) and charges, the increase in interest expense when comparing 2022 against 2021 was driven primarily by the interest on debt issued to fund the Purolite acquisition and the impact from higher average interest rates on floating rate debt. Adjusted for special (gains) and charges and the 2021 Purolite transaction, the decrease in interest expense when comparing 2021 against 2020 was driven primarily by a reduction in average debt levels and average interest rates.

Provision for Income Taxes

The following table provides a summary of our tax rate:

(percent)	2022	2021	2020	2023	2022	2021
Reported GAAP tax rate	17.5 %	19.1 %	15.2 %	20.6 %	17.5 %	19.1 %
Tax rate impact of:						
Special (gains) and charges	0.5	0.1	0.7	(0.1)	0.5	0.1
Discrete tax items	0.7	(0.3)	3.8	(0.6)	0.7	(0.3)
Non-GAAP adjusted tax rate	18.7 %	18.9 %	19.7 %	19.9 %	18.7 %	18.9 %

Our reported tax rate was 17.5% 20.6%, 19.1% 17.5%, and 15.2% 19.1%, for 2023, 2022 2021 and 2020, 2021, respectively. The change in our tax rate includes the tax impact of special (gains) and charges and discrete tax items, which have impacted the comparability of our historical reported tax rates, as amounts included in our special (gains) and charges are derived from tax jurisdictions with rates that vary from our tax rate, and discrete tax items are not necessarily consistent across periods. The tax impact of special (gains) and charges and discrete tax items will likely continue to impact comparability of our reported tax rate in the future.

We recognized a net tax expense related to discrete tax items of \$11.2 million during 2023. The net discrete tax expense was primarily related to the filing of federal, state and foreign tax returns and other income tax adjustments including the impact of changes in tax laws, audit settlements, share-based compensation excess tax benefits and other changes in estimates.

We recognized a net tax benefit related to discrete tax items of \$11.8 million during 2022. This included a deferred tax benefit of \$14.6 million associated with utilization of tax attributes as a result of legal entity rationalization and share-based compensation excess tax benefits of \$6.0 million. The amount of the excess tax benefit is subject to variation in stock price and award exercises. The remaining discrete tax expense of \$8.8 million was primarily related to the filing of federal, state and foreign tax returns and other income tax adjustments including the impact of changes in tax laws, audit settlements and other changes in estimates.

We recognized net tax expense of \$5.8 million related to discrete tax items during 2021. This included a non-cash deferred tax expense of \$25.1 million associated with transferring certain intangible property between affiliates. Share-based compensation excess tax benefit was \$29.1 million. The remaining discrete tax expense of \$9.8 million was primarily related to the filing of federal, state, and foreign tax returns and other income tax adjustments including the impact of changes in tax law, audit settlements and other changes in estimates.

We recognized a total net benefit related to discrete tax items 35

Table of \$55.8 million during 2020. The tax benefit related to share-based compensation excess tax benefit contributed \$57.3 million. We recorded changes in reserves in non-U.S. and U.S. jurisdictions due to audit settlements and expiration of statutes of limitations which resulted in a \$9.8 million tax benefit. Additionally, we recognized a net tax expense of \$11.3 million primarily related to the filing of the prior year federal, state and foreign tax returns and other income tax adjustments. Contents

The change in our adjusted tax rates from 2020 2022 to 2022 2023 was primarily driven by global tax planning projects and geographic income mix. Future comparability of our adjusted tax rate may be impacted by various factors, including but not limited to other changes in global tax rules, further tax planning projects and geographic income mix.

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Net Income from Discontinued Operations, net of tax

(millions)	2022	2021	2020
Reported GAAP net loss from discontinued operations, net of tax	\$-	\$-	(\$2,172.5)
Adjustments:			
Special (gains) and charges	-	-	2,210.7
Discrete tax net expense	-	-	22.7
Non-GAAP adjusted net income from discontinued operations, net of tax	\$-	\$-	\$60.9

Special charges reported in discontinued operations consist of ChampionX separation charges.

Net Income from Continuing Operations Attributable to Ecolab

					Percent Change		Percent Change							
(millions)					2022	2021	2020	2022	2021	2023	2022	2021	2023	2022
Reported	GAAP	net	income	from										
continuing operations attributable to Ecolab					\$1,091.7	\$1,129.9	\$967.4	(3)%	17 %					
Reported GAAP net income attributable to Ecolab										\$1,372.3	\$1,091.7	\$1,129.9	26 %	(3)%
Adjustments:														
Special (gains) and charges, after tax					207.3	213.5	254.1			109.2	207.3	213.5		
Discrete tax net (benefit) expense					(11.8)	5.8	(55.8)			11.2	(11.8)	5.8		
2021 impact of Purolite on net income					-	5.6	-			-	-	5.6		
Non-GAAP adjusted net income from continuing operations attributable to Ecolab					\$1,287.2	\$1,354.8	\$1,165.7	(5)%	16 %					
Non-GAAP adjusted net income attributable to Ecolab										\$1,492.7	\$1,287.2	\$1,354.8	16 %	(5)%

Diluted EPS from Continuing Operations

						Percent Change			Percent Change						
(dollars)						2022	2021	2020	2022	2021	2023	2022	2021	2023	2022
Reported	GAAP	diluted	EPS	from	continuing	\$3.81	\$3.91	\$3.33	(3)%	17					
operations															
Reported GAAP diluted EPS											\$4.79	\$3.81	\$3.91	26	(3)%
Adjustments:															
Special (gains) and charges, after tax						0.72	0.74	0.88			0.38	0.72	0.74		
Discrete tax net (benefit) expense						(0.04)	0.02	(0.19)			0.04	(0.04)	0.02		
2021 impact of Purolite on diluted EPS						-	0.02	-			-	-	0.02		
Non-GAAP adjusted diluted EPS from continuing operations						\$4.49	\$4.69	\$4.02	% (4)	% 17					
Non-GAAP adjusted diluted EPS											\$5.21	\$4.49	\$4.69	16	(4)%

Per share amounts do not necessarily sum due to rounding.

Currency translation had an unfavorable \$(0.26) \$(0.05) impact on reported and adjusted diluted EPS when comparing 2023 to 2022 to 2021 and favorable \$0.11 unfavorable \$(0.26) impact when comparing 2021 2022 to 2020 2021.

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SEGMENT PERFORMANCE

The non-U.S. dollar functional currency international amounts included within our reportable segments are based on translation into U.S. dollars at the fixed currency exchange rates established by management for 2022 2023. The difference between the fixed currency exchange rates and the actual currency exchange rates is reported as "effect of

foreign currency translation" in the following tables. All other accounting policies of the reportable segments are consistent with U.S. GAAP and the accounting policies described in Note 2. Additional information about our reportable segments is included in Note 19, 18.

Fixed currency net sales and operating income for 2023, 2022, 2021 and 2020, 2021 for our reportable segments are shown in the following tables.

Net Sales	Percent Change					Percent Change				
	2022	2021	2020	2022	2021	2023	2022	2021	2023	2022
(millions)										
Global Industrial	\$6,944.0	\$6,086.8	\$5,845.7	14 %	4 %	\$7,193.1	\$6,736.3	\$5,908.5	7 %	14 %
Global Institutional & Specialty	4,480.0	3,908.8	3,559.8	15	10	4,994.0	4,414.3	3,856.7	13	14
Global Healthcare & Life Sciences	1,570.0	1,149.6	1,190.1	37	(3)	1,576.9	1,505.8	1,101.1	5	37
Other	1,355.0	1,201.0	1,079.8	13	11	1,442.3	1,313.3	1,162.5	10	13
Corporate	124.1	137.4	99.4	(10)	38	69.1	123.7	137.4	(44)	(10)
Subtotal at fixed currency	14,473.1	12,483.6	11,774.8	16	6	15,275.4	14,093.4	12,166.2	8	16
Effect of foreign currency translation	(285.3)	249.5	15.4			44.8	94.4	566.9		
Total reported net sales	\$14,187.8	\$12,733.1	\$11,790.2	11 %	8 %					
Consolidated reported GAAP net sales						\$15,320.2	\$14,187.8	\$12,733.1	8 %	11 %

Operating Income	Percent Change					Percent Change				
	2022	2021	2020	2022	2021	2023	2022	2021	2023	2022
(millions)										
Global Industrial	\$977.0	\$985.7	\$1,079.1	(1)%	(9)%	\$1,080.7	\$935.8	\$943.4	15 %	(1)%
Global Institutional & Specialty	634.5	545.7	316.3	16	73	823.0	621.7	536.7	32	16
Global Healthcare & Life Sciences	205.0	152.3	207.6	35	(27)	160.0	193.3	141.0	(17)	37
Other	212.8	184.0	130.6	16	41	255.0	209.9	181.3	21	16
Corporate	(416.7)	(316.6)	(347.7)	32	(9)	(331.7)	(414.4)	(314.3)	(20)	32
Subtotal at fixed currency	1,612.6	1,551.1	1,385.9	4	12	1,987.0	1,546.3	1,488.1	29	4
Effect of foreign currency translation	(50.1)	47.5	9.8			5.3	16.2	110.5		
Total reported operating income	\$1,562.5	\$1,598.6	\$1,395.7	(2)%	15 %					
Consolidated reported GAAP operating income						\$1,992.3	\$1,562.5	\$1,598.6	28 %	(2)%

The following tables reconcile the impact of acquisitions and divestitures within our reportable segments.

Net Sales	Year ended December 31						Year ended December 31					
	2022			2021			2023			2022		
	Impact of Acquisitions			Impact of Acquisitions			Impact of Acquisitions			Impact of Acquisitions		
	Fixed Currency	and Divestitures	Acquisition Adjusted	Fixed Currency	and Divestitures	Acquisition Adjusted	Fixed Currency	and Divestitures	Organic	Fixed Currency	and Divestitures	Organic
(millions)												
Global Industrial	\$6,944.0	(21.0)	\$6,923.0	\$6,086.8	-	\$6,086.8	\$7,193.1	(\$4.5)	\$7,188.6	\$6,736.3	\$-	\$6,736.3
Global Institutional & Specialty	4,480.0	-	4,480.0	3,908.8	-	3,908.8	4,994.0	(39.8)	4,954.2	4,414.3	-	4,414.3
Global Healthcare & Life Sciences	1,570.0	(434.9)	1,135.1	1,149.6	(12.0)	1,137.6	1,576.9	-	1,576.9	1,505.8	-	1,505.8
Other	1,355.0	-	1,355.0	1,201.0	-	1,201.0	1,442.3	-	1,442.3	1,313.3	-	1,313.3

Corporate	124.1	(124.1)	-	137.4	(137.4)	-	69.1	(69.1)	-	123.7	(123.7)	-
Subtotal at fixed currency	14,473.1	(580.0)	13,893.1	12,483.6	(149.4)	12,334.2	15,275.4	(113.4)	15,162.0	14,093.4	(123.7)	13,969.7
Effect of foreign currency translation	(285.3)			249.5			44.8			94.4		
Total reported net sales	\$14,187.8			\$12,733.1								
Consolidated reported GAAP net sales							\$15,320.2			\$14,187.8		

Operating Income	2022			2021			2023			2022		
	Impact of Acquisitions			Impact of Acquisitions			Impact of Acquisitions			Impact of Acquisitions		
	Fixed Currency	and Divestitures	Acquisition Adjusted	Fixed Currency	and Divestitures	Acquisition Adjusted	Fixed Currency	and Divestitures	Organic	Fixed Currency	and Divestitures	Organic
(millions)												
Global Industrial	\$977.0	(3.4)	\$973.6	\$985.7	-	\$985.7	\$1,080.7	\$0.2	\$1,080.9	\$935.8	\$-	\$935.8
Global Institutional & Specialty	634.5	-	634.5	545.7	-	545.7	823.0	(0.5)	822.5	621.7	-	621.7
Global Healthcare & Life Sciences	205.0	(106.3)	98.7	152.3	3.8	156.1	160.0	-	160.0	193.3	-	193.3
Other	212.8	-	212.8	184.0	-	184.0	255.0	-	255.0	209.9	-	209.9
Corporate	(206.3)	86.6	(119.7)	(120.1)	-	(120.1)	(198.3)	(2.6)	(200.9)	(200.9)	(0.4)	(201.3)
Non-GAAP adjusted fixed currency operating income	1,823.0	(23.1)	1,799.9	1,747.6	3.8	1,751.4	2,120.4	(2.9)	2,117.5	1,759.8	(0.4)	1,759.4
Special (gains) and charges	210.4			196.5			133.4			213.5		
Subtotal at fixed currency	1,612.6			1,551.1			1,987.0			1,546.3		
Effect of foreign currency translation	(50.1)			47.5			5.3			16.2		
Total reported operating income	\$1,562.5			\$1,598.6								
Consolidated reported GAAP operating income							\$1,992.3			\$1,562.5		

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Global Industrial

	2022	2021	2020	2023	2022	2021
Sales at fixed currency (millions)	\$6,944.0	\$6,086.8	\$5,845.7	\$7,193.1	\$6,736.3	\$5,908.5
Sales at public currency (millions)	6,805.0	6,237.8	5,867.1	7,221.8	6,805.0	6,237.9
Volume	1 %	2 %		(2)%	1 %	
Price changes	13 %	2 %		9 %	13 %	
Acquisition adjusted fixed currency sales change	14 %	4 %				

Organic sales change				7 %	14 %	
Acquisitions and divestitures	- %	- %		- %	- %	
Fixed currency sales change	14 %	4 %		7 %	14 %	
Foreign currency translation	(5)%	2 %		(1)%	(5)%	
Public currency sales change	9 %	6 %		6 %	9 %	
Operating income at fixed currency (millions)	\$977.0	\$985.7	\$1,079.1	\$1,080.7	\$935.8	\$943.4
Operating income at public currency (millions)	951.8	1,020.3	1,086.8	1,084.7	950.0	1,019.5
Fixed currency operating income change	(1)%	(9)%		15 %	(1)%	
Fixed currency operating income margin	14.1 %	16.2 %	18.5 %	15.0 %	13.9 %	16.0 %
Acquisition adjusted fixed currency operating income change	(1)%	(8)%				
Acquisition adjusted fixed currency operating income margin	14.1 %	16.2 %	*			
Organic operating income change				16 %	*	
Organic operating income margin				15.0 %	13.9 %	*
Public currency operating income change	(7)%	(6)%		14 %	(7)%	

* Not meaningful

Percentages in the above table do not necessarily sum due to rounding.

Net Sales

Fixed currency Organic sales for Global Industrial increased in 2023 driven by strong pricing and new business wins partially offset by weaker markets. The 2022 sales increase was impacted by as strong double-digit growth across all divisions was driven by accelerating pricing and new business wins. The 2021

At an operating segment level, Water organic sales increase was impacted increased 8% in 2023 driven by strong growth in Paper and Water, led by recovering market conditions, strong pricing and new business wins, along with a good growth in Food & Beverage, were offset by a decrease in Downstream sales growth.

All operating segments reported double-digit growth, wins. Water fixed currency organic sales increased 13% in 2022 driven by strong pricing and new business wins. Water fixed currency sales increased 6% in 2021 as strong new business wins and accelerating pricing leveraged recovering markets. Light industry water treatment reported good sales growth driven by strong performance across data centers, microelectronics and institutional. Heavy industry in 2023 reported good sales growth driven by strong pricing, gains in primary metals and had solid growth in 2021. Heavy industry sales also recorded chemicals and strong sales in 2022 led by double-digit growth in power and chemicals and a chemicals. Downstream reported strong increase sales growth in 2021 2023 driven by primary metals, innovative water treatment programs. Food & Beverage fixed currency organic sales increased 9% in 2023 reflecting continued pricing, strong performance in dairy, and solid growth in beverage & brewing and animal health. Organic increased 14% in 2022 primarily reflecting accelerating pricing. Fixed currency Paper organic sales increased 3% decreased 1% in 2021 primarily reflecting accelerating pricing, recovering markets and new business wins. Downstream fixed currency sales increased 14% in 2022 driven by accelerating 2023 as pricing and new business wins were offset by easing customer production rates. Fixed currency sales decreased 3% in 2021 due to lower demand from COVID and impacts from the Texas freeze and Hurricane Ida. Paper fixed currency Organic sales increased 16% in 2022 driven by accelerating pricing, new business wins and continued growth in ecommerce markets. Fixed currency sales increased 11% in 2021 driven by increased pricing, strong new business wins and growth in ecommerce markets.

Operating Income

Fixed currency Organic operating income and fixed currency organic operating income margins for Global Industrial increased in 2023 and decreased in 2022 and 2021 when compared to prior periods.

Acquisition adjusted fixed currency Organic operating income margins decreased 2.1 increased 1.1 percentage points during 2022 2023 compared to 2021, 2022, as the 9.0 6.8 percentage point positive impacts of accelerating strong pricing was more than offset by overcame the 12.7 5.5 percentage point negative impacts of higher delivered product costs, unfavorable mix and investments in the business. Acquisition adjusted fixed currency business including incentive compensation, lower volume, and higher supply chain costs. Organic operating income margins decreased in 2021 2022 compared to 2020, 2021, as the positive impact from accelerating pricing was more than offset by the negative impact impacts of significantly higher delivered product costs, unfavorable mix and supply constraints, investment in the business.

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Global Institutional & Specialty

	2022	2021	2020	2023	2022	2021
Sales at fixed currency (millions)	\$4,480.0	\$3,908.8	\$3,559.8	\$4,994.0	\$4,414.3	\$3,856.7
Sales at public currency (millions)	4,421.9	3,955.9	3,562.5	4,999.2	4,432.1	3,966.8
Volume	6 %	7 %		3 %	6 %	
Price changes	8 %	2 %		10 %	8 %	
Acquisition adjusted fixed currency sales change	15 %	9 %				
Organic sales change				12 %	15 %	
Acquisitions and divestitures	- %	- %		1 %	- %	
Fixed currency sales change	15 %	10 %		13 %	14 %	
Foreign currency translation	(3)%	1 %		- %	(3)%	
Public currency sales change	12 %	11 %		13 %	12 %	
Operating income at fixed currency (millions)	\$634.5	\$545.7	\$316.3	\$823.0	\$621.7	\$536.7
Operating income at public currency (millions)	624.0	550.9	320.1	823.4	624.3	550.6
Fixed currency operating income change	16 %	73 %		32 %	16 %	
Fixed currency operating income margin	14.2 %	14.0 %	8.9 %	16.5 %	14.1 %	13.9 %
Acquisition adjusted fixed currency operating income change	16 %	73 %				
Acquisition adjusted fixed currency operating income margin	14.2 %	14.0 %	*			
Organic operating income change				32 %	*	
Organic operating income margin				16.6 %	14.1 %	*
Public currency operating income change	13 %	72 %		32 %	13 %	

* Not meaningful

Percentages in the above table do not necessarily sum due to rounding.

Net Sales

Organic sales for Global Institutional & Specialty increased in 2023 driven by strong pricing and new business wins. The 2022 sales increased driven by accelerating pricing and new business wins.

At an operating segment level, **Institutional** organic sales increased 12% in 2023, driven by strong pricing and new business wins. Organic sales increased 18% in 2022, driven by accelerating pricing and new business wins. **Specialty** organic sales increased 13% in 2023 driven by growth in quick service and food retail. Organic sales increased 7% in 2022 driven by strong quick service sales and modest growth in food retail sales.

Operating Income

Organic operating income for our Global Institutional & Specialty segment increased in both 2023 and 2022 when compared to prior periods. Organic operating income margins increased in 2023 but decreased 2022 when compared to prior periods.

Organic operating income margins increased 2.5 percentage points during 2023, as the 7.9 percentage point positive impacts from strong pricing and cost savings initiatives overcame the 4.9 percentage point negative impacts of investments in the business including incentive compensation and higher supply chain costs. Organic operating income margins increased during 2022, as the positive impact from accelerating pricing and volume growth overcame the negative impacts of higher delivered product costs and investments in the business.

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Global Healthcare & Life Sciences

	2023	2022	2021
Sales at fixed currency (millions)	\$1,576.9	\$1,505.8	\$1,101.1
Sales at public currency (millions)	1,586.0	1,510.5	1,181.6
Volume	(1)%	(7)%	
Price changes	6 %	7 %	
Organic sales change	5 %	- %	
Acquisitions and divestitures	- %	37 %	
Fixed currency sales change	5 %	37 %	
Foreign currency translation	- %	(8)%	
Public currency sales change	5 %	(28)%	
Operating income at fixed currency (millions)	\$160.0	\$193.3	\$141.0
Operating income at public currency (millions)	161.5	193.5	158.1
Fixed currency operating income change	(17)%	37 %	
Fixed currency operating income margin	10.1 %	12.8 %	12.8 %
Organic operating income change	(17)%	*	
Organic operating income margin	10.1 %	12.8 %	*
Public currency operating income change	(17)%	22 %	

* Not meaningful

Percentages in the above table do not necessarily sum due to rounding.

Net Sales

Fixed currency Organic sales for Global Institutional Healthcare & Specialty Life Sciences increased in 2023 as compared to 2022 driven by accelerating strong pricing and new business wins. The 2021 sales increased driven by strong growth in the Institutional operating segment reflecting recovering markets, new business wins and accelerating pricing.

At an operating segment level, **Institutional Healthcare** fixed currency sales increased 18% in 2022, driven by accelerating pricing and new business wins. Fixed currency sales increased 15% in 2021, driven by strong growth in the Institutional operating segment reflecting recovering markets in the U.S. and Europe, new business wins including gains from the Ecolab Science Certified programs and accelerating pricing. **Specialty** fixed currency organic sales increased 7% in 2022 2023 driven by strong quick service sales pricing and modest strong growth in food retail sales. Fixed currency North America. Organic sales decreased 3% 1% in 2021, 2022 reflecting lower procedural and hand hygiene volumes, partially offset by increased pricing. **Life Sciences** organic sales increased 1% 2023 as modest quickservice sales growth were pricing was more than offset soft near-term industry demand. Organic sales increased 9% in 2022 as accelerating pricing and growth in consumable pharmaceutical and personal care products, partially offset by lower food retail sales, normalizing demand for Bioquell's biocontamination systems.

Operating Income

Fixed currency Organic operating income for our Global **Institutional Healthcare** & **Specialty Life Sciences** segment increased decreased in both 2022 2023 and 2021 2022 when compared to prior periods. Fixed currency Organic operating income margins increased decreased in both 2023 and 2022 and 2021, when compared to prior periods.

Acquisition adjusted fixed currency Organic operating income margins increased 0.2 decreased 2.7 percentage points during 2022, in 2023, as the 8.2 4.5 percentage point positive impacts impact from accelerating strong pricing and volume growth overcame was more than offset by the 7.9 7.5 percentage point negative impacts of from targeted investments in the business, unfavorable mix and higher supply chain costs. Organic operating income margins decreased in 2022, as positive impact from accelerating pricing was more than offset by the negative impacts from higher delivered product costs, unfavorable mix, lower Healthcare volumes and targeted investments in the business. Acquisition adjusted fixed currency operating income margins increased during 2021, as the positive impact from higher volume, accelerating pricing, and favorable mix more than offset negative impact of the comparison to lower variable compensation last year and higher delivered product costs.

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Global Healthcare & Life Sciences Other

	2022	2021	2020	2023	2022	2021
Sales at fixed currency (millions)	\$1,570.0	\$1,149.6	\$1,190.1	\$1,442.3	\$1,313.3	\$1,162.5
Sales at public currency (millions)	1,510.5	1,181.6	1,185.5	1,444.2	1,316.4	1,207.7
Volume	(7)%	(9)%		3 %	6 %	
Price changes	7 %	2 %		7 %	7 %	
Acquisition adjusted fixed currency sales change	- %	(7)%				
Organic sales change				10 %	13 %	
Acquisitions and divestitures	37 %	3 %		- %	- %	
Fixed currency sales change	37 %	(3)%		10 %	13 %	
Foreign currency translation	(8)%	4 %		- %	(4)%	
Public currency sales change	(28)%	(0)%		10 %	9 %	
Operating income at fixed currency (millions)	\$205.0	\$152.3	\$207.6	\$255.0	\$209.9	\$181.3
Operating income at public currency (millions)	193.4	158.4	205.7	254.4	209.5	188.2
Fixed currency operating income change	35 %	(27)%		21 %	16 %	

Fixed currency operating income margin	13.1 %	13.2 %	17.4 %	17.7 %	16.0 %	15.6 %
Acquisition adjusted fixed currency operating income change	(37)%	(22)%				
Acquisition adjusted fixed currency operating income margin	8.7 %	13.7 %	*			
Organic operating income change				21 %	16 %	
Organic operating income margin				17.7 %	16.0 %	*
Public currency operating income change	22 %	(23)%		21 %	11 %	

* Not meaningful

Percentages in the above table do not necessarily sum due to rounding.

Net Sales

Acquisition adjusted fixed currency sales for Global Healthcare & Life Sciences were flat in 2022 compared 2021 as growth in Life Sciences was offset by slightly lower Healthcare sales.

At an operating segment level, **Healthcare** fixed currency sales decreased 1% in 2022 due primarily to lower procedural and hand hygiene volumes, partially offset by increased pricing. Fixed currency sales decreased 5% in 2021 reflecting the comparison against strong 2020 COVID-19 related hand and surface disinfection sales as well as softer elective surgical procedures activity in 2021 due to the rise in COVID variants during the year. **Life Sciences** fixed currency sales increased 163% (9% acquisition adjusted) in 2022 reflecting the acquisition of Purolite. Excluding the acquisition of Purolite, the Life Sciences business growth was driven by accelerating pricing and growth in consumable pharmaceutical and personal care products, partially offset by normalizing demand for Bioquell's biocontamination systems. Fixed currency sales decreased 5% in 2021 as accelerating pricing was more than offset by volume declines versus the very strong 2020 driven by extraordinary COVID-19 demand last year.

Operating Income

Fixed currency operating income for our Global Healthcare & Life Sciences segment increased in 2022 and decreased in 2021 when compared to prior periods. Fixed currency operating income margins decreased in both 2022 and 2021.

Acquisition adjusted fixed currency operating income margins decreased 5.0 percentage points in 2022, as the 5.5 percentage point positive impact from accelerating pricing was more than offset by the 10.2 percentage point negative impacts from higher delivered product costs, unfavorable mix, lower Healthcare volumes and targeted investments in the business. Acquisition adjusted fixed currency operating income margins decreased in 2021, as positive impact from accelerating pricing was more than offset by the negative impact of volume declines due to strong comparison against 2020.

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Other

	2022	2021	2020
Sales at fixed currency (millions)	\$1,355.0	\$1,201.0	\$1,079.8
Sales at public currency (millions)	1,326.6	1,218.6	1,075.1
Volume	6 %	9 %	
Price changes	7 %	2 %	

Acquisition adjusted fixed currency sales change	13 %	11 %	
Acquisitions and divestitures	- %	- %	
Fixed currency sales change	13 %	11 %	
Foreign currency translation	(4)%	2 %	
Public currency sales change	9 %	13 %	
Operating income at fixed currency (millions)	\$212.8	\$184.0	\$130.6
Operating income at public currency (millions)	208.1	186.8	130.2
Fixed currency operating income change	16 %	41 %	
Fixed currency operating income margin	15.7 %	15.3 %	12.1 %
Acquisition adjusted fixed currency operating income change	16 %	41 %	
Acquisition adjusted fixed currency operating income margin	15.7 %	15.3 %	*
Public currency operating income change	11 %	43 %	

* Not meaningful

Percentages in the above table do not necessarily sum due to rounding.

Net Sales

Fixed currency Organic sales for Other increased in 2023 led by double-digit growth in Pest Elimination. Organic sales increased in 2022 reflecting double-digit led by strong growth in Pest Elimination, Textile Care and Colloidal Technologies. Fixed currency sales increased in 2021 led by strong growth in Pest Elimination as it benefited from new business wins and a recovering market.

At an operating segment level, **Pest Elimination** fixed currency organic sales increased 11% in 2023 reflecting strong growth in restaurants, food & beverage, and food retail. Organic sales increased 11% in 2022 reflecting strong growth across food retail, food & beverage, hospitality and restaurants from accelerating pricing and new business wins. Fixed currency sales increased 11% in 2021 reflecting strong growth in food and beverage plants, restaurants and hospitality markets, wins. **Textile Care** fixed currency organic sales increased 7% and 19% in 2023 and 10% in 2022, and 2021, respectively. **Colloidal Technologies Group** fixed currency organic sales increased 4% and 14% in 2023 and 16% in 2022, and 2021, respectively.

Operating Income

Fixed currency Organic operating income in Other increased in both 2023 and 2022 and 2021 as when compared to the prior year. Fixed currency periods. Organic operating income margins increased in both 2022 and 2021, 2022 when compared to prior periods.

Acquisition adjusted fixed currency Organic operating income margins in Other increased 0.4 1.7 percentage points in 2023, as the 5.6 percentage point positive impacts from strong pricing overcame the 4.3 percentage point negative impacts of investments in business. Organic operating income margins increased in 2022, as the 5.8 percentage point positive impacts from accelerating pricing overcame the 5.2 percentage point negative impacts of higher delivered product costs and investments in business. Acquisition adjusted fixed currency operating income margins increased in 2021, as the positive impacts from higher volume and increased pricing more than offset the negative impact of the comparison to lower variable compensation last year.

Corporate

Consistent with our internal management reporting, Corporate amounts in the table on page 40 37 include sales to ChampionX in accordance with the long-term supply agreement entered into with the Transaction post-separation, as post-separation. As discussed in Note 5, 17, intangible asset amortization specifically from the Nalco and Purolite transactions and special (gains) and charges that are not allocated to our reportable segments. Items included within special (gains) and charges are shown in the table on page 34, 32.

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FINANCIAL POSITION, CASH FLOW AND LIQUIDITY

Financial Position

Total assets were \$21.5 billion \$21.8 billion as of December 31, 2022 December 31, 2023, compared to total assets of \$21.2 billion \$21.5 billion as of December 31, 2021 December 31, 2022.

Total liabilities were \$14.2 billion \$13.8 billion as of December 31, 2022 December 31, 2023, compared to total liabilities of \$14.0 billion \$14.2 billion as of December 31, 2021 December 31, 2022. Total debt was \$8.2 billion as of December 31, 2023 and \$8.6 billion as of December 31, 2022 and \$8.8 billion as of December 31, 2021. See further discussion of our debt activity within the "Liquidity and Capital Resources" section of this MD&A.

Our net debt to EBITDA is shown in the following table. EBITDA is a non-GAAP measure discussed further in the "Non-GAAP Financial Measures" section of this MD&A.

	2022	2021	2020	2023	2022	2021
(ratio)						
Net debt to EBITDA	3.2	3.4	2.4	2.4	3.2	3.4
(millions)						
Total debt	\$8,580.4	\$8,758.2	\$6,686.6	\$8,181.8	\$8,580.4	\$8,758.2
Cash	598.6	359.9	1,260.2	919.5	598.6	359.9
Net debt	\$7,981.8	\$8,398.3	\$5,426.4	\$7,262.3	\$7,981.8	\$8,398.3
Net income including noncontrolling interest	\$1,108.9	\$1,144.0	\$984.8	\$1,393.0	\$1,108.9	\$1,144.0
Provision for income taxes	234.5	270.2	176.6	362.5	234.5	270.2
Interest expense, net	243.6	218.3	290.2	296.7	243.6	218.3
Depreciation	618.5	604.4	594.3	616.7	618.5	604.4
Amortization	320.2	238.7	218.4	306.9	320.2	238.7
EBITDA	\$2,525.7	\$2,475.6	\$2,264.3	\$2,975.8	\$2,525.7	\$2,475.6

Cash Flows

Operating Activities

	Dollar Change					Dollar Change				
(millions)	2022	2021	2020	2022	2021	2023	2022	2021	2023	2022
Cash provided by operating activities	\$1,788.4	\$2,061.9	\$1,741.8	(\$273.5)	\$320.1	\$2,411.8	\$1,788.4	\$2,061.9	\$623.4	(\$273.5)

We continue to generate cash flow from operations allowing us to fund our ongoing operations, acquisitions, investments in the business and pension obligations along with returning cash to our shareholders through dividend payments and share repurchases.

Cash provided by operating activities increased \$623 million in 2023 compared to 2022, driven primarily by a \$332 million net favorable change in working capital and \$284 million increase in net income. The cash flow impact from working capital was primarily driven by improvement in inventory due to management efforts following easing global supply chain constraints and an improvement in receivables offset by a decrease in accounts payable primarily associated with our inventory reduction efforts.

Cash provided by operating activities decreased \$274 million in 2022 compared to 2021, driven primarily by \$277 million increase in working capital excluding the impact of non-cash special charges, capital. The increase in working capital is primarily driven by past due receivables higher than last year due to pricing and energy surcharge rollout. Additionally, inventory impacted by inflationary environment and higher stock holding to mitigate supply disruption.

Cash provided by operating activities increased \$320 million in 2021 compared to 2020, driven primarily by \$159 million in increased net income, \$94 million in higher tax expense accruals associated with higher income, and an increase in accruals for variable compensation, partially offset by \$83 million of increased investment in working capital.

The impact on operating cash flows of pension and postretirement plan contributions, cash activity related to restructuring, cash paid for income taxes and cash paid for interest, are shown in the following table:

Dollar Change						Dollar Change				
(millions)	2022	2021	2020	2022	2021	2023	2022	2021	2023	2022
Pensions and postretirement plan contributions	\$64.3	\$60.2	\$70.7	\$4.1	(\$10.5)	\$109.3	\$64.3	\$60.2	\$45.0	\$4.1
Restructuring payments	41.0	78.3	71.1	(37.3)	7.2	118.3	41.0	78.3	77.3	(37.3)
Income tax payments	308.9	275.7	366.9	33.2	(91.2)	469.2	308.9	275.7	160.3	33.2
Interest payments	222.4	208.7	262.5	13.7	(53.8)	324.8	222.4	208.7	102.4	13.7

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Investing Activities

Dollar Change						Dollar Change				
(millions)	2022	2021	2020	2022	2021	2023	2022	2021	2023	2022
Cash used for investing activities	(\$716.8)	(\$4,579.7)	(\$857.7)	\$3,862.9	(\$3,722.0)	(\$990.5)	(\$716.8)	(\$4,579.7)	(\$273.7)	\$3,862.9

Cash used for investing activities is primarily impacted by the timing of business acquisitions and dispositions as well as from capital investments in the business.

We continue to make capital investments in the business, including merchandising and customer equipment and manufacturing facilities. Total capital expenditures were \$713 million \$775 million, \$713 million and \$643 million in 2023, 2022 and \$489 million in 2022, 2021, and 2020, respectively.

Total cash paid for acquisitions, net of cash acquired and net of cash received from dispositions, in 2023, 2022 and 2021 was \$180 million, \$7 million and 2020 was \$7 million, \$3,924 million and \$487 million, respectively. Our acquisitions and divestitures are discussed further in Note 4. We continue to target strategic business acquisitions which complement our growth strategy and expect to continue to make capital investments and acquisitions in the future to support our long-term growth.

Financing Activities

Dollar Change					Dollar Change				

(millions)	2022	2021	2020	2022	2021	2023	2022	2021	2023	2022
Cash provided by (used for)										
financing activities	(\$837.3)	\$1,603.2	(\$340.2)	(\$2,440.5)	\$1,943.4	(\$1,054.7)	(\$837.3)	\$1,603.2	(\$217.4)	(\$2,440.5)

Our cash flows from financing activities primarily reflect the issuances and repayment of debt, common stock repurchases, proceeds from common stock issuances related to our equity incentive programs and dividend payments.

There were no long-term debt issuances in 2023. We repaid \$500 million of long-term debt in 2023. We issued \$500 million par value and received \$494 million in proceeds of long-term debt in 2022. We issued \$2,800 million par value and received \$2,775 million in proceeds of long-term debt and repaid \$900 million of long-term debt in 2021. We issued \$1,850 million par value and received \$1,856 million in proceeds of long-term debt and repaid \$1,570 million of long-term debt in 2020. The 2021. The proceeds received from the debt issuances were used for the Puro-lite acquisition, repayment of outstanding debt, repayment of commercial paper and general corporate purposes. In addition, we had net repayments of \$404 million \$2 million and net issuances \$394 million \$404 million of commercial paper and notes payable in 2022 2023 and 2021, 2022, respectively, and net repayments issuances of \$66 million \$394 million in 2020, 2021.

Shares are repurchased for the purpose of partially offsetting the dilutive effect of our equity compensation plans, and stock issued in acquisitions, to manage our capital structure and to efficiently return capital to shareholders. We repurchased a total of \$518 million \$14 million, \$107 million \$518 million, and \$146 million \$107 million of shares in 2023, 2022 2021 and 2020, 2021, respectively.

The impact on financing cash flows of commercial paper and notes payable repayments, long-term debt borrowings and long-term debt repayments, are shown in the following table:

(millions)	Dollar Change					Dollar Change				
	2022	2021	2020	2022	2021	2023	2022	2021	2023	2022
Net (repayments) issuances of commercial paper and notes payable	(\$404.3)	\$393.6	(\$65.5)	(\$797.9)	\$459.1	(\$1.9)	(\$404.3)	\$393.6	\$402.4	(\$797.9)
Long-term debt borrowings	494.0	2,775.0	1,855.9	(2,281.0)	919.1	-	494.0	2,775.0	(494.0)	(2,281.0)
Long-term debt repayments	-	(1,017.9)	(1,570.0)	1,017.9	552.1	(500.0)	-	(1,017.9)	(500.0)	1,017.9

In December 2022, 2023, we increased our quarterly dividend rate by 4% 8%. This represents the 31 32nd consecutive year we have increased our dividend. We have paid dividends on our common stock for 86 87 consecutive years. We paid dividends of \$603 million \$617 million, \$603 million and \$566 million in 2023, 2022 and \$561 million in 2022, 2021, and 2020, respectively. Cash dividends declared per share of common stock, by quarter, for each of the last three years were as follows:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year
2023						\$0.53	\$0.53	\$0.53	\$0.57	\$2.16
2022	\$0.51	\$0.51	\$0.51	\$0.53	\$2.06	\$0.51	\$0.51	\$0.51	\$0.53	\$2.06
2021	\$0.48	\$0.48	\$0.48	\$0.51	\$1.95	\$0.48	\$0.48	\$0.48	\$0.51	\$1.95
2020	\$0.47	\$0.47	\$0.47	\$0.48	\$1.89					

Liquidity and Capital Resources

We currently expect to fund all of our cash requirements which are reasonably foreseeable for the next twelve months, including scheduled debt repayments, new investments in the business, share repurchases, dividend payments, possible business acquisitions and pension and postretirement contributions with cash from operating activities, and as needed, additional short-term and/or long-term borrowings. We continue to expect our operating cash flow to remain strong.

As of December 31, 2023, we had \$920 million of cash and cash equivalents on hand, of which \$880 million was held outside of the U.S. As of December 31, 2022, we had \$599 million of cash and cash equivalents on hand, of which \$122 million was held outside of the U.S. As Our cash balance is intended to fund current maturities of December 31, 2021, we had \$360 million of cash and cash equivalents on hand, of which \$181 million was held outside of the U.S. long-term debt. We will continue to evaluate our cash position in light of future developments.

In January 2024, we repaid €575 million (\$630 million) of long-term debt.

As of December 31, 2022 December 31, 2023, we had a \$2.0 billion multi-year credit facility, which expires in April 2026. The credit facility has been established with a diverse syndicate of banks and supports our U.S. and Euro commercial paper programs. The maximum aggregate amount of commercial paper that may be issued under our U.S. commercial paper program and our Euro commercial paper program may not exceed \$2.0 billion. At year end, we had no commercial paper outstanding under our U.S. program or nor our Euro program. There were no borrowings under our credit facility as of December 31, 2022 December 31, 2023 or 2021, 2022. As of December 31, 2022 December 31, 2023, both programs were rated A-2 by Standard & Poor's, P-2 by Moody's and F-1 by Fitch.

Additionally, we have uncommitted credit lines with major international banks and financial institutions. These credit lines support our daily global funding needs, primarily our global cash pooling structures. As of December 31, 2022 December 31, 2023 we had \$144 million \$155 million of bank supported letters of credit, surety bonds and guarantees outstanding in support of our commercial business transactions. We do not have any other significant unconditional purchase obligations or commercial commitments.

As of December 31, 2022 December 31, 2023, Standard & Poor's, Fitch and Moody's rated our long-term credit at A- (negative outlook), A- (stable outlook) and A3 (negative outlook), respectively. A reduction in our credit ratings could limit or preclude our ability to issue commercial paper under our current programs or could also adversely affect our ability to renew existing, or negotiate new, credit facilities in the future and could increase the cost of these facilities.

As of December 31, 2022 December 31, 2023, we were in compliance with our debt covenants and other requirements of our credit agreements and indentures.

A schedule of our various obligations as of December 31, 2022 December 31, 2023 are summarized in the following table:

(millions)	Payments Due by Period					Payments Due by Period				
		Less			More		Less			More
		Than	2-3	4-5	Than		Than	2-3	4-5	Than
	Total	1 Year	Years	Years	5 Years	Total	1 Year	Years	Years	5 Years
Notes payable	\$4	\$4	\$-	\$-	\$-	\$2	\$2	\$-	\$-	\$-
One-time transition tax	67	-	35	32	-	67	7	60	-	-
Long-term debt	8,577	501	1,204	1,651	5,221	8,180	629	1,363	1,441	4,747
Operating leases	503	124	173	85	121	632	147	229	108	148
Interest*	3,970	280	529	467	2,694	3,953	321	609	454	2,569
Total	\$13,121	\$909	\$1,941	\$2,235	\$8,036	\$12,834	\$1,106	\$2,261	\$2,003	\$7,464

*Interest on variable rate debt was calculated using the interest rate at year end 2022.
*Interest on variable rate debt was calculated using the interest rate at year end 2023.

As of December 31, 2022 December 31, 2023, our gross liability for uncertain unrecognized tax positions benefits was \$25 million \$24 million. We are not able to reasonably estimate the amount by which the liability will increase or decrease over an extended period of time or whether a cash settlement of the liability will be required. Therefore, these amounts have been excluded from the schedule of contractual obligations.

We do not have required minimum cash contribution obligations for our qualified pension plans in 2022, 2023. We are required to fund certain international pension benefit plans in accordance with local legal requirements. We estimate contributions to be made to our international plans will approximate \$41 million \$47 million in 2023, 2024. These amounts have been excluded from the schedule of contractual obligations.

We lease certain sales and administrative office facilities, distribution centers, research and manufacturing facilities and other equipment under longer-term operating leases. Vehicle leases are generally shorter in duration. Vehicle leases have residual value requirements that have historically been satisfied primarily by the proceeds on the sale of the vehicles.

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Market Risk

We enter into contractual arrangements (derivatives) in the ordinary course of business to manage foreign currency exposure and interest rate risks. We do not enter into derivatives for speculative or trading purposes. Our use of derivatives is subject to internal policies that provide guidelines for control, counterparty risk, and ongoing monitoring and reporting, and is designed to reduce the volatility associated with movements in foreign exchange and interest rates on our income statement and cash flows.

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We enter into foreign currency forward contracts to hedge certain intercompany financial arrangements, and to hedge against the effect of exchange rate fluctuations on transactions related to cash flows denominated in currencies other than U.S. dollars. We use net investment hedges as hedging instruments to manage risks associated with our investments in foreign operations. As of **December 31, 2022** **December 31, 2023**, we had a total of **€1,150 million** **€834 million** senior notes designated as net investment hedges.

We enter into cross-currency swap derivative contracts to hedge certain Euro denominated exposures from our investments in certain of its Euro denominated functional currency subsidiaries. We use net investment hedges as hedging instruments to manage risks associated with our investments in foreign operations. As of **December 31, 2022** **December 31, 2023**, we had **€625 million** of cross-currency swap derivative contracts outstanding designated as a net investment hedge.

We enter into cross-currency swap derivative contracts to hedge certain Chinese Yen ("CNY") denominated exposures from our investments in certain CNY denominated functional currency subsidiaries. We use net investment hedges as hedging instruments to manage risks associated with our investments in foreign operations. As of **December 31, 2023**, we had **CNH 2,192 million** (CNH is the CNY traded in the offshore market) of cross-currency swap derivative contracts outstanding designated as a net investment hedge.

We manage interest expense using a mix of fixed and floating rate debt. To help manage borrowing costs, we may enter into interest rate swap agreements. Under these arrangements, we agree to exchange, at specified intervals, the difference between fixed and floating interest amounts calculated by reference to an agreed-upon notional principal amount. As of **December 31, 2022** **December 31, 2023**, we had **\$1,500 million** of interest rate swaps outstanding.

Refer to Note **9** for further information on our hedging activity.

Based on a sensitivity analysis (assuming a 10% change in market rates) of our foreign exchange and interest rate derivatives and other financial instruments, changes in exchange rates or interest rates would increase/decrease our financial position and liquidity by approximately **\$220 million** **\$169 million**. The effect on our results of operations would be substantially offset by the impact of the hedged items.

GLOBAL ECONOMIC AND POLITICAL ENVIRONMENT

Coronavirus disease 2019 (COVID-19)

In March 2020, the coronavirus disease (COVID-19) was declared a pandemic by the World Health Organization. The COVID-19 pandemic is continuing to affect major economic and financial markets and industries are facing the challenges with the economic conditions resulting from efforts to address the pandemic, including supply shortages, inflation and other challenges, such as those resulting from the introduction of vaccination mandates. While many government restrictions in the U.S. have eased, restrictions on activities continue in many other regions, particularly those where vaccination rates lag, continuing to impact consumer activity in those regions. Concerns remain that our markets could see a resurgence of cases triggering additional government mandated lockdowns or similar restrictions on activity, for example due to the emergence of a variant against which existing vaccines are not as effective or which may be more easily transmitted, particularly to those unvaccinated. These conditions have had and may continue to have a negative impact on market conditions and customer demand throughout the world.

Global Economies

Approximately half of our sales are outside of the U.S. Our international operations subject us to changes in economic conditions and foreign currency exchange rates as well as political uncertainty in some countries which could impact future operating results. We expect a more challenging macroeconomic environment, especially in Europe, as the war and the energy crisis are having a significant impact on costs and demand. We also assume continued high delivered product costs and unfavorable currency translation and interest rate impacts that persist well into 2023.

Argentina is and Turkey are classified as a highly inflationary economy economies in accordance with U.S. GAAP, and the U.S. dollar is the functional currency for our subsidiaries in Argentina, Argentina and Turkey. During 2022, 2023, sales in Argentina represented less than 1% of our consolidated net sales. Assets held in Argentina at the end of 2022 represented less than 1% of our consolidated assets. Turkey was also classified as a highly inflationary economy in accordance with U.S. GAAP. During 2022, sales in and Turkey represented less than 1% of our consolidated net sales. Assets held in Argentina and Turkey at the end of 2022, 2023 represented less than 1% of our consolidated assets.

In light of Russia's invasion of Ukraine and the sanctions against Russia by the United States and other countries, we have made the determination that we will limit our Russian business to operations that are essential to life, providing minimal support for our healthcare, life sciences, food and beverage and certain water businesses. We may further narrow our presence in Russia depending on future developments. Our Russian and Ukraine operations represented approximately 1% of our 2022, 2023 consolidated net sales. We recorded charges of \$1.4 million and \$13.1 million in 2023 and 2022, respectively, primarily related to recoverability risk of certain assets in both Russia and Ukraine.

NEW ACCOUNTING PRONOUNCEMENTS

Information regarding new accounting pronouncements is included in Note 2.

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NON-GAAP FINANCIAL MEASURES

This MD&A includes financial measures that have not been calculated in accordance with U.S. GAAP. These non-GAAP measures include:

- Fixed currency sales
- Adjusted net sales
- Adjusted fixed currency sales
- Acquisition Organic sales, formerly known as acquisition adjusted fixed currency sales or organic sales
- Adjusted cost of sales

- Adjusted gross margin
- Fixed currency operating income
- Fixed currency operating income margin
- Adjusted operating income
- Adjusted operating income margin
- Adjusted fixed currency operating income
- Adjusted fixed currency operating income margin
- Acquisition Organic operating income, formerly known as acquisition adjusted fixed currency operating income or organic income
- Acquisition Organic operating income margin, formerly known as acquisition adjusted fixed currency operating income margin or organic margin
- Adjusted other (income) expense
- Adjusted interest expense, net
- EBITDA
- Adjusted tax rate
- Adjusted net income from discontinued operations, net of tax
- Adjusted net income from continuing operations attributable to Ecolab
- Adjusted diluted EPS from continuing operations

We provide these measures as additional information regarding our operating results. We use these non-GAAP measures internally to evaluate our performance and in making financial and operational decisions, including with respect to incentive compensation. We believe that our presentation of these measures provides investors with greater transparency with respect to our results of operations and that these measures are useful for period-to-period comparison of results.

Our non-GAAP adjusted financial measure for net sales excludes 2021 Purolite sales. Our non-GAAP adjusted financial measures for cost of sales, gross margin, operating income, other (income) expense and interest expense exclude the impact of special (gains) and charges and (with the exception of other (income) expense) the 2021 impact of the Purolite transaction, and our non-GAAP measures for tax rate, net income from continuing operations attributable to Ecolab and diluted EPS from continuing operations further exclude the impact of discrete tax items. We include items within special (gains) and charges and discrete tax items that we believe can significantly affect the period-over-period assessment of operating results and not necessarily reflect costs and/or income associated with historical trends and future results. After tax special (gains) and charges are derived by applying the applicable local jurisdictional tax rate to the corresponding pre-tax special (gains) and charges.

EBITDA is defined as the sum of net income including non-controlling interest, provision for income taxes, net interest expense, depreciation and amortization. EBITDA is used in our net debt to EBITDA ratio, which we view as important indicators of the operational and financial health of our organization.

We evaluate the performance of our international operations based on fixed currency rates of foreign exchange. Fixed currency amounts included in this Form 10-K are based on translation into U.S. dollars at the fixed foreign currency exchange rates established by management at the beginning of 2022, 2023. We also provide our segment results based on public currency rates for informational purposes.

Our reportable segments do not include the impact of intangible asset amortization from the Nalco and Purolite transactions or the impact of special (gains) and charges as these are not allocated to our reportable segments.

Acquisition adjusted fixed currency growth rates, also known as Our non-GAAP financial measures for organic growth rates, sales, organic operating income and organic operating income margin are at fixed currency and exclude the impact of special (gains) and charges, the results of our acquired businesses from the first twelve months post acquisition and the results of our divested businesses from the twelve months prior to divestiture. Further, we have excluded the results of our Purolite business for all of 2022 to remain comparable to 2021 when Purolite's results were excluded from our adjusted results. In addition, as part of the Transaction, separation of ChampionX in 2020, we also entered into a Master Cross Supply and Product Transfer agreement with ChampionX to provide, receive or transfer certain products for a period up to 36 months, months and for a small set of products with limited suppliers over the next few years. Sales of product to ChampionX under this agreement are recorded in product and equipment sales in the Corporate segment along with the related cost of sales. These transactions are removed from the consolidated results as part of the calculation of the impact of acquisitions and divestitures.

These non-GAAP measures are not in accordance with, or an alternative to U.S. GAAP and may be different from non-GAAP measures used by other companies. Investors should not rely on any single financial measure when evaluating our business. We recommend that investors view these measures in conjunction with the U.S. GAAP measures included in this MD&A and we have provided reconciliations of reported U.S. GAAP amounts to the non-GAAP amounts in this MD&A.

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The discussion under the heading entitled "Market Risk" and "Global Economic and Political Environment" is incorporated by reference from Part II, Item 7 of this Form 10-K.

[Item 8. Financial Statements and Supplementary Data.](#)**REPORTS OF MANAGEMENT****To our Shareholders:****Management's Responsibility for Financial Statements**

Management is responsible for the integrity and objectivity of the consolidated financial statements. The statements have been prepared in accordance with accounting principles generally accepted in the United States of America and, accordingly, include certain amounts based on management's best estimates and judgments.

The Board of Directors, acting through its Audit Committee composed solely of independent directors, is responsible for determining that management fulfills its responsibilities in the preparation of financial statements and maintains internal control over financial reporting. The Audit Committee recommends to the Board of Directors the appointment of the Company's independent registered public accounting firm, subject to ratification by the shareholders. It meets regularly with management, the internal auditors and the independent registered public accounting firm.

The independent registered public accounting firm has audited the consolidated financial statements included in this annual report and have expressed their opinion regarding whether these consolidated financial statements present fairly in all material respects our financial position and results of operation and cash flows as stated in their report presented separately herein.

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of management, including the principal executive officer and principal financial officer, an evaluation of the design and operating effectiveness of internal control over financial reporting was conducted based on the 2013 framework in *Internal Control — Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on the evaluation under the framework in *Internal Control — Integrated Framework*, management concluded that internal control over financial reporting was effective as of **December 31, 2022** **December 31, 2023**.

The Company's independent registered public accounting firm, PricewaterhouseCoopers LLP, has audited the effectiveness of the Company's internal control over financial reporting as of **December 31, 2022** **December 31, 2023** as stated in their report which is included herein.

 Graphic

Christophe Beck
Chairman and Chief Executive Officer

 Graphic

Scott D. Kirkland
Chief Financial Officer

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Ecolab Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Ecolab Inc. and its subsidiaries (the "Company") as of **December 31, 2022** **December 31, 2023** and **2021, 2022**, and the related consolidated statements of income, of comprehensive income, of equity and of cash flows for each of the three years in the period ended **December 31, 2022** **December 31, 2023**, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of **December 31, 2022** **December 31, 2023**, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of **December 31, 2022** **December 31, 2023** and **2021, 2022**, and the results of its operations and its cash flows for each of the three years in the period ended **December 31, 2022** **December 31, 2023** in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of **December 31, 2022** **December 31, 2023**, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures

may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

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Goodwill Impairment Assessment – Downstream Reporting Unit Valuation of Certain U.S. Defined Benefit Pension Plan Obligations

As described in Note 2 16 to the consolidated financial statements, the carrying value of goodwill Company's projected benefit obligations for U.S. pension plans was \$8.0 billion \$1,859.5 million as of December 31, 2022 December 31, 2023, a portion of which is allocated a majority relates to the Downstream reporting unit. During the second quarter of 2022, management completed its annual goodwill impairment assessment for eleven of its twelve reporting units using discounted cash flow analyses that incorporated assumptions, including future growth rates, terminal values and discount rates, certain U.S. pension plans. The annual goodwill impairment assessment measurement of the Purolite reporting unit was qualitative Company's pension benefit obligations are dependent on a variety of assumptions determined by management and used actuaries in nature their valuation method and considered information regarding its operations, financial performance calculations. The significant assumptions used in developing the required estimates of the projected benefit obligations are the discount rates, expected returns on assets, projected salary increases, and the macroeconomic environment. If the results of an annual or interim goodwill assessment demonstrate the carrying amount of a reporting unit is greater than its fair value, the Company will recognize an impairment loss for the amount by which the reporting unit's carrying amount exceeds its fair value, but not to exceed the carrying amount of goodwill assigned to that reporting unit, mortality tables.

The principal considerations for our determination that performing procedures relating to the goodwill impairment assessment valuation of the Downstream reporting unit certain U.S. defined benefit pension plan obligations is a critical audit matter are (i) the significant judgment by management when determining developing the fair value estimate of the Downstream reporting unit; certain U.S. defined benefit pension plan obligations; (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumption assumptions related to the discount rate, rates and expected return on assets; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's goodwill impairment assessment, valuation of the defined benefit pension plan obligations, including controls over management's the valuation of the Downstream reporting unit, U.S. defined benefit pension plan obligations. These procedures also included, among others (i) testing management's process for determining developing the fair value estimate of the Downstream reporting unit; certain U.S. defined benefit pension plan obligations; (ii) evaluating the appropriateness of the discounted cash flow analysis; actuarial valuation method and calculations used by management; (iii) testing the completeness and accuracy of underlying data used in the actuarial valuation method and calculations; and (iv) evaluating the reasonableness of the significant assumption assumptions used by management related to the discount rate. Evaluating management's significant assumption related to the discount rate involved evaluating whether the significant assumption used was reasonable considering the cost of capital of comparable businesses rates and relevant industry factors, expected return on assets. Professionals with specialized skill and knowledge were used to assist in evaluating (i) the appropriateness of the discounted cash flow analysis actuarial valuation method and calculations and (ii) the reasonableness of the discount rate significant assumption.

rates and expected return on assets assumptions.

/s/ PricewaterhouseCoopers LLP
Minneapolis, Minnesota

We have served as the Company's auditor since 1970.

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CONSOLIDATED STATEMENTS OF INCOME

(millions, except per share amounts)						
	2022	2021	2020	2023	2022	2021
Product and equipment sales	\$11,446.2	\$10,153.3	\$9,466.6	\$12,316.8	\$11,446.2	\$10,153.3
Service and lease sales	2,741.6	2,579.8	2,323.6	3,003.4	2,741.6	2,579.8
Net sales	14,187.8	12,733.1	11,790.2	15,320.2	14,187.8	12,733.1
Product and equipment cost of sales	7,212.8	6,100.9	5,481.3	7,389.2	7,212.8	6,100.9
Service and lease cost of sales	1,618.2	1,514.9	1,424.5	1,765.7	1,618.2	1,514.9
Cost of sales (including special (gains) and charges (a))	8,831.0	7,615.8	6,905.8			
Cost of sales (including special charges (a))				9,154.9	8,831.0	7,615.8
Selling, general and administrative expenses	3,653.8	3,416.1	3,309.1	4,061.6	3,653.8	3,416.1
Special (gains) and charges	140.5	102.6	179.6	111.4	140.5	102.6
Operating income	1,562.5	1,598.6	1,395.7	1,992.3	1,562.5	1,598.6
Other (income) expense (b)	(24.5)	(33.9)	(55.9)	(59.9)	(24.5)	(33.9)
Interest expense, net (c)	243.6	218.3	290.2	296.7	243.6	218.3
Income before income taxes	1,343.4	1,414.2	1,161.4	1,755.5	1,343.4	1,414.2
Provision for income taxes	234.5	270.2	176.6	362.5	234.5	270.2
Net income from continuing operations, including noncontrolling interest	1,108.9	1,144.0	984.8			
Net income from continuing operations attributable to noncontrolling interest	17.2	14.1	17.4			
Net income from continuing operations attributable to Ecolab	1,091.7	1,129.9	967.4			
Net loss from discontinued operations, net of tax (Note 5) (d)	-	-	(2,172.5)			
Net income (loss) attributable to Ecolab	\$1,091.7	\$1,129.9	(\$1,205.1)			
Net income including noncontrolling interest				1,393.0	1,108.9	1,144.0
Net income attributable to noncontrolling interest				20.7	17.2	14.1
Net income attributable to Ecolab				\$1,372.3	\$1,091.7	\$1,129.9
Earnings (loss) attributable to Ecolab per common share						
Earnings attributable to Ecolab per common share						
Basic				\$ 4.82	\$ 3.83	\$ 3.95
Continuing operations	\$3.83	\$3.95	\$3.37			
Discontinued operations	\$-	\$-	(\$7.57)			
Earnings attributable to Ecolab	\$3.83	\$3.95	(\$4.20)			
Diluted				\$ 4.79	\$ 3.81	\$ 3.91
Continuing operations	\$3.81	\$3.91	\$3.33			

Discontinued operations	\$-	\$-	(\$7.48)			
Earnings attributable to Ecolab	\$3.81	\$3.91	(\$4.15)			
Weighted-average common shares outstanding						
Basic	285.2	286.3	287.0	285.0	285.2	286.3
Diluted	286.6	289.1	290.3	286.5	286.6	289.1

- (a) Cost of sales includes special (gains) and charges of \$14.5 in 2023, \$65.0 in 2022, and \$91.9 in 2021, and \$39.3 in 2020, which is recorded in product and equipment cost of sales. Cost of sales includes special (gains) and charges of \$8.0 in 2023, \$4.9 in 2022 and \$2.0 in 2021, and \$8.9 in 2020, which is recorded in service and lease cost of sales.
- (b) Other (income) expense includes special charges of \$50.6 in 2022 and \$37.2 in 2021 and \$0.4 in 2020, 2021.
- (c) Interest expense, net includes special charges of \$33.1 in 2021, and \$83.8 in 2020.
- (d) Net income (loss) from discontinued operations, net of tax includes noncontrolling interest of \$2.2 in 2020, 2021.

The accompanying notes are an integral part of the consolidated financial statements.

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CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(millions)	2022	2021	2020	2023	2022	2021
Net income (loss) attributable to Ecolab	\$1,091.7	\$1,129.9	(\$1,205.1)			
Net income from continuing operations attributable to noncontrolling interest	17.2	14.1	17.4			
Net income from discontinued operations attributable to noncontrolling interest	-	-	2.2			
Net income (loss) attributable to Ecolab, including noncontrolling interest	\$1,108.9	\$1,144.0	(\$1,185.5)			
Net income including noncontrolling interest				\$1,393.0	\$1,108.9	\$1,144.0
Other comprehensive income (loss), net of tax						
Foreign currency translation adjustments						
Foreign currency translation	(333.4)	(10.9)	50.0	10.0	(333.4)	(10.9)
Separation of ChampionX	-	-	229.9			
Gain (loss) on net investment hedges	108.3	51.6	(87.7)			
(Loss) gain on net investment hedges				(73.1)	108.3	51.6
Total foreign currency translation adjustments	(225.1)	40.7	192.2	(63.1)	(225.1)	40.7
Derivatives and hedging instruments	(1.2)	26.0	(17.0)	(7.8)	(1.2)	26.0
Pension and postretirement benefits	130.3	289.7	(78.1)	(55.1)	130.3	289.7
Subtotal	(96.0)	356.4	97.1	(126.0)	(96.0)	356.4

Total comprehensive income (loss), including noncontrolling interest	1,012.9	1,500.4	(1,088.4)		
Total comprehensive income, including noncontrolling interest				1,267.0	1,012.9 1,500.4
Comprehensive income attributable to noncontrolling interest	13.0	10.9	21.4	18.5	13.0 10.9
Comprehensive income (loss) attributable to Ecolab	\$999.9	\$1,489.5	(\$1,109.8)		
Comprehensive income attributable to Ecolab				\$1,248.5	\$999.9 \$1,489.5

The accompanying notes are an integral part of the consolidated financial statements.

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CONSOLIDATED BALANCE SHEETS

(millions, except per share amounts)	2022		2021		2023		2022	
	2022	2021	2022	2021	2023	2022	2021	2022
ASSETS								
Current assets								
Cash and cash equivalents	\$598.6	\$359.9	\$919.5	\$598.6				
Accounts receivable, net	2,698.1	2,478.4	2,834.2	2,698.1				
Inventories	1,792.8	1,491.8	1,497.2	1,792.8				
Other current assets	404.7	357.0	393.2	404.7				
Total current assets	5,494.2	4,687.1	5,644.1	5,494.2				
Property, plant and equipment, net	3,293.4	3,288.5	3,474.6	3,293.4				
Goodwill	8,012.7	8,063.9	8,148.2	8,012.7				
Other intangible assets, net	3,680.7	4,224.1	3,493.5	3,680.7				
Operating lease assets	448.2	396.8	553.5	448.2				
Other assets	535.1	546.0	532.7	535.1				
Total assets	\$21,464.3	\$21,206.4	\$21,846.6	\$21,464.3				
LIABILITIES AND EQUITY								
Current liabilities								
Short-term debt	\$505.1	\$411.0	\$630.4	\$505.1				
Accounts payable	1,728.2	1,384.2	1,566.3	1,728.2				
Compensation and benefits	493.6	509.5	655.5	493.6				
Income taxes	197.6	104.3	158.7	197.6				
Other current liabilities	1,285.9	1,144.2	1,334.9	1,285.9				
Total current liabilities	4,210.4	3,553.2	4,345.8	4,210.4				
Long-term debt	8,075.3	8,347.2	7,551.4	8,075.3				
Pension and postretirement benefits	670.3	894.2	651.7	670.3				
Deferred income taxes	505.6	622.0	418.2	505.6				
Operating lease liabilities	337.8	282.6	425.5	337.8				
Other liabilities	406.3	254.1	381.8	406.3				
Total liabilities	14,205.7	13,953.3	13,774.4	14,205.7				

Commitments and contingencies (Note 16)				
Commitments and contingencies (Note 15)				
Equity (a)				
Common stock	364.7	364.1	365.7	364.7
Additional paid-in capital	6,580.2	6,464.6	6,766.7	6,580.2
Retained earnings	9,318.8	8,814.5	10,075.4	9,318.8
Accumulated other comprehensive loss	(1,726.6)	(1,634.8)	(1,850.4)	(1,726.6)
Treasury stock	(7,301.0)	(6,784.2)	(7,312.7)	(7,301.0)
Total Ecolab shareholders' equity	7,236.1	7,224.2	8,044.7	7,236.1
Noncontrolling interest	22.5	28.9	27.5	22.5
Total equity	7,258.6	7,253.1	8,072.2	7,258.6
Total liabilities and equity	\$21,464.3	\$21,206.4	\$21,846.6	\$21,464.3

(a) Common stock, 800.0 shares authorized, \$1.00 par value, 285.4 shares outstanding at December 31, 2023 and 284.5 shares outstanding at December 31, 2022 and 286.9 shares outstanding at December 31, 2021. Shares outstanding are net of treasury stock.

The accompanying notes are an integral part of the consolidated financial statements.

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CONSOLIDATED STATEMENTS OF CASH FLOWS

(millions)	2022	2021	2020	2023	2022	2021
OPERATING ACTIVITIES						
Net income (loss) including noncontrolling interest	\$1,108.9	\$1,144.0	(\$1,185.5)			
Less: Net loss from discontinued operations, including noncontrolling interest	-	-	(2,170.3)			
Net income from continuing operations, including noncontrolling interest	\$1,108.9	\$1,144.0	\$984.8			
Net income including noncontrolling interest				\$1,393.0	\$1,108.9	\$1,144.0
Adjustments to reconcile net income to cash provided by operating activities:						
Depreciation	618.5	604.4	594.3	616.7	618.5	604.4
Amortization	320.2	238.7	218.4	306.9	320.2	238.7
Deferred income taxes	(142.6)	(1.1)	(45.8)	(55.7)	(142.6)	(1.1)
Share-based compensation expense	87.8	89.5	82.1	95.1	87.8	89.5
Pension and postretirement plan contributions	(64.3)	(60.2)	(70.7)	(109.3)	(64.3)	(60.2)
Pension and postretirement plan expense, net	45.5	42.4	42.0			
Pension and postretirement plan expense (income), net				3.1	45.5	42.4
Restructuring charges, net of cash paid	66.2	(41.7)	7.8	(32.6)	66.2	(41.7)
Debt refinancing	-	29.4	77.1	-	-	29.4
Other, net	24.9	15.9	61.0	31.9	24.9	15.9
Changes in operating assets and liabilities, net of effect of acquisitions:						

Accounts receivable	(319.6)	(178.2)	155.6	(84.3)	(319.6)	(178.2)
Inventories	(402.9)	(73.0)	(179.5)	320.3	(402.9)	(73.0)
Other assets	(278.2)	(92.9)	42.3	72.2	(278.2)	(92.9)
Accounts payable	394.7	200.4	55.9	(232.3)	394.7	200.4
Other liabilities	329.3	144.3	(283.5)	86.8	329.3	144.3
Cash provided by operating activities - continuing operations	1,788.4	2,061.9	1,741.8			
Cash provided by operating activities - discontinued operations	-	-	118.4			
Cash provided by operating activities	1,788.4	2,061.9	1,860.2	2,411.8	1,788.4	2,061.9
INVESTING ACTIVITIES						
Capital expenditures	(712.8)	(643.0)	(489.0)	(774.8)	(712.8)	(643.0)
Property and other assets sold	2.2	12.2	5.3	9.9	2.2	12.2
Acquisitions and investments in affiliates, net of cash acquired	(7.2)	(3,923.7)	(487.0)	(180.4)	(7.2)	(3,923.7)
Divestiture of businesses	-	-	116.2			
Other, net	1.0	(25.2)	(3.2)	(45.2)	1.0	(25.2)
Cash used for investing activities - continuing operations	(716.8)	(4,579.7)	(857.7)			
Cash provided by investing activities - discontinued operations	-	-	443.2			
Cash used for investing activities	(716.8)	(4,579.7)	(414.5)	(990.5)	(716.8)	(4,579.7)
FINANCING ACTIVITIES						
Net (repayments) issuances of commercial paper and notes payable	(404.3)	393.6	(65.5)	(1.9)	(404.3)	393.6
Long-term debt borrowings	494.0	2,775.0	1,855.9	-	494.0	2,775.0
Long-term debt repayments	-	(1,017.9)	(1,570.0)	(500.0)	-	(1,017.9)
Reacquired shares	(518.2)	(106.6)	(146.2)	(13.7)	(518.2)	(106.6)
Dividends paid	(602.8)	(566.4)	(560.8)	(617.3)	(602.8)	(566.4)
Exercise of employee stock options	29.1	143.5	241.5	96.8	29.1	143.5
Debt refinancing	-	(29.4)	(77.1)	-	-	(29.4)
Hedge settlements	172.0	25.9	(8.4)	(15.3)	172.0	25.9
Other, net	(7.1)	(14.5)	(9.6)	(3.3)	(7.1)	(14.5)
Cash (used for) provided by financing activities - continuing operations	(837.3)	1,603.2	(340.2)			
Cash used for financing activities - discontinued operations	-	-	(1.6)			
Cash (used for) provided by financing activities	(837.3)	1,603.2	(341.8)	(1,054.7)	(837.3)	1,603.2
Effect of exchange rate changes on cash and cash equivalents	4.4	14.3	(30.1)	(45.7)	4.4	14.3
Increase (decrease) in cash and cash equivalents	238.7	(900.3)	1,073.8	320.9	238.7	(900.3)
Cash and cash equivalents, beginning of period - continuing operations	359.9	1,260.2	118.8			
Cash and cash equivalents, beginning of period - discontinued operations	-	-	67.6			
Cash and cash equivalents, beginning of period	359.9	1,260.2	186.4	598.6	359.9	1,260.2
Cash and cash equivalents, end of period - continuing operations	598.6	359.9	1,260.2			
Cash and cash equivalents, end of period - discontinued operations	-	-	-			
Cash and cash equivalents, end of period	\$598.6	\$359.9	\$1,260.2	\$919.5	\$598.6	\$359.9
SUPPLEMENTAL CASH FLOW INFORMATION						
Income taxes paid	\$308.9	\$275.7	\$366.9	\$469.2	\$308.9	\$275.7
Net interest paid	222.4	208.7	262.5	324.8	222.4	208.7

The accompanying notes are an integral part of the consolidated financial statements.

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CONSOLIDATED STATEMENTS OF EQUITY

(millions, except per share amounts)		Year ended December 31, 2021, 2020 and 2019								Year ended December 31, 2023, 2022 and 2021						
		Additional				Ecolab		Non-	Total	Additional				Ecolab		Non-
		Common Stock	Paid-in Capital	Retained Earnings	AOCI (Loss)	Treasury Stock	Shareholders' Equity	Controlling Interest		Common Stock	Paid-in Capital	Retained Earnings	AOCI (Loss)	Treasury Stock	Shareholders' Equity	Controlling Interest
Balance, December 31, 2019		\$359.6	\$5,907.1	\$9,993.7	(\$2,089.7)	(\$5,485.4)	\$8,685.3	\$40.5	\$8,725.8							
New accounting guidance adoption (a)				(4.3)			(4.3)		(4.3)							
Net (loss) income				(1,205.1)			(1,205.1)	19.6	(1,185.5)							
Other comprehensive income (loss)					95.3		95.3	1.8	97.1							
Cash dividends declared (b)				(541.3)			(541.3)	(21.0)	(562.3)							
Separation of ChampionX			(8.5)			(1,051.4)	(1,059.9)	3.4	(1,056.5)							
Changes in noncontrolling interests			17.6				17.6	(9.3)	8.3							
Stock options and awards		3.0	318.8			3.3	325.1		325.1							
Reacquired shares						(146.2)	(146.2)		(146.2)							
Balance, December 31, 2020		362.6	6,235.0	8,243.0	(1,994.4)	(6,679.7)	6,166.5	35.0	6,201.5	\$362.6	\$6,235.0	\$8,243.0	(\$1,994.4)	(\$6,679.7)	\$6,166.5	\$35.0
Net income				1,129.9			1,129.9	14.1	1,144.0			1,129.9			1,129.9	14.1
Other comprehensive income (loss)					359.6		359.6	(3.2)	356.4							
Cash dividends declared (b)				(558.4)			(558.4)	(17.0)	(575.4)							
Other comprehensive income (loss) activity													359.6		359.6	(3.2)
Cash dividends declared (a)												(558.4)			(558.4)	(17.0)

Stock options and awards	1.5	229.6			2.1	233.2		233.2	1.5	229.6			2.1	233.2		
Reacquired shares					(106.6)	(106.6)		(106.6)					(106.6)	(106.6)		
Balance, December 31, 2021	364.1	6,464.6	8,814.5	(1,634.8)	(6,784.2)	7,224.2	28.9	7,253.1	364.1	6,464.6	8,814.5	(1,634.8)	(6,784.2)	7,224.2	28.9	
Net income			1,091.7			1,091.7	17.2	1,108.9			1,091.7			1,091.7	17.2	
Other comprehensive income (loss)				(91.8)		(91.8)	(4.2)	(96.0)								
Cash dividends declared (b)			(587.4)			(587.4)	(20.0)	(607.4)								
Other comprehensive income (loss) activity												(91.8)		(91.8)	(4.2)	
Cash dividends declared (a)											(587.4)			(587.4)	(20.0)	
Fair value adjustment of prior acquisition						-	0.6	0.6						-	0.6	
Stock options and awards	0.6	115.6			1.4	117.6		117.6	0.6	115.6			1.4	117.6		
Reacquired shares					(518.2)	(518.2)		(518.2)					(518.2)	(518.2)		
Balance, December 31, 2022	\$364.7	\$6,580.2	\$9,318.8	(\$1,726.6)	(\$7,301.0)	\$7,236.1	\$22.5	\$7,258.6	364.7	6,580.2	9,318.8	(1,726.6)	(7,301.0)	7,236.1	22.5	
Net income											1,372.3			1,372.3	20.7	
Other comprehensive income (loss) activity												(123.8)		(123.8)	(2.2)	
Cash dividends declared (a)											(615.7)			(615.7)	(13.5)	
Changes in noncontrolling interests										(4.5)				(4.5)		
Stock options and awards	1.0	191.0											2.0	194.0		
Reacquired shares													(13.7)	(13.7)		
Balance, December 31, 2023	\$365.7	\$6,766.7	\$10,075.4	(\$1,850.4)	(\$7,312.7)	\$8,044.7	\$27.5	\$								

(a) In 2020, upon adoption of ASU 2016-13, Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, the Company reclassified the cumulative effect of applying the standard to retained earnings at the beginning of the period adopted.

(b) Dividends declared per common share were \$2.16, \$2.06, and \$1.95 in 2023, 2022 and \$1.89 in 2022, 2021, and 2020, respectively.

COMMON STOCK ACTIVITY

Year ended December 31	2022		2021		2020		2023		2022		2021	
	Common	Treasury	Common	Treasury	Common	Treasury	Common	Treasury	Common	Treasury	Common	Treasury
	Stock	Stock	Stock	Stock	Stock	Stock	Stock	Stock	Stock	Stock	Stock	Stock
Shares, beginning of year	364,139,362	(77,255,713)	362,553,443	(76,801,025)	359,569,234	(71,159,472)	364,711,841	(80,261,501)	364,139,362	(77,255,713)	362,553,443	(76,801,025)
Stock options	276,059	14,525	1,270,757	29,684	2,577,231	35,122	802,645	14,629	276,059	14,525	1,270,757	29,684
Stock awards	296,420	17,794	315,162	17,760	406,978	40,122	234,154	30,437	296,420	17,794	315,162	17,760
Reacquired shares	-	(3,038,107)	-	(502,132)	-	(761,245)	-	(83,674)	-	(3,038,107)	-	(502,132)
Separation of ChampionX	-	-	-	-	-	(4,955,552)						
Shares, end of year	364,711,841	(80,261,501)	364,139,362	(77,255,713)	362,553,443	(76,801,025)	365,748,640	(80,300,109)	364,711,841	(80,261,501)	364,139,362	(77,255,713)

The accompanying notes are an integral part of the consolidated financial statements.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. NATURE OF BUSINESS

Ecolab is a global leader in water, hygiene and infection prevention solutions and services that protect people and vital resources. The Company delivers comprehensive solutions, data-driven insights and personalized service to advance food safety, maintain clean and safe environments, optimize water and energy use and improve operational efficiencies and sustainability for customers in the food, healthcare, hospitality and industrial markets in more than 170 countries.

The Company's cleaning and sanitizing programs and products and pest elimination services support customers in the foodservice, food and beverage processing, hospitality, healthcare, government and education, retail, textile care and commercial facilities management sectors. The Company's products and technologies are also used in water treatment, pollution control, energy conservation, refining, primary metals manufacturing, papermaking, mining and other industrial processes.

In June 2020, the Company completed the separation of its Upstream Energy business (the "ChampionX business") in a Reverse Morris Trust transaction (the "Transaction") through the split-off of ChampionX Holding Inc. ("ChampionX"), formed by Ecolab as a wholly owned subsidiary to hold the ChampionX business, followed immediately by the merger (the "Merger") of ChampionX with a wholly owned subsidiary of ChampionX Corporation (f/k/a Apergy Corporation, "Apergy").

As discussed in Note 5 Discontinued Operations, during 2020, the ChampionX business met the criteria to be reported as discontinued operations because the separation of the ChampionX business was a strategic shift in business that had a major effect on the Company's operations and financial results. Therefore, the Company reported the historical results of ChampionX, including the results of operations, cash flows, and related assets and liabilities, as discontinued operations in 2020. Unless otherwise noted, the accompanying Notes to the Consolidated Financial Statements have all been revised to reflect the effect of the separation of ChampionX and all 2020 balances have been revised accordingly to reflect continuing operations only.

In December 2021, the Company acquired Purolite for total consideration of \$3.7 billion in cash, net of cash acquired. Purolite is a leading and fast-growing global provider of high-end ion exchange resins for the separation and purification of solutions, that is highly complementary to the Company's current offering and critical to safe, high quality drug production and biopharma product purification in the life sciences industries. It also provides purification and separation solutions for critical industrial markets like microelectronics, nuclear power and food and beverage. Headquartered in King of Prussia, Pennsylvania, Purolite operates in more than 30 countries. Purolite is reported within the Company's Life Sciences operating segment.

The Company is aligned into three reportable segments: Global Industrial, Global Institutional & Specialty, and Global Healthcare & Life Sciences as discussed in Note 19 18 Operating Segments and Geographical Information. Operating segments that were not aggregated and do not exceed the quantitative criteria to be separately reported have been combined into Other.

Except for the changes due to adoption of the new accounting standards, the Company has consistently applied the accounting policies to all periods presented in these consolidated financial statements.

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2. SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and all subsidiaries in which the Company has a controlling financial interest. Investments in companies, joint ventures or partnerships in which the Company does not have control but has the ability to exercise significant influence over operating and financial decisions, are reported using the equity method of accounting. The alternative method of accounting is used in circumstance where the Company's investments in companies, joint ventures and partnerships neither provide it control or significant influence over the investee and for investments that do not have readily identifiable fair values. Investments accounted for under the alternative method are recorded at cost and adjusted for impairments, if any, or observable price changes of the same or similar securities issued by the investee. International subsidiaries are included in the financial statements on the basis of their U.S. GAAP November 30 fiscal year ends to facilitate the timely inclusion of such entities in the Company's consolidated financial reporting. All intercompany transactions and profits are eliminated in consolidation.

Use of Estimates

The preparation of the Company's financial statements requires management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from these estimates. The Company's critical accounting estimates include revenue recognition, litigation and environmental reserves, actuarially determined liabilities, income taxes, long-lived assets, intangible assets and goodwill.

Foreign Currency Translation

Financial position and reported results of operations of the Company's non-U.S. dollar functional currency international subsidiaries are measured using local currencies as the functional currency. Assets and liabilities of these operations are translated at the exchange rates in effect at each fiscal year end. The translation adjustments related to assets and liabilities that arise from changes in exchange rates from period to period are included in accumulated other comprehensive income (loss) in shareholders' equity. Income

statement accounts are translated at average rates of exchange prevailing during the year. As discussed in Note 19 18 Operating Segments and Geographic Information, the Company evaluates its international operations based on fixed rates of exchange; however, changes in exchange rates from period to period impact the amount of reported income from consolidated operations.

Concentration of Credit Risk

Credit risk represents the accounting loss that would be recognized at the reporting date if counterparties failed to perform as contracted. The Company believes the likelihood of incurring material losses due to concentration of credit risk is minimal. The principal financial instruments subject to credit risk are as follows:

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Cash and Cash Equivalents - The Company maintains cash deposits with major banks, which from time to time may exceed insured limits. The possibility of loss related to financial condition of major banks has been deemed minimal. Additionally, the Company's investment policy limits exposure to concentrations of credit risk and changes in market conditions.

Accounts Receivable - A large number of customers in diverse industries and geographies, as well as the practice of establishing reasonable credit lines, limits credit risk. Based on historical trends and experiences, the allowance for expected credit losses is adequate to cover expected credit risk losses.

Foreign Currency and Interest Rate Contracts and Derivatives - Exposure to credit risk is limited by internal policies and active monitoring of counterparty risks. In addition, the Company uses a diversified group of major international banks and financial institutions as counterparties. The Company does not anticipate nonperformance by any of these counterparties.

Cash and Cash Equivalents

Cash equivalents include highly-liquid investments with a maturity of three months or less when purchased.

Accounts Receivable and Allowance for Expected Credit Losses

Accounts receivable are carried at the invoiced amounts, less an allowance for expected credit losses, and generally do not bear interest. The Company's allowance for expected credit losses estimates the amount of expected future credit losses by analyzing accounts receivable balances by age and applying historical write-off and collection experience. The Company's estimates separately consider macroeconomic trends, specific circumstances and credit conditions of customer receivables. Account balances are written off against the allowance when it is determined the receivable will not be recovered.

The Company's allowance for the expected return of products shipped and credits related to pricing or quantities shipped was \$59 million \$72 million, \$19 million \$59 million, and \$16 million \$19 million as of December 31, 2022 December 31, 2023, 2021 2022 and 2020, 2021, respectively. Returns and credit activity is recorded directly as a reduction to revenue.

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The following table summarizes the activity in the allowance for expected credit losses:

(millions)	2022	2021	2020	2023	2022	2021
Beginning balance	\$52.8	\$68.4	\$38.8	\$71.9	\$52.8	\$68.4
Adoption of new standard	-	-	4.3			
Bad debt expense	38.1	15.0	57.7	54.0	38.1	15.0
Write-offs	(21.1)	(27.4)	(31.6)	(46.2)	(21.1)	(27.4)
Other (a)	2.1	(3.2)	(0.8)	(2.4)	2.1	(3.2)
Ending balance	\$71.9	\$52.8	\$68.4	\$77.3	\$71.9	\$52.8

(a) Other amounts are primarily the effects of changes in currency translations and acquired balances.

Inventory Valuations

Inventories are valued at the lower of cost or net realizable value. Certain U.S. inventory costs are determined on a last-in, first-out ("LIFO") basis. LIFO inventories represented 29% 30% and 27% 29% of consolidated inventories as of December 31, 2022 December 31, 2023 and 2021 2022, respectively. All other inventory costs are determined using either the average cost or first-in, first-out ("FIFO") methods. Inventory values at FIFO, as shown in Note 6, 5, approximate replacement cost.

Property, Plant and Equipment

Property, plant and equipment assets are stated at cost. Merchandising and customer equipment consists principally of various dispensing systems for the Company's cleaning and sanitizing products, warewashing machines and process control and monitoring equipment. Certain dispensing systems capitalized by the Company are accounted for on a mass asset basis, whereby equipment is capitalized and depreciated as a group and written off when fully depreciated. The Company capitalizes both internal and external costs to develop or purchase computer software. Costs incurred for data conversion, training and maintenance associated with capitalized software are expensed as incurred. Expenditures for major renewals and improvements, which significantly extend the useful lives of existing plant and equipment, are capitalized and depreciated. Expenditures for repairs and maintenance are charged to expense as incurred. Upon retirement or disposition of plant and equipment, the cost and related accumulated depreciation are removed from the accounts and any resulting gain or loss is recognized in income.

Depreciation is charged to operations using the straight-line method over the assets' estimated useful lives ranging from 5 to 40 years for buildings and leasehold improvements, 3 to 20 years for machinery and equipment, 3 to 20 years for merchandising and customer equipment and 3 to 7 years for capitalized software. The straight-line method of depreciation reflects an appropriate allocation of the cost of the assets to earnings in proportion to the amount of economic benefits obtained by the Company in each reporting period. Depreciation expense was \$619 million \$617 million, \$619 million and \$604 million for 2023, 2022 and \$594 million for 2022, 2021, and 2020, respectively.

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Goodwill and Other Intangible Assets

Goodwill

Goodwill arises from the Company's acquisitions and represents the excess of the fair value of the purchase consideration exchanged over the fair value of net assets acquired. The Company's reporting units are largely its ten operating segments. Following the acquisition of Purolite in December 2021, the Company's Life Sciences Operating Segment consists of the Purolite and Global Life Sciences Reporting Units. The Company assesses goodwill for impairment on an annual basis during the second

quarter. If circumstances change or events occur that demonstrate it is more likely than not that the carrying amount of a reporting unit exceeds its fair value, the Company completes an interim goodwill impairment assessment of that reporting unit prior to the next annual assessment. If the results of an annual or interim goodwill impairment assessment demonstrate the carrying amount of a reporting unit is greater than its fair value, the Company will recognize an impairment loss for the amount by which the reporting unit's carrying amount exceeds its fair value, but not to exceed the carrying amount of goodwill assigned to that reporting unit.

During the second quarter of 2022, 2023, the Company completed its annual goodwill impairment assessment for eleven of its twelve ten reporting units using discounted cash flow analyses that incorporated assumptions regarding future growth rates, terminal values and discount rates. The Company's goodwill impairment assessments for 2022, 2023 indicated the estimated fair values of each of these eleven ten reporting units exceeded the carrying amounts of the respective reporting unit by a significant margin. Given The Company evaluates the recent acquisition of Purolite, the Company's annual need to complete interim goodwill impairment assessment of the Purolite Reporting Unit was qualitative assessments when significant events or changes in nature and considered information regarding its operations, financial performance and the macroeconomic environment. After weighting both positive and negative information, business circumstances indicate that it is more likely than not that the carrying amount of a reporting unit may be higher than its fair value of the Purolite Reporting Unit exceeds its carrying amount, value. No events were noted during the second half of 2022, 2023 that required completion of an interim goodwill impairment assessment for any of our twelve ten reporting units. There has been no impairment of goodwill in any of the periods presented.

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The changes in the carrying amount of goodwill for each of the Company's reportable segments were as follows:

(millions)	Global					Global				
	Global Industrial	Institutional & Specialty	Healthcare & Life Sciences	Other	Total	Global Industrial	Institutional & Specialty	Healthcare & Life Sciences	Other	Total
December 31, 2020	\$4,287.9	\$564.1	\$909.8	\$245.1	\$6,006.9					
Current year business combinations (a)	6.9	17.2	2,123.2	-	2,147.3					
Prior year business combinations (b)	(0.9)	-	-	-	(0.9)					
Effect of foreign currency translation	(23.8)	(4.8)	(58.8)	(2.0)	(89.4)					
December 31, 2021	\$4,270.1	\$576.5	\$2,974.2	\$243.1	\$8,063.9	\$4,270.1	\$576.5	\$2,974.2	\$243.1	\$8,063.9
Prior year business combinations (b)	0.4	-	253.4	-	253.8					
Prior year business combinations (a)						0.4	-	253.4	-	253.8
Effect of foreign currency translation	(188.7)	(8.9)	(102.2)	(5.2)	(305.0)	(188.7)	(8.9)	(102.2)	(5.2)	(305.0)
December 31, 2022	\$4,081.8	\$567.6	\$3,125.4	\$237.9	\$8,012.7	\$4,081.8	\$567.6	\$3,125.4	\$237.9	\$8,012.7
Current year business combinations (b)						30.8	39.3	-	-	70.1
Effect of foreign currency translation						28.0	3.1	33.0	1.3	65.4
December 31, 2023						\$4,140.6	\$610.0	\$3,158.4	\$239.2	\$8,148.2

(a) Represents goodwill associated with current year acquisitions. For 2021, approximately \$2,209 million of goodwill related to businesses acquired is expected to be tax deductible related to the acquisitions of Purolite and National Wiper Alliance, Inc. (refer to Footnote 4 for additional information).

- (b) Represents purchase price allocation adjustments for acquisitions deemed preliminary as of the end of the prior year.
- (b) Represents goodwill associated with current year acquisitions. For 2023, approximately \$62 of goodwill related to businesses acquired is expected to be tax deductible related primarily to the acquisitions of Chemlink Laboratories LLC and Flottec, LLC (refer to Footnote 4 for additional information).

Other Intangible Assets

The Nalco trade name is the Company's only indefinite life intangible asset, which is tested for impairment on an annual basis during the second quarter. During the second quarter of 2022, 2023, the Company completed its annual impairment assessment of the Nalco trade name using the relief from royalty discounted cash flow method, which incorporates assumptions regarding future sales projections, royalty rate and discount rates. The Company's Nalco trade name impairment assessment for 2022, 2023 indicated the estimated fair value of the Nalco trade name exceeded its \$1.2 billion carrying amount by a significant margin. No events were noted during the second half of 2022, 2023 that required completion of an interim impairment assessment of our Nalco trade name. There has been no impairment of the Nalco trade name intangible asset since it was acquired.

The Company's intangible assets subject to amortization include customer relationships, trademarks, patents and other technology primarily acquired through business acquisitions. The fair value of intangible assets acquired in business acquisitions are estimated primarily using discounted cash flow valuation methods at the time of acquisition. Intangible assets are amortized on a straight-line basis over their estimated lives. The weighted-average useful life of amortizable intangible assets was 15 years as of December 31, 2022, December 31, 2023 and 2021, 2022.

The weighted-average useful life by type of amortizable asset at December 31, 2022, December 31, 2023 were as follows:

(years)	
Customer relationships	15
Patents	14, 15
Trademarks	13
Other technology	12

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The straight-line method of amortization reflects an appropriate allocation of the cost of the intangible assets to earnings in proportion to the amount of economic benefits obtained by the Company in each reporting period. The Company evaluates the remaining useful life of its intangible assets subject to amortization each reporting period to determine whether events and circumstances warrant a change to the estimated remaining period of amortization. If the estimate of an intangible asset's remaining useful life is changed, the remaining carrying amount of the intangible asset will be amortized prospectively over the updated remaining useful life. Amortization expense related to other intangible assets during the last three years and future estimated amortization were as follows:

(millions)		
2020	\$219	
2021	239	\$239
2022	320	320
2023	299	307
2024	291	301
2025	285	294
2026	271	281
2027	146	155
2028		145

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Long-Lived Assets

The Company reviews its long-lived and amortizable intangible assets for impairment when significant events or changes in business circumstances indicate that the carrying amount of the assets, or asset group to which it is assigned, may not be recoverable. Such circumstances may include a significant decrease in the market price of an asset or asset group, a significant adverse change in the manner in which the asset or asset group is being used or history of cash flow losses associated with the use of an asset or asset group. Impairment losses could occur when the carrying amount of an asset or asset group exceeds the anticipated future undiscounted cash flows expected to result from the use of the asset or asset group and its eventual disposition. The amount of the impairment loss to be recorded, if any, is calculated by the excess of the asset's or asset group's carrying value over its fair value.

In addition, the Company periodically reassesses the estimated remaining useful lives of its long-lived assets. Changes to estimated useful lives would impact the amount of depreciation and amortization recorded in earnings. The Company has not experienced significant changes in the carrying amount or estimated remaining useful lives of its long-lived or amortizable intangible assets.

Rental and Leases

Lessee

The Company determines whether a lease exists at the inception of the arrangement. In assessing whether a contract is or contains a lease, the Company evaluates whether the arrangement conveys the right to control the use of an identified asset for a period of time in exchange for consideration. The Company accounts for lease components separately from the nonlease components (e.g., common-area maintenance costs, property taxes, parking, etc.). Operating leases are recorded in operating lease assets, other current liabilities and operating lease liabilities in the Consolidated Balance Sheets.

Operating lease assets and operating lease liabilities are measured and recognized based on the present value of the future minimum lease payments over the estimated lease term at the lease commencement date. The Company uses the rate implicit in the lease when available or determinable. When the rate implicit in the lease is not determinable, the Company uses its incremental borrowing rate based on the information available at the lease commencement date to determine the present value of future payments. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term. Variable lease payments are not included in the lease liability and are recognized as incurred. The Company identified real estate, vehicles and other equipment as the primary classes of its leases. Certain leases with a similar class of underlying assets are accounted for as a portfolio of leases.

The Company does not record operating lease assets or liabilities for leases with terms of twelve months or less. Those lease payments are recognized in the Consolidated Statements of Income over the lease term as incurred.

Many of the Company's leases include options to renew or cancel, which are at the Company's sole discretion. Renewal terms can extend the lease term from one month to multiple years, whereas, cancellation terms can shorten the lease term by multiple years. The lease start date is the date when the leased asset is available for use and in possession of the Company. The lease end date, which includes any options to renew or cancel that are reasonably certain to be exercised, is based on the terms of the contract. The depreciable life of assets and leasehold improvements are limited by the expected lease term, unless there is a transfer of title or purchase option reasonably certain of exercise. The Company's lease agreements do not contain any material restrictive covenants.

Lessor

The Company accounts for lease and nonlease components separately. The nonlease components, such as product and service revenue, are accounted for under Topic 606 Revenue from Contracts with Customers, refer to Note 18 17 for more information. Revenue from leasing equipment is recognized on a straight-line basis over the life of the

lease. Cost of sales includes the depreciation expense for assets under operating leases. The assets are depreciated over their estimated useful lives. Initial lease terms range from one year to five years and most leases include renewal options.

Lease contracts convey the right for the customer to control the equipment for a period of time as defined by the contract. There are no options for the customer to purchase the equipment and therefore the equipment remains the property of the Company at the end of the lease term. Refer to Note 14 13 for additional information regarding rental and leases.

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Income Taxes

Income taxes are recognized during the period in which transactions enter into the determination of financial statement income, with deferred income taxes provided for the tax effect of temporary differences between the carrying amount of assets and liabilities and their tax bases. The Company records a valuation allowance to reduce its deferred tax assets when uncertainty regarding their realizability exists. Relevant factors in determining the realizability of deferred tax assets include historical results, sources of future taxable income, the expected timing of the reversal of temporary differences, tax planning strategies and the expiration dates of the various tax attributes. The Company records liabilities for income unrecognized tax uncertainties benefits in accordance with the U.S. GAAP recognition and measurement criteria guidance. The Company has elected the period cost method and considers the estimated global intangible low taxed income ("GILTI") impact in tax expense. The Company recognizes interest and penalties related to income unrecognized tax uncertainties benefits in the income tax provision.

The CHIPS Act (CHIPS) was signed into U.S. law on August 9, 2022. CHIPS includes incentives for domestic semiconductor manufacturing for expenditures incurred after December 31, 2022. The Company continues to assess qualification for the new tax incentives but does not anticipate CHIPS to have a material impact on the Company's financial statements.

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The Inflation Reduction Act (IRA) includes a corporate alternative minimum tax on certain large corporations, incentives to address climate change mitigation and other non-income tax provisions, including an excise tax on the repurchase of corporate stock. The IRA is effective January 1, 2023. The Company continues to assess the impact of the IRA and qualification for new tax incentives but does not anticipate the IRA to have a material impact on the Company's financial statements.

Refer to Note 13 12 for additional information regarding income taxes.

Share-Based Compensation

The Company measures compensation expense for share-based awards at fair value at the date of grant and recognizes compensation expense over the service period for awards expected to vest. The majority of grants to retirement eligible recipients (age 55 with required years of service) are recorded to expense using the non-substantive vesting method and are fully expensed over a six-month period following the date of grant. In addition, the Company includes a forfeiture estimate in the amount of compensation expense being recognized based on an estimate of the number of outstanding awards expected to vest.

All excess tax benefits or deficiencies are recognized as discrete income tax items on the Consolidated Statements of Income. The extent of excess tax benefits is subject to variation in stock price and stock option exercises. Refer to Note 12 11 for additional information regarding equity compensation plans.

Restructuring Activities

The Company's restructuring activities are associated with plans to enhance its efficiency, effectiveness and sharpen its competitiveness. These restructuring plans include net costs associated with significant actions involving employee-related severance charges, contract termination costs and asset write-downs and disposals. Employee termination costs are largely based on policies and severance plans, and include personnel reductions and related costs for severance, benefits and outplacement services. These charges are reflected in the quarter in which the actions are probable and the amounts are estimable, which typically is when management approves the associated actions. Contract termination costs include charges to terminate leases prior to the end of their respective terms and other contract termination costs. Asset write-downs and disposals include leasehold improvement write-downs, other asset write-downs associated with combining operations and disposal of assets. Refer to Note 3 for additional information regarding restructuring activities.

Revenue Recognition

Revenue is measured as the amount of consideration expected to be received in exchange for transferring goods or providing service.

Product and Sold Equipment

Revenue from product and sold equipment is recognized when obligations under the terms of a contract with the customer are satisfied, which generally occurs with the transfer of the product or delivery of the equipment.

Service and Lease Equipment

Revenue from service and leased equipment is recognized when the services are provided, or the customer receives the benefit from the leased equipment, which is over time. Service revenue is recognized over time utilizing an input method and aligns with when the services are provided. Typically, revenue is recognized using costs incurred to date because the effort provided by the field selling and service organization represents services provided, which corresponds with the transfer of control. Revenue for leased equipment is accounted for under Topic 842 Leases and recognized on a straight-line basis over the length of the lease contract.

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Other Considerations

Contracts with customers may include multiple performance obligations. For contracts with multiple performance obligations, the consideration is allocated between products and services based on their stand-alone selling prices. Stand-alone selling prices are generally based on the prices charged to customers when the good or service is not bundled with other product or services or using an expected cost plus margin. Judgment is used in determining the amount of service that is embedded within the Company's contracts, which is based on the amount of time spent on the performance obligation activities. The level of effort, including the estimated margin that would be charged, is used to determine the amount of service revenue. Depending on the terms of the contract, the Company may defer the recognition of revenue when a future performance obligation has not yet occurred.

Taxes assessed by a governmental authority that are both imposed on, and concurrent with, a specific revenue-producing transaction, which are collected by the Company from a customer, are excluded from revenue. Shipping and handling costs associated with outbound freight are recognized in cost of sales when control over the product has transferred to the customer.

Other estimates used in recognizing revenue include allocating variable consideration to customer programs and incentive offerings, including pricing arrangements, promotions and other volume-based incentives at the time the sale is recorded. These estimates are based primarily on historical experience and anticipated performance over the contract period. Based on the certainty in estimating these amounts, they are included in the transaction price of the contracts and the associated remaining performance obligations. The Company recognizes revenue when collection of the consideration expected to be received in exchange for transferring goods or providing services is probable.

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The Company's revenue policies do not provide for general rights of return. Estimates used in recognizing revenue include the delay between the time that products are shipped and when they are received by customers, when title transfers and the amount of credit memos issued in subsequent periods. Depending on market conditions, the Company may increase customer incentive offerings, which could reduce gross profit margins over the term of the incentive.

Earnings Per Common Share

The difference in the weighted average common shares outstanding for calculating basic and diluted earnings attributable to Ecolab per common share is a result of the dilution associated with the Company's equity compensation plans. As noted in the table below, certain stock options and units outstanding under these equity compensation plans were not included in the computation of diluted earnings attributable to Ecolab per common share because they would not have had a dilutive effect.

The computations of the basic and diluted earnings attributable to Ecolab per share amounts were as follows:

(millions, except per share)	2022	2021	2020	2023	2022	2021
Net income from continuing operations attributable to Ecolab	\$1,091.7	\$1,129.9	\$967.4			
Net loss from discontinued operations, net of tax	-	-	(2,172.5)			
Net income (loss) attributable to Ecolab	\$1,091.7	\$1,129.9	(\$1,205.1)			
Net income attributable to Ecolab				\$1,372.3	\$1,091.7	\$1,129.9
Weighted-average common shares outstanding						
Basic	285.2	286.3	287.0	285.0	285.2	286.3
Effect of dilutive stock options and units	1.4	2.8	3.3	1.6	1.4	2.8
Diluted	286.6	289.1	290.3	286.5	286.6	289.1
Earnings (loss) attributable to Ecolab per common share						
Earnings attributable to Ecolab per common share						
Basic EPS				\$4.82	\$3.83	\$3.95
Continuing operations	\$3.83	\$3.95	\$3.37			
Discontinued operations	\$-	\$-	(\$7.57)			
Earnings (loss) attributable to Ecolab	\$3.83	\$3.95	(\$4.20)			
Diluted EPS				\$4.79	\$3.81	\$3.91
Continuing operations	\$3.81	\$3.91	\$3.33			
Discontinued operations	\$-	\$-	(\$7.48)			
Earnings (loss) attributable to Ecolab	\$3.81	\$3.91	(\$4.15)			
Anti-dilutive securities excluded from the computation of diluted EPS	3.9	1.9	1.9	4.3	3.9	1.9

Amounts do not necessarily sum due to rounding.

Discontinued Operations

Discontinued operations comprise those activities that were disposed of during the period or which were classified as held for sale at the end of the period and represent a strategic shift that has or will have a major effect on the Company's operations and financial results. The ChampionX business met the criteria to be reported as discontinued operations because it was a strategic shift in business that had a major effect on the Company's operations and financial results. The ChampionX business is presented on the Consolidated Statements of Income as discontinued operations. Refer to Note 5, Discontinued Operations, for additional information.

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Other Significant Accounting Policies

The following table includes a reference to additional significant accounting policies that are described in other notes to the financial statements, including the note number:

Policy	Note
Fair value measurements	8 7
Derivatives and hedging transactions	9 8
Share-based compensation	12 10
Research and development expenditures	15 14
Legal contingencies	16 15
Pension and post-retirement benefit plans	17 16
Reportable segments	19 18

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New Accounting Pronouncements

Standards That Are Not Yet Adopted:

Standard	Date of Issuance	Description	Required	Effect on the Financial Statements
			Date of Adoption	

ASU 2021-08 - Business Combinations 2023-09 Income taxes	October 2021 December 2023	The amendments in this Update to improve require that public business entities on an annual basis (1) disclose specific categories in the accounting rate reconciliation and (2) provide additional information for acquired revenue contracts with customers in reconciling items that meet a business combination by addressing diversity in practice and inconsistency related to the recognition of an acquired contract liability and payment terms and their effect on subsequent revenue recognized by the acquirer, quantitative threshold.	January 1, 2023, 2025	The Company is currently evaluating any potential future impacts the impact of adoption and additional disclosure requirements.

ASU 2023-07 - Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures	November 2023	The amendments in this ASU are to improve the disclosures about reportable segments and add more detailed information about a reportable segment's expenses. The amendments in the ASU require public entities to disclose on an annual and interim basis significant segment expenses that are regularly provided to the Company's financial statements, any such changes would chief operating decision maker ("CODM") and included within each reported measure of segment profit or loss, other segment items by reportable segment, the title and position of the CODM, and an explanation of how the CODM uses the reported measures of segment profit or loss in assessing segment performance and deciding how to allocate resources. The ASU does not change the definition of a segment, the method for determining segments, the criteria for aggregating operating segments into reportable segments, or the current specifically enumerated segment expenses that are required to be prospective, disclosed.	Effective for annual periods beginning after December 15, 2023	Entities are required to apply the disclosure amendments on a retrospective basis to all periods presented. The Company is currently evaluating the impact of adoption.

Standards That Were Adopted:

Standard	Date of Issuance	Description	Date of Adoption	Effect on the Financial Statements

ASU 2020-04 2021-08 - Reference Rate Reform Business Combinations (Topic 848) 805: Facilitation of the Effects of Reference Rate Reform on Financial Reporting ASU 2021-01 - Reference Rate Reform (Topic 848): Scope ASU 2022-06 - Reference Rate Reform (Topic 848): Deferral of the Sunset Date of Topic 848 Accounting for Contract Assets and Contract Liabilities from Contracts with Customers	March 2020 October 2021	Certain LIBOR rates, widely used reference rates for pricing financial products, were discontinued on December 31, 2021. This standard provides optional expedients and exceptions if certain criteria are met when Update to improve the accounting for acquired revenue contracts hedging relationships with customers in a business combination by addressing diversity in practice and other transactions that reference LIBOR or another reference rate expected inconsistency related to be discontinued because the recognition of reference rate reform, an acquired contract liability and payment terms and their effect on subsequent revenue recognized by the acquirer.	Application of guidance is optional until the options and identified two contracts expediting requiring modifications of this standard did not have a December 31, 2024, January 1, 2023	The Company evaluated contracts whose terms previously included references to LIBOR or one adoption of its equivalents and identified two contracts requiring modifications of this rate provisions included therein. The Company applied certain of the expedients included in ASC 848 allowing the Company to account for the contract modifications prospectively. There were no Company's financial statement impacts at the time of modification. statements.
ASU 2021 -10 - Government Assistance (Topic 832): Disclosures by Business Entities about Government Assistance	November 2021	Update to increase the transparency of government assistance including annual disclosure of the types of assistance accounted for under a grant or contribution method of accounting, an entity's accounting for the assistance, and the effect of the assistance on an entity's financial statements.	Annual period beginning January 1, 2022.	The adoption of this standard did not have a significant impact on the Company's financial statements.

No other new accounting pronouncement issued or effective has had or is expected to have a material impact on the Company's consolidated financial statements.

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3. SPECIAL (GAINS) AND CHARGES

Special (gains) and charges reported on the Consolidated Statements of Income included the following:

(millions)	2022	2021	2020	2023	2022	2021
Cost of sales						
Restructuring activities	\$21.4	\$24.7	\$7.4	\$22.5	\$21.4	\$24.7
Acquisition and integration activities	25.0	4.2	3.9	-	25.0	4.2
COVID-19 activities, net	16.3	64.7	12.5			
Russia/Ukraine	7.2	-	-	-	7.2	-
Other	-	0.3	24.4	-	16.3	65.0
Cost of sales subtotal	69.9	93.9	48.2	22.5	69.9	93.9

Special (gains) and charges							
Restructuring activities	85.8	11.9	71.4	63.2	85.8	11.9	
Acquisition and integration activities	14.5	29.9	8.5	16.1	14.5	29.9	
Disposal and impairment activities	-	-	41.4				
COVID-19 activities, net	10.2	42.4	23.6				
Russia/Ukraine	5.9	-	-	1.4	5.9	-	
Other	24.1	18.4	34.7	30.7	34.3	60.8	
Special (gains) and charges subtotal	140.5	102.6	179.6	111.4	140.5	102.6	
Operating income subtotal	210.4	196.5	227.8	133.9	210.4	196.5	
Other (income) expense	50.6	37.2	0.4	-	50.6	37.2	
Interest expense, net	-	33.1	83.8	-	-	33.1	
Total special (gains) and charges	\$261.0	\$266.8	\$312.0	\$133.9	\$261.0	\$266.8	

For segment reporting purposes, special (gains) and charges are not allocated to reportable segments, which is consistent with the Company's internal management reporting.

Restructuring Activities

Restructuring activities are primarily related to the Europe Combined Program Institutional Advancement Program, Accelerate 2020 and other immaterial restructuring programs which are described below. These activities have been included as a component of cost of sales, special (gains) and charges, other (income) expense and interest expense, net on the Consolidated Statements of Income. Restructuring liabilities have been classified as a component of other current and other noncurrent liabilities on the Consolidated Balance Sheets.

Europe Combined Program

In November 2022 the Company approved a Europe cost savings program (the "Europe Program"), program. In connection with these actions, the Company expects expected to incur pre-tax charges of \$130 million (\$110 million after tax). In February 2023, the Company expanded its previously announced Europe cost savings program to focus on its Institutional and Healthcare businesses in other regions. In connection with the expanded program ("Combined Program"), the Company expects to incur total pre-tax charges of \$195 million (\$150 million after tax). The Europe Company expects that these restructuring charges will be completed by the end of 2024. Program actions include headcount reductions from terminations, not filling certain open positions, and facility closures. The Combined Program charges are expected to be primarily cash expenditures related to severance and asset disposals. Actual costs may vary from these estimates depending on actions taken.

In anticipation of this Combined Program, a limited number of actions were taken in the fourth quarter of 2022. As a result, the Company reclassified \$19.3 million (\$14.5 million after tax) from other restructuring to the Combined Program in the first quarter of 2023.

In 2023 and 2022, the Company recorded total Combined Program restructuring charges of \$77.7 million (\$66.4 million after tax) and \$67.2 million (\$56.0 million after tax), respectively, primarily related to severance. The Company has recorded \$164.2 million (\$136.9 million after tax) of cumulative charges under the Combined Plan. The net liability related to the Europe Combined Program was \$43.1 million and \$62.0 million as of December 31, 2022 December 31, 2023 and 2022, respectively. The remaining liability is expected to be paid over a period of a few months to several quarters and will continue to be funded from operating activities.

Restructuring activity related to the Europe Combined Program since inception of the underlying actions includes the following:

(millions)	Employee			
	Termination	Asset		
	Costs	Disposals	Other	Total
2022 Activity				
Recorded expense and accrual	67.2	-	-	67.2
Net cash payments	(5.2)	-	-	(5.2)

Restructuring liability, December 31, 2022	\$62.0	\$-	\$-	\$62.0

On February 14, 2023, the Company expanded its previously announced Europe cost savings program to focus on its Institutional and Healthcare businesses in other regions. In connection with the expanded program, the Company now expects to incur pre-tax charges of \$195 million (\$150 million after tax). The Company expects that these restructuring actions will be completed by 2024. Program actions include headcount reductions from terminations, not filing certain open positions and facility closures. The expanded program charges are expected to be primarily cash expenditures related to severance and asset disposals.

(millions)	Employee Costs	Asset Disposals	Other	Total
2022 Activity				
Recorded expense and accrual	\$67.2	\$-	\$-	\$67.2
Net cash payments	(5.2)	-	-	(5.2)
Net restructuring liability, December 31, 2022	62.0	-	-	62.0
2023 Activity				
Recorded expense and accrual	47.0	14.0	16.7	77.7
Net cash payments	(85.2)	-	(16.7)	(101.9)
Non-cash charges	-	(14.0)	-	(14.0)
Reclassification	19.3	-		19.3
Net restructuring liability, December 31, 2023	\$43.1	\$-	\$-	\$43.1

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Institutional Advancement Program

The Company approved a restructuring plan in 2020 focused on the Institutional business (“the Institutional Plan”) which is intended to enhance the Company’s Institutional sales and service structure and allow the sales team to capture share and penetration while maximizing service effectiveness by leveraging the Company’s ongoing investments in digital technology. In February 2021, the Company expanded the Institutional Plan, and expect that these restructuring charges will be completed in 2023, with total anticipated costs of \$70 million (\$55 million after tax). The remaining costs are expected to be primarily cash expenditures for severance and non-cash related costs to equipment disposals. Actual costs may vary from these estimates depending on actions taken.

Certain activities contemplated in this Institutional Plan were previously approved in 2020 and included as part of Accelerate 2020. These activities were reclassified to the Institutional Plan. During 2023, 2022 2021 and 2020, 2021, the Company recorded restructuring charges of \$8.0 million (\$6.0 million after tax), \$6.3 million (\$4.8 million after tax), and \$12.6 million (\$10.2 million after tax) and \$35.2 million (\$26.4 million after tax), respectively, primarily related to severance, disposals of equipment and office closures. The Company has recorded \$54.1 million restructuring activities were completed at the end of 2023, with total costs of \$62.1 million (\$41.4 47.4 million after tax) of cumulative restructuring . Net cash payments were \$2.6 million and non-cash net charges under the Institutional Plan. The were \$6.8 million during 2023. There was no liability related to the Institutional Plan was as of December 31, 2023 and \$1.9 million and \$5.1 million as of December 31, 2022 and 2021, respectively, and is expected to be paid over a period of a few months to several quarters and will continue to be funded from operating activities. .

Restructuring activity related to the Institutional Plan since inception of the underlying actions includes the following:

Employee Termination	Asset Disposals

(millions)	Costs	Disposals	Other	Total
2020 Activity				
Recorded expense and accrual	\$25.6	\$-	\$9.6	\$35.2
Net cash payments	(0.9)	-	(9.6)	(10.5)
Restructuring liability, December 31, 2020	24.7	-	-	24.7
2021 Activity				
Recorded expense (income) and accrual	(\$1.8)	\$8.5	\$5.9	\$12.6
Net cash payments	(19.0)	-	(4.7)	(23.7)
Non-cash net charges	-	(8.5)	-	(8.5)
Restructuring liability, December 31, 2021	3.9	-	1.2	5.1
2022 Activity				
Recorded expense (income) and accrual	1.2	4.9	0.2	6.3
Net cash payments	(3.8)	-	(0.8)	(4.6)
Non-cash net charges	-	(4.9)	-	(4.9)
Restructuring liability, December 31, 2022	\$1.3	\$-	\$0.6	\$1.9

Accelerate 2020

During 2018, the Company formally commenced a restructuring plan, Accelerate 2020 ("the A2020 Plan"), to leverage technology and systems investments and organizational changes. The goals of the A2020 Plan are were to further simplify and automate processes and tasks, reduce complexity and management layers, consolidate facilities and focus on key long-term growth areas by further leveraging technology and structural improvements. During 2020, the Company expanded the Plan for additional costs and savings to further leverage the technology and structural improvements. The Company completed the plan with actual costs of \$254 million (\$198 million after tax) when revised for continuing operations.

The Company recorded restructuring charges of \$9.9 million (\$8.4 million after tax), and \$5.3 million (\$6.2 million after tax) and \$41.8 million (\$33.0 million after tax) in 2022 2021 and 2020, 2021, respectively, primarily related to severance. Of these expenses, \$0.3 million (\$0.2 million after tax) during 2020 is recorded in other (income) expense and related to pension settlements and curtailments. The liability related to this Restructuring Plan was \$18.1 million and \$32.7 million as restructuring activities were completed at the end of December 31, 2022 and 2021, respectively. The Company has recorded 2022, with total costs of \$254.4 million (\$198.4 million after tax).

Net cash payments were \$13.2 million during 2023. The liability related to the A2020 Plan were \$4.9 million and \$18.1 million as of cumulative restructuring charges under the Plan. December 31, 2023 and 2022, respectively. The remaining liability is expected to be paid over a period of a few months to several quarters and will continue to be funded from operating activities.

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Restructuring activity related to the A2020 Plan since inception of the underlying actions includes the following:

(millions)	Employee			
	Termination	Asset		
	Costs	Disposals	Other	Total
Restructuring liability, December 31, 2019	\$94.0	\$-	\$1.5	\$95.5
2020 Activity				

Recorded expense and accrual	29.5	7.8	4.5	41.8
Net cash payments	(56.8)	-	(1.0)	(57.8)
Non-cash charges	-	(7.8)	-	(7.8)
Effect of foreign currency translation	0.1	-	-	0.1
Restructuring liability, December 31, 2020	66.8	-	5.0	71.8
2021 Activity				
Recorded expense and accrual	4.3	0.3	0.7	5.3
Net cash payments	(39.1)	-	(5.0)	(44.1)
Non-cash charges	-	(0.3)	-	(0.3)
Restructuring liability, December 31, 2021	32.0	-	0.7	32.7
2022 Activity				
Recorded expense (income) and accrual	5.4	1.9	2.6	9.9
Net cash payments	(21.8)	-	(0.8)	(22.6)
Non-cash charges	-	(1.9)	-	(1.9)
Restructuring liability, December 31, 2022	\$15.6	\$-	\$2.5	\$18.1

Other Restructuring Activities

During 2022, 2021, and 2020, 2021, the Company recorded other restructuring charges of \$23.8 million (\$17.9 million after tax), and \$18.7 million (\$17.0 million after tax), and \$1.8 million (\$1.2 million after tax), respectively, related to other immaterial restructuring activity. The charges are comprised primarily of severance and asset write-offs.

The restructuring liability balance for all other restructuring plans excluding Europe Combined Program, the A2020 Plan and the Institutional Plan was \$23.2 million \$3.3 million and \$4.6 million \$23.2 million as of December 31, 2022 December 31, 2023 and 2021, 2022, respectively. The increase decrease in liability was driven primarily by severance expense, the reclass of \$19.3 million from other restructuring to the Combined Program in the first quarter of 2023. The remaining liability is expected to be paid over a period of a few months to several quarters and will continue to be funded from operating activities. Cash payments during 2022 2023 related to all other restructuring plans excluding the Europe Combined Program, the A2020 Plan and Institutional Plan were \$5.2 million \$0.6 million.

Acquisition and integration related costs

Acquisition and integration related costs reported in special (gains) and charges on the Consolidated Statements of Income in 2023 include \$16.1 million (\$12.0 million after tax) related primarily to the Purolite Corporation ("Purolite") acquisition and consist of integration related costs and advisory and legal fees.

Acquisition and integration related costs reported in special (gains) and charges on the Consolidated Statements of Income in 2022 include \$14.5 million (\$11.4 million after tax) related primarily to the Purolite Corporation ("Purolite") acquisition and consist of integration related costs and advisory and legal fees. Acquisition and integration related costs reported in product and equipment cost of sales on the Consolidated Statements of Income in 2022 included \$25.0 million (\$19.6 million after tax) related primarily to the recognition of fair value step-up in Purolite inventory and other integration related costs.

Acquisition and integration related costs reported in special (gains) and charges on the Consolidated Statements of Income include \$29.9 million (\$23.5 million after tax) in 2021. Charges are related primarily to the Purolite acquisition and consisted of deal costs, integration costs and advisory and legal fees. Acquisition and integration costs reported in product and equipment cost of sales on the Consolidated Statements of Income in 2021 include \$4.2 million (\$3.3 million after tax) and are related to the recognition of fair value step-up in the Purolite inventory. In conjunction with its acquisitions, the Company incurred \$0.8 million (\$0.6 million after tax) of special (gains) and charges reported in interest expense in 2021.

During 2020, acquisition and integration related costs reported in special (gains) and charges on the Consolidated Statements of Income include \$8.5 million (\$6.9 million after tax). Charges are related to the Copal Invest NV, including its primary operating entity CID Lines (collectively, "CID Lines"), Bioquell PLC ("Bioquell") and the Laboratoires Anios ("Anios") acquisitions and consist of integration costs and advisory and legal fees. Acquisition and integration costs reported in product and equipment cost of sales on the Consolidated Statements of Income in 2020 include \$3.9 million (\$3.2 million after tax) and are related to recognition of fair value step-up in CID Lines inventory, severance and the closure of a facility. In conjunction with its acquisitions, the Company incurred \$0.7 million (\$0.6 million after tax) of special (gains) and charges reported in interest expense in 2020.

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Disposal and impairment charges

Disposal and impairment charges reported in special (gains) and charges on the Consolidated Statements of Income include \$41.4 million (\$41.5 million after tax) in 2020. During 2020, the Company recorded a \$28.6 million (\$28.6 million after tax) impairment for a minority equity method investment due to the COVID-19 impact on the economic environment and the liquidity of the minority equity method investment. In addition, the Company recorded charges of \$12.8 million (\$12.9 million after tax) related to the disposal of Holchem Group Limited ("Holchem") for the loss on sale and related transaction fees during 2020.

COVID-19 activities

The Company recorded inventory reserves of \$15.0 million and \$60.0 million during 2022 and 2021, respectively, for excess sanitizer inventory and estimated disposal costs. The Company recorded charges of \$2.4 million, \$36.8 million and \$57.1 million during 2022, 2021 and 2020, respectively, to protect the wages of certain employees directly impacted by the COVID-19 pandemic. The Company recorded charges of \$9.8 million, \$16.5 million and \$2.4 million related to employee COVID-19 testing and related expenses during 2022, 2021 and 2020, respectively. In addition, the Company received subsidies and government assistance, which were recorded as a special (gain) and charges of (\$0.7) million, (\$6.2) million and (\$23.4) million during 2022, 2021 and 2020, respectively. COVID-19 pandemic charges are recorded in product and equipment cost of sales, service and lease cost of sales, and special (gains) and charges on the Consolidated Statements of Income. Total after tax net charges related to COVID-19 pandemic were \$20.2 million, \$81.3 million and \$27.4 million during 2022, 2021 and 2020, respectively.

Russia/Ukraine

In light of Russia's invasion of Ukraine and the sanctions against Russia by the United States and other countries, the Company has made the determination that it will limit the Company's Russian business to operations that are essential to life, providing minimal support for the Company's healthcare, life sciences, food and beverage and certain water businesses. The Company incurred charges of \$1.4 million (\$1.1 million after tax) and \$13.1 million (\$12.6 million after tax) during 2023 and 2022, respectively, primarily related to recoverability risk of certain assets in both Russia and Ukraine.

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Other operating activities

Other operating activities recorded in special charges to cost of \$24.1 million sales on the Consolidated Statements of Income of \$16.3 million (\$18.2 million after tax) in 2022 \$18.4 million and \$65.0 million (\$14.1 million after tax) in 2021 and \$34.7 million (\$33.9 million after tax) in 2020 relate primarily to legal reserves and certain legal charges, which are COVID-19 activities.

Other operating activities recorded in special (gains) and charges on the Consolidated Statements of Income. In 2020, other income of \$30.7 million (\$23.3 million after tax) in 2023 relate primarily to certain legal charges. Other operating activities recorded in special charges of \$24.4 million (\$16.0 million after tax) were recorded in product (gains) and equipment cost of sales charges on the Consolidated Statements of Income related of \$34.3 million (\$25.7 million after tax) in 2022 and \$60.8 million (\$46.4 million after tax) in 2021 relate primarily to a Healthcare product recall in Europe.

The Company also recorded a \$7.2 million special charge in 2020 related to the separation of ChampionX as a tax expense on the Consolidated Statements of Income. COVID-19 activities and certain legal charges.

Other (income) expense

During 2022 and 2021, the Company incurred pension settlement expense recorded in other (income) expense on the Consolidated Statements of Income of \$50.6 million (\$38.2 million after tax) and \$37.2 million (\$28.7 million after tax), respectively, related to U.S. pension plan lump-sum payments to retirees.

Interest expense, net

During 2021, and 2020, the Company recorded special charges of \$32.3 million (\$28.4 million after tax) and \$83.1 million (\$64.0 million after tax), respectively, in interest expense on the Consolidated Statements of Income related to debt issuance and refinancing charges.

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4. ACQUISITIONS AND DISPOSITIONS

Acquisitions

The Company makes business acquisitions that align with its strategic business objectives. The assets and liabilities of acquired businesses are recorded in the Consolidated Balance Sheets based on estimates of the fair value of assets acquired, liabilities assumed and noncontrolling interests acquired as of the acquisition date. Goodwill is recognized in the amount that the purchase consideration paid exceeds the fair value of the net assets acquired. Purchase consideration includes both cash paid and the fair value of noncash consideration exchanged, including stock and/or contingent consideration exchanged, and is reduced by the amount of cash or cash equivalents acquired. Acquisitions during 2021 2023, 2022 and 2020 2021 were not significant to the Company's consolidated financial statements; therefore, pro forma financial information is not presented.

2023 Activity

In November 2023, the Company acquired Flottec, LLC, a U.S.-based provider of flotation products and services for the mineral processing industry. The move will expand Nalco Water's flotation offerings and its work to serve the industry from mine to metal. The acquisition became part of the Global Industrial reporting segment. The purchase accounting for this acquisition is preliminary and subject to change as the Company finalizes the valuation of intangible assets, income tax balances and working capital. The goodwill arising from the acquisition of Flottec, LLC is tax deductible.

In May 2023, the Company acquired Chemlink Laboratories LLC, a U.S.-based producer of small format cleaning solutions. The Company made two other immaterial acquisitions during the second quarter of 2023. All three acquisitions became part of the Global Institutional & Specialty reporting segment. The purchase accounting for these acquisitions are preliminary and subject to change as the Company finalizes the valuation of intangible assets, income tax balances and working capital. The goodwill arising from the acquisition of Chemlink Laboratories LLC is tax deductible.

2022 Activity

No acquisitions occurred during 2022.

2021 Activity

Purolite Acquisition

On December 1, 2021, the Company acquired Purolite for total consideration of \$3,706 million in cash, net of cash acquired. Purolite is a US-based business that is a leading and fast-growing global provider of resins for the separation and purification of solutions that is highly complementary to the Company's current offering and critical to safe, high quality drug production and biopharma product purification in the life sciences industries. It also provides purification and separation solutions for critical industrial markets like microelectronics, nuclear power and food and beverage. Prior to acquisition, Purolite prepared its consolidated financial statements pursuant to the requirements of UK GAAP.

The Purolite acquisition has been accounted for as a business combination with the assets acquired and liabilities assumed recognized at fair value as of the acquisition date. The fair values of intangible assets acquired were estimated using discounted cash flow analyses appropriate in the circumstances for the nature of the assets being valued. The valuation models incorporated projections of future cash flows and other valuation assumptions. Significant inputs and assumptions used in the Company's customer relationship intangible asset valuations include projected revenues, contributory asset charges, tax savings due to amortization, income tax rates, customer attrition rates and discount rates. Significant inputs and assumptions used in the Company's tradename and acquired technology intangible asset valuations include projected revenues, future asset utilities, royalty rates, tax saving due to amortization, income tax rates and discount rates.

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The Company incurred certain transaction and integration costs associated with the acquisition that were expensed and were recorded in the Consolidated Statements of Income. Further information related to the Company's special (gains) and charges is included in Note 3.

Purolite purchase accounting was finalized in the fourth quarter of 2022. The following table summarizes the final value of Purolite assets acquired and liabilities assumed, net of cash acquired, as of the acquisition date:

(millions)	December 1, 2021
Tangible assets	\$361.9
Identifiable intangible assets	
Customer relationships	870.0
Other technologies	285.0
Trademarks	73.0
Total assets acquired	1,589.9
Goodwill	2,260.6
Total liabilities	144.8
Total consideration transferred to sellers, net of cash acquired	\$3,705.7

During 2022, the Company recorded purchase accounting adjustments associated with the finalization of the purchase accounting for its acquisition of Purolite. As a result of these purchase accounting adjustments, the Company made \$7.2 million of acquisition-related payments, acquisition related net tangible assets decreased by \$54.0 million, definite-lived intangible assets decreased by \$185.4 million and goodwill increased by \$246.6 million.

Tangible assets acquired primarily consist of accounts receivable of \$61.6 million, property, plant and equipment of \$156.5 million and inventory of \$122.4 million. Liabilities assumed primarily consist of deferred tax liabilities of \$38.2 million and current liabilities of \$77.6 million. Identified intangible assets primarily consist of customer relationships, acquired technologies, and trade names and are being amortized over weighted average lives of 17, 14, and 5 years, respectively, with a weighted average life of 15 years.

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Goodwill of \$2,260.6 million arising from the acquisition consists largely of the synergies and economies of scale expected through adding complementary geographies and innovative products to the Company's Life Sciences businesses. Purolite became part of the Global Healthcare & Life Sciences reportable segment. Goodwill of \$2,146.3 million is deductible for income tax purposes.

Other Acquisitions

In December 2020, the Company acquired VanBaerle Hygiene AG ("VanBaerle"), a Switzerland-based business which sells cleaning products and related services to restaurants, long-term care facilities, hotels and laundries primarily for institutional applications. VanBaerle became part of the Global Institutional & Specialty reporting segment. The purchase price included immaterial amounts of holdback and contingent consideration, the remaining amounts of which were settled prior to December 31, 2022. Purchase accounting was finalized in the fourth quarter of 2021.

In February 2021, the Company acquired TechTex Holdings Limited ("TechTex"), a U.K.-based business which sells wet and dry wipes and other nonwovens products primarily for life sciences and healthcare applications. TechTex became part of the Global Healthcare & Life Sciences reporting segment. The purchase price included an immaterial holdback amount that was settled prior to December 31, 2021. Purchase accounting was finalized in the first quarter of 2022.

In July 2021, the Company acquired National Wiper Alliance, Inc. ("NWA"), a U.S.-based business which sells wipes for healthcare and institutional applications. NWA became part of the Global Healthcare & Life Sciences reporting segment. Purchase accounting was finalized in the third quarter of 2022.

In September 2021, the Company acquired EPN Water Col, Ltd. ("EPN"), a South Korean-based business which sells chemical products and manages installations at water treatment chemical injection facilities. EPN became part of the Global Industrial reporting segment. Purchase accounting was finalized in the fourth quarter of 2022.

The goodwill related to the acquisitions of VanBaerle, TechTex or EPN is not tax deductible, whereas the goodwill arising from the acquisition of NWA is tax deductible.

2020 Activity

CID Lines Acquisition

On May 11, 2020, the Company acquired CID Lines for total consideration of \$506.9 million in cash, net of cash acquired. CID Lines, a Belgian-based business is a leading global provider of livestock biosecurity and hygiene solutions.

The CID Lines acquisition has been accounted for as a business combination with the assets acquired and liabilities assumed recognized at fair value as of the acquisition date. The Company incurred certain transaction and integration costs associated with the acquisition that were expensed and recorded in the Consolidated Statements of Income. Further information related to the Company's special (gains) and charges is included in Note 3.

CID Lines purchase accounting was finalized in the second quarter of 2021. The following table summarizes the final value of CID Lines assets acquired and liabilities assumed, net of cash acquired, as of the acquisition date:

(millions)	May 11, 2020
Tangible assets	\$54.1
Identifiable intangible assets	
Customer relationships	147.5
Trademarks	58.6
Acquired technologies and product registrations	47.7

Total assets acquired	307.9
Goodwill	274.8
Total liabilities	97.2
Total consideration transferred to sellers, net of cash acquired	\$485.5

Tangible assets acquired primarily consist of accounts receivable of \$30.1 million, property, plant and equipment of \$7.7 million and inventory of \$16.3 million. Liabilities assumed primarily consist of deferred tax liabilities of \$64.8 million and current liabilities of \$32.4 million. Identified intangible assets primarily consist of customer relationships, trademarks, and acquired technology and product registrations and are being amortized over weighted average lives of 14, 14, and 16 years, respectively, with a weighted average life of 14 years.

Goodwill of \$274.8 million arising from the acquisition consists largely of the synergies and economies of scale expected through adding complementary geographies and innovative products to the Company's Food and Beverage businesses. CID Lines became part of the Global Industrial reportable segment. None of the goodwill recognized from the acquisition is expected to be deductible for income tax purposes.

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During 2021, the Company recorded purchase accounting adjustments associated with the finalization of the purchase accounting for its acquisition of CID Lines. As a result of these adjustments, the Company decreased goodwill recognized from the acquisition of CID Lines by \$0.9 million.

Acquisitions

The components of the cash paid for other acquisitions, excluding the Purolite and CID Lines acquisitions acquisition (as further disclosed above), for 2023, 2022, 2021 and 2020, 2021, are shown in the following table:

(millions)	2022	2021	2020	2023	2022	2021
Net tangible assets acquired	\$-	\$3.6	\$-	\$20.8	\$-	\$3.6
Identifiable intangible assets						
Customer relationships	-	75.0	-	60.8	-	75.0
Trademarks	-	4.7	-	-	-	4.7
Non-compete agreements	-	3.0	-	2.1	-	3.0
Other technologies	-	1.5	-	25.8	-	1.5
Total intangible assets	-	84.2	-	88.7	-	84.2
Goodwill	-	140.6	-	70.2	-	140.6
Total aggregate purchase price	-	228.4	-	179.7	-	228.4
Acquisition-related liabilities and contingent consideration (a)	-	(4.4)	-	(3.9)	-	(4.4)
Total cash paid for acquisitions, including acquisition-related liabilities and contingent consideration, net of cash acquired	\$-	\$224.0	\$-	\$175.8	\$-	\$224.0

(a) Subsequent to the acquisitions, \$1.4 in contingent consideration was remitted to the seller during 2021 and is included in investing activities on the Consolidated Statement Statements of Cash Flows.

During 2023, the Company recorded purchase accounting adjustments. As a result of these purchase accounting adjustments, the Company made \$4.1 million of acquisition-related payments, acquisition related net tangible assets increased by \$1.7 million, acquisition related liabilities and contingent consideration decreased by \$1.7 million and goodwill increased by \$0.7 million.

During 2022, the Company recorded purchase accounting adjustments associated with the finalization of the purchase accounting for its acquisitions of TechTex, NWA and EPN. As a result of these purchase accounting adjustments, acquisition related net tangible assets decreased by \$1.6 million, definite-lived intangible assets decreased by \$5.6 million, and goodwill increased by \$7.2 million.

The weighted average useful lives of definite-lived identifiable intangible assets acquired from other acquisitions during 2023 and 2021 were 12 and 13 years, for acquisitions completed in 2021, respectively. No intangible assets were acquired during 2022.

Dispositions

In the second quarter of 2020, the Company completed the sale of Holchem, a U.K.-based supplier of hygiene and cleaning products and services for the food and beverage, foodservice and hospitality industries for total consideration of \$106.6 million. Consideration consisted of \$55.4 million of cash and the receipt of notes valued at \$51.2 million from the acquirer. In the fourth quarter of 2020, all outstanding principal and interest on the notes was paid by the acquirer. After the recognition of transaction costs, the Company recognized an after-tax loss of \$12.8 million, which was classified within special charges in the Consolidated Statements of Income. Holchem was included in the Global Industrial reportable segment prior to disposition.

As discussed in Note 5, the ChampionX separation met the criteria to be reported as discontinued operations. No other dispositions were significant to the Company's consolidated financial statements for 2023, 2022 2021 or 2020, 2021.

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5. DISCONTINUED OPERATIONS

On June 3, 2020, the Company effected the split-off of ChampionX through an offer to exchange (the "Exchange Offer") all shares of ChampionX common stock owned by Ecolab for outstanding shares of Ecolab common stock. In the Exchange Offer, which was oversubscribed, the Company accepted approximately 5.0 million shares of Ecolab common stock in exchange for approximately 122.2 million shares of ChampionX common stock. In the Merger, each outstanding share of ChampionX common stock was converted into the right to receive one share of Apergy common stock, and ChampionX survived the Merger as a wholly owned subsidiary of ChampionX Corporation. In connection with and in accordance with the terms of the Transaction, prior to the consummation of the Exchange Offer and the Merger, ChampionX distributed \$527.4 million in cash to Ecolab.

The following is a summary of the assets and liabilities transferred to ChampionX as part of the separation:

(millions)	
Assets:	
Cash and cash equivalent	\$60.6
Current assets	810.5
Non-current assets	3,222.3
	4,093.4

Liabilities:	
Current liabilities	313.0
Non-current liabilities	293.7
	606.7
Net assets distributed to ChampionX	(\$3,486.7)
Fair value of shares exchanged	1,051.4
Cash received from ChampionX	527.4
Consideration received less net assets	(1,907.9)
ChampionX cumulative translation adjustment ("CTA") write-off	(229.9)
Loss on separation	(\$2,137.8)

The Company accounted for this transaction as a sale and recognized a loss based on ChampionX net assets exceeding the effective proceeds.

The ChampionX business, as discussed in Note 1, met the criteria to be reported as discontinued operations because the separation of the ChampionX business was a strategic shift in business that had a major effect on the Company's operations and financial results. The historical financial results of the ChampionX business are reflected in the Company's consolidated financial statements as discontinued operations, for all periods presented, and assets and liabilities were retrospectively reclassified as assets and liabilities of discontinued operations.

Summarized results of the Company's discontinued operations are as follows:

(millions)	2022	2021	2020
Product and equipment sales	\$-	\$-	\$858.9
Service and lease sales	-	-	99.6
Net sales	-	-	958.5
Product and equipment cost of sales	-	-	621.7
Service and lease cost of sales	-	-	80.4
Cost of sales (including special charges)	-	-	702.1
Selling, general and administrative expenses	-	-	180.5
Special (gains) and charges	-	-	2,221.7
Operating income	-	-	(2,145.8)
Other (income) expense	-	-	0.3
Interest expense (income), net	-	-	0.2
Income before income taxes	-	-	(2,146.3)
Provision for income taxes	-	-	24.0
Net loss including noncontrolling interest	-	-	(2,170.3)
Net income attributable to noncontrolling interest	-	-	2.2
Net loss from discontinued operations, net of tax	\$-	\$-	(\$2,172.5)

Special (gains) and charges of \$2,221.7 million in 2020 primarily relate to the loss on sale, professional fees incurred to support the Transaction and restructuring charges specifically related to the ChampionX business. These charges have been included as a component of both cost of sales and special (gains) and charges in discontinued operations.

The Company also recognized discrete tax expense primarily related to friction costs associated with ChampionX separation activity of \$22.7 million during 2020 that is allocated within discontinued operations tax expense.

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In connection with the Transaction, the Company entered into agreements with ChampionX and Apergy to effect the separation and to provide a framework for the relationship following the separation, which included a Separation and Distribution Agreement, an Intellectual Property Matters Agreement, an Employee Matters Agreement, a Transition Services Agreement, and a Tax Matters Agreement. Transition services primarily involve the Company providing certain services to ChampionX related to general and administrative services for terms of up to 18 months following the separation. The amounts billed for transition services provided under the above agreements were \$12.5 million and \$14.3 million during 2021 and 2020, respectively.

The Company also entered into a Master Cross Supply and Product Transfer agreement with ChampionX to provide, receive or transfer certain products for a period up to 36 months. Sales of product to ChampionX under this agreement are recorded in product and equipment sales in the Corporate segment along with the related cost of sales, while purchases from ChampionX are recorded in inventory. Sales of product to ChampionX post-separation for 2022, 2021 and 2020 were \$124.0 million, \$139.4 million and \$99.7 million, respectively. As of December 31, 2022, the Company had an outstanding accounts receivable balance for sales of product to ChampionX of \$12.9 million.

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6.5. BALANCE SHEET INFORMATION

(millions)	December 31 2022	December 31 2021	December 31 2023	December 31 2022
Accounts receivable, net				
Accounts receivable	\$2,829.0	\$2,549.9	\$2,983.2	\$2,829.0
Allowance for expected credit losses and other accruals	(130.9)	(71.5)	(149.0)	(130.9)
Total	\$2,698.1	\$2,478.4	\$2,834.2	\$2,698.1
Inventories				
Finished goods	\$1,122.7	\$1,010.6	\$911.4	\$1,122.7
Raw materials and parts	849.2	596.1	704.7	849.2
Inventories at FIFO cost	1,971.9	1,606.7	1,616.1	1,971.9
FIFO cost to LIFO cost difference	(179.1)	(114.9)	(118.9)	(179.1)
Total	\$1,792.8	\$1,491.8	\$1,497.2	\$1,792.8
Other current assets				
Prepaid assets	\$123.9	\$121.2	\$143.9	\$123.9
Taxes receivable	184.1	151.3	186.9	184.1
Derivative assets	57.5	61.4	3.3	57.5
Other	39.2	23.1	59.1	39.2
Total	\$404.7	\$357.0	\$393.2	\$404.7

Property, plant and equipment, net				
Land	\$161.3	\$159.2	\$155.6	\$161.3
Buildings and leasehold improvements	1,126.9	1,134.1	1,171.0	1,126.9
Machinery and equipment	1,966.3	1,968.7	2,113.8	1,966.3
Merchandising and customer equipment	2,635.5	2,708.2	2,758.4	2,635.5
Capitalized software	962.1	884.6	985.9	962.1
Construction in progress	403.8	325.0	470.1	403.8
	7,255.9	7,179.8	7,654.8	7,255.9
Accumulated depreciation	(3,962.5)	(3,891.3)	(4,180.2)	(3,962.5)
Total	\$3,293.4	\$3,288.5	\$3,474.6	\$3,293.4
Other intangible assets, net				
Intangible assets not subject to amortization				
Trade names	\$1,230.0	\$1,230.0	\$1,230.0	\$1,230.0
Intangible assets subject to amortization				
Customer relationships	3,292.8	3,444.6	3,385.1	3,292.8
Patents	497.0	496.3	503.6	497.0
Trademarks	404.0	561.1	406.5	404.0
Other technologies	518.8	527.2	551.2	518.8
	4,712.6	5,029.2	4,846.4	4,712.6
Accumulated amortization				
Customer relationships	(1,581.7)	(1,440.9)	(1,805.0)	(1,581.7)
Patents	(292.3)	(269.3)	(319.4)	(292.3)
Trademarks	(202.5)	(170.3)	(238.0)	(202.5)
Other technologies	(185.4)	(154.6)	(220.5)	(185.4)
	(2,261.9)	(2,035.1)	(2,582.9)	(2,261.9)
Net intangible assets subject to amortization	2,450.7	2,994.1	2,263.5	2,450.7
Total	\$3,680.7	\$4,224.1	\$3,493.5	\$3,680.7
Other assets				
Deferred income taxes	\$108.1	\$120.6	\$119.3	\$108.1
Pension	118.4	114.6	118.4	118.4
Derivative asset	44.5	29.4	23.6	44.5
Other	264.1	281.4	271.4	264.1
Total	\$535.1	\$546.0	\$532.7	\$535.1

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	December 31 2022	December 31 2021	December 31 2023	December 31 2022
(millions)				
Other current liabilities				
Discounts and rebates	\$357.8	\$341.1	\$438.8	\$357.8

Dividends payable	150.8	146.3	162.7	150.8
Interest payable	58.7	47.7	68.5	58.7
Taxes payable, other than income	162.9	154.2	153.2	162.9
Derivative liabilities	21.9	-		
Derivative liability			3.7	21.9
Restructuring	100.6	39.1	48.9	100.6
Contract liability	116.5	91.7	110.9	116.5
Operating lease liabilities	108.3	115.1	126.1	108.3
Other	208.4	209.0	222.1	208.4
Total	\$1,285.9	\$1,144.2	\$1,334.9	\$1,285.9
Accumulated other comprehensive income (loss)				
Unrealized gain (loss) on derivative financial instruments, net of tax	\$3.7	\$4.9		
Unrealized (loss) gain on derivative financial instruments, net of tax			(\$4.1)	\$3.7
Unrecognized pension and postretirement benefit expense, net of tax	(467.4)	(632.8)	(534.7)	(467.4)
Cumulative translation, net of tax	(1,262.9)	(1,006.9)	(1,311.6)	(1,262.9)
Total	(\$1,726.6)	(\$1,634.8)	(\$1,850.4)	(\$1,726.6)

7.6. DEBT AND INTEREST

Short-term Debt

The following table provides the components of the Company's short-term debt obligations, along with applicable interest rates as of December 31, 2022 December 31, 2023 and 2021: 2022:

(millions)		2022		2021		2023		2022	
		Average		Average		Average		Average	
		Carrying	Interest	Carrying	Interest	Carrying	Interest	Carrying	Interest
		Value	Rate	Value	Rate	Value	Rate	Value	Rate
Short-term debt									
Commercial paper		\$-	- %	\$400.0	0.28 %	\$-	- %	\$-	- %
Notes payable		3.7	7.28 %	8.5	7.95 %	1.8	8.29 %	3.7	7.28 %
Long-term debt, current maturities		501.4		2.5		628.6		501.4	
Total		\$505.1		\$411.0		\$630.4		\$505.1	

Line of Credit

As of December 31, 2022 December 31, 2023, the Company had in place a \$2.0 billion multi-currency revolving credit facility which expires in April 2026. The credit facility has been established with a diverse syndicate of banks and supports the Company's U.S. and Euro commercial paper programs. There were no borrowings under the Company's credit facility as of December 31, 2022 December 31, 2023 and 2021: 2022.

The Company has \$337 million \$346 million of available bank supported letters of credit, surety bonds and guarantees available in support of its commercial business transactions of which \$144 million \$155 million is outstanding as of December 31, 2022 December 31, 2023.

Commercial Paper

The Company's commercial paper program is used as a potential source of liquidity and consists of a \$2.0 billion U.S. commercial paper program and a \$2.0 billion Euro commercial paper program. The maximum aggregate amount of commercial paper that may be issued by the Company under its commercial paper programs may not exceed \$2.0 billion.

The Company had \$400 million no outstanding commercial paper under its U.S. program and Euro commercial paper programs as of December 31, 2021, December 31, 2023 and 2022.

As of December 31, 2022 December 31, 2023, the Company's short-term borrowing program was rated A-2 by Standard & Poor's, P-2 by Moody's and F-1 by Fitch.

Notes Payable

The Company's notes payable consists of uncommitted credit lines with major international banks and financial institutions, primarily to support global cash pooling structures. As of December 31, 2022 December 31, 2023 and 2021, 2022, the Company had \$3.7 million \$1.8 million and \$8.5 million \$3.7 million, respectively, outstanding under these credit lines. Approximately \$1,925 million \$1,829 million and \$1,628 million \$1,925 million of these credit lines were available for use as of December 31, 2022 December 31, 2023 and 2021, 2022, respectively.

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Long-term Debt

The following table provides the components of the Company's long-term debt obligations, along with applicable interest rates as of December 31, 2022 December 31, 2023 and 2021, 2022:

(millions)	Maturity by Year	2022			2021			Maturity by Year	2023			2022		
		Stated		Effective	Stated		Effective		Stated		Effective	Stated		Effective
		Carrying Value	Interest Rate	Interest Rate	Carrying Value	Interest Rate	Interest Rate		Carrying Value	Interest Rate	Interest Rate	Carrying Value	Interest Rate	Interest Rate
Long-term debt														
Public notes (2022 principal amount)														
Public notes (2023 principal amount)														
Two year 2021 senior notes (\$500 million)	2023	\$498.7	0.90 %	1.19 %	\$497.2	0.90 %	1.19 %	2023	\$-	- %	- %	\$498.7	0.90 %	1.19 %
Seven year 2016 senior notes (\$575 million)	2024	596.9	1.00 %	1.03 %	649.3	1.00 %	1.19 %	2024	625.9	1.00 %	1.19 %	596.9	1.00 %	1.03 %
Ten year 2015 senior notes (\$575 million)	2025	596.7	2.63 %	2.81 %	649.7	2.63 %	2.87 %	2025	625.1	2.63 %	2.88 %	596.7	2.63 %	2.81 %
Ten year 2016 senior notes (\$750 million)	2026	721.1	2.70 %	3.21 %	744.9	2.70 %	2.89 %	2026	728.2	2.70 %	4.07 %	721.1	2.70 %	3.21 %

Ten year 2017 senior notes (\$500 million)	2027	433.9 3.25 % 4.77 %	488.4 3.25 % 2.89 %	2027	448.3 3.25 % 8.43 %	433.9 3.25 % 4.77 %
Six Year 2021 senior notes (\$500 million)	2027	496.5 1.65 % 1.83 %	495.7 1.65 % 1.84 %	2027	497.4 1.65 % 1.83 %	496.5 1.65 % 1.83 %
Five Year 2022 senior notes (\$500 million)	2028	492.7 5.25 % 5.36 %	- - % - %	2028	494.2 5.25 % 5.60 %	492.7 5.25 % 5.36 %
Ten year 2020 senior notes (\$698 million)	2030	653.5 4.80 % 3.72 %	709.1 4.80 % 4.06 %	2030	662.7 4.80 % 6.19 %	653.5 4.80 % 3.72 %
Ten year 2020 senior notes (\$600 million)	2031	555.2 1.30 % 1.70 %	593.4 1.30 % 1.39 %	2031	561.0 1.30 % 3.21 %	555.2 1.30 % 1.70 %
Eleven year 2021 senior notes (\$650 million)	2032	644.6 2.13 % 2.24 %	644.0 2.13 % 2.24 %	2032	645.2 2.13 % 2.06 %	644.6 2.13 % 2.24 %
Thirty year 2011 senior notes (\$389 million)	2041	384.5 5.50 % 5.62 %	384.3 5.50 % 5.63 %	2041	384.7 5.50 % 5.62 %	384.5 5.50 % 5.62 %
Thirty year 2016 senior notes (\$200 million)	2046	197.3 3.70 % 3.81 %	197.2 3.70 % 3.81 %	2046	197.4 3.70 % 3.80 %	197.3 3.70 % 3.81 %
Thirty year 2017 senior notes (\$484 million)	2047	425.5 3.95 % 4.79 %	424.3 3.95 % 4.80 %	2047	426.8 3.95 % 4.79 %	425.5 3.95 % 4.79 %
Thirty year 2020 senior notes (\$500 million)	2050	490.7 2.13 % 2.23 %	490.4 2.13 % 2.24 %	2050	491.1 2.13 % 2.23 %	490.7 2.13 % 2.23 %
Thirty year 2021 senior notes (\$850 million)	2051	838.9 2.70 % 2.78 %	838.5 2.70 % 2.78 %	2051	839.3 2.70 % 2.78 %	838.9 2.70 % 2.78 %
Thirty-four year 2021 senior notes (\$685 million)	2055	537.2 2.75 % 3.86 %	535.3 2.75 % 3.87 %	2055	539.2 2.75 % 3.86 %	537.2 2.75 % 3.86 %
Finance lease obligations and other		12.8	8.0		13.5	12.8
Total debt		8,576.7	8,349.7		8,180.0	8,576.7
Long-term debt, current maturities		(501.4)	(2.5)		(628.6)	(501.4)
Total long-term debt		\$8,075.3	\$8,347.2		\$7,551.4	\$8,075.3

Public Notes

In November 2022, the Company issued \$500 million in aggregate principal five year fixed rate notes with a coupon rate of 5.25% ("New 5-Year Note"). The proceeds are intended to be used for general corporate purposes, which may include, without limitation, repayment of commercial paper borrowings or other indebtedness. The notes mature January 2028.

In December 2021, the Company issued \$2.5 billion in notes to repay the \$3.0 billion delayed draw term loan used to fund the Purolite acquisition. These notes were comprised of \$500 million 0.9% notes due 2023, \$500 million 1.65% notes due 2027, \$650 million 2.125% notes due 2032, and \$850 million 2.7% notes due 2051.

In August 2021, the Company completed a private offering of a \$300 million aggregate principal 34-year fixed rate notes with a coupon rate of 2.75% ("New 34-year Notes"). Immediately following the offering, the Company completed a private offering to exchange a portion of the outstanding senior notes due 2030, 2041, 2046, 2047 ("Old Notes"), for \$385 million of New 34-year Notes. In connection with the exchange offering, \$387 million of Old Notes were validly tendered and subsequently cancelled.

During the fourth quarter of 2021, pursuant to a registration rights agreement pertaining to the New 34-year Notes, the Company filed a registration statement regarding an offer to exchange each series of the New 34-year Notes for new issues of notes registered under the U.S. Securities Act of 1933, as amended. The registration statement was declared effective, and substantially all of the New 34-year Notes were exchanged. The terms of each series of the new notes are substantially identical to the terms of the applicable series of New 34-year Notes, except that the new notes are registered as mentioned above and the transfer restrictions and registration rights and related special interest provisions applicable to the New 34-year Notes do not apply to the new notes.

The New 34-year Notes bear a lower fixed coupon rate on an extended maturity date, compared with the Old Notes that were exchanged. There were no other significant changes to the terms between the Old Notes and the New 34-year Notes. The exchange was accounted for as a debt modification, and there were cash payments to the note holders of \$118 million as a result of the exchange. Existing deferred financing costs associated with the Old Notes, as well as discounts associated with the New 34-year Notes aggregating \$143 million, are being amortized over the term of the New 34-year Notes and recorded as interest expense.

In September 2021, the Company completed the retirement of the \$500 million 2.375% Notes due 2022 and the \$400 million 3.25% Notes due 2023 which was accounted for as a debt extinguishment. A make-whole premium of \$25.0 million was expensed immediately and is reflected as a financing cash flow activity.

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The Company's public notes may be redeemed by the Company at its option at redemption prices that include accrued and unpaid interest and a make-whole premium. Upon the occurrence of a change of control accompanied by a downgrade of the public notes below investment grade rating, within a specified time period, the Company would be required to offer to repurchase the public notes at a price equal to 101% of the aggregate principal amount thereof, plus any accrued and unpaid interest to the date of repurchase. The public notes are senior unsecured and unsubordinated obligations of the Company and rank equally with all other senior and unsubordinated indebtedness of the Company.

In January 2024, the Company repaid €575 million (\$630 million) of long-term debt.

Covenants and Future Maturities

The Company is in compliance with all covenants under the Company's outstanding indebtedness at December 31, 2022 December 31, 2023.

As of December 31, 2022 December 31, 2023, the aggregate annual maturities of long-term debt for the next five years were:

(millions)		
2023	\$501	
2024	607	\$629
2025	597	634
2026	721	729
2027	930	946

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Net Interest Expense

Interest expense and interest income incurred during 2023, 2022, 2021 and 2020, 2021 were as follows:

(millions)	2022	2021	2020	2023	2022	2021
Interest expense	\$252.1	\$230.6	\$304.8	\$348.9	\$252.1	\$230.6
Interest income	(8.5)	(12.3)	(14.6)	(52.2)	(8.5)	(12.3)
Interest expense, net	\$243.6	\$218.3	\$290.2	\$296.7	\$243.6	\$218.3

Interest expense generally includes the expense associated with the interest on the Company's outstanding borrowings. Interest expense also includes the amortization of debt issuance costs and debt discounts, which are both recognized over the term of the related debt.

During 2021, the Company issued, exchanged and retired certain long-term debt, incurring debt refinancing charges of \$32.3 million (\$28.4 million after tax), which are included as a component of interest expense, net on the Consolidated Statements of Income.

During 2020, the Company retired certain long-term debt, and incurred debt refinancing charges of \$83.1 million (\$64.0 million after tax), which are included as a component of interest expense, net on the Consolidated Statements of Income.

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8.7. FAIR VALUE MEASUREMENTS

The Company's financial instruments include cash and cash equivalents, accounts receivable, accounts payable, contingent consideration obligations, commercial paper, notes payable, foreign currency forward contracts, interest rate swap agreements, cross-currency swap derivative contracts and long-term debt.

Fair value is defined as the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date. A hierarchy has been established for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring the most observable inputs be used when available. The hierarchy is broken down into three levels:

Level 1 - Inputs are quoted prices in active markets that are accessible at the measurement date for identical assets or liabilities.

Level 2 - Inputs include observable inputs other than quoted prices in active markets.



Level 3 - Inputs are unobservable inputs for which there is little or no market data available.

The carrying amount and the estimated fair value for assets and liabilities measured on a recurring basis were:

(millions)	December 31, 2022				December 31, 2023			
	Carrying Amount	Fair Value Measurements			Carrying Amount	Fair Value Measurements		
		Level 1	Level 2	Level 3		Level 1	Level 2	Level 3
Assets								
Foreign currency forward contracts	\$118.9	\$-	\$118.9	\$-	\$26.6	\$-	\$26.6	\$-
Cross-currency swap derivative contracts	58.7	-	58.7	-	29.1	-	29.1	-
Liabilities								
Foreign currency forward contracts	83.3	-	83.3	-	27.0	-	27.0	-
Interest rate swap agreements	181.4	-	181.4	-	146.5	-	146.5	-
Cross-currency swap derivative contracts	14.5	-	14.5	-	24.9	-	24.9	-

(millions)	December 31, 2021				December 31, 2022			
	Carrying Amount	Fair Value Measurements			Carrying Amount	Fair Value Measurements		
		Level 1	Level 2	Level 3		Level 1	Level 2	Level 3
Assets								
Foreign currency forward contracts	\$94.5	\$-	\$94.5	\$-	\$118.9	\$-	\$118.9	\$-
Interest rate swap agreements	1.8	-	1.8	-				
Cross-currency swap derivative contracts	9.4	-	9.4	-	58.7	-	58.7	-
Liabilities								
Foreign currency forward contracts	12.6	-	12.6	-	83.3	-	83.3	-
Interest rate swap agreements	10.1	-	10.1	-	181.4	-	181.4	-
Cross-currency swap derivative contracts	1.6	-	1.6	-	14.5	-	14.5	-

The carrying value of foreign currency forward contracts are is at fair value, which are is determined based on foreign currency exchange rates as of the balance sheet date and classified within Level 2. The carrying value of interest rate swap agreements are is at fair value, which are is determined based on current forward interest rates as of the balance sheet date and are classified within Level 2. The cross-currency swap derivative contracts are used to partially hedge the Company's net investments in foreign operations against adverse movements in exchange rates between the U.S. dollar and the Euro, Euro and the U.S. dollar and CNH (CNH is the Chinese Yuan traded in the offshore market). The carrying value of the cross-currency swap derivative contracts are is at fair value, which are is determined based on the income approach with the relevant interest rates and foreign currency current exchange rates and forward curves as inputs as of the balance sheet date and are classified within Level 2. For purposes of fair value disclosure above, derivative values are presented gross. Further discussion of gross versus net presentation of the Company's derivatives within Note 9, 8.

Contingent consideration obligations are recognized and measured at fair value at the acquisition date and thereafter until settlement or expiration. Contingent consideration is classified within Level 3 as the underlying fair value is determined using income-based valuation approaches appropriate for the terms and conditions of each respective contingent consideration. The consideration expected to be transferred is based on the Company's expectations of various financial measures. The ultimate payment of

contingent consideration could deviate from current estimates based on the actual results of these financial measures. Contingent consideration during 2023, 2022, 2021 and 2020, 2021 were not significant to the Company's consolidated financial statements.

The carrying values of accounts receivable, accounts payable, cash and cash equivalents, commercial paper and notes payable approximate fair value because of their short maturities, and as such are classified within Level 1.

The fair value of long-term debt is based on quoted market prices for the same or similar debt instruments (classified as Level 2). The carrying amount, which includes adjustments related to the impact of interest rate swap agreements, premiums and discounts, and deferred debt issuance costs, and the estimated fair value of long-term debt, including current maturities, held by the Company were: was:

	December 31, 2022		December 31, 2021	
	Carrying	Fair	Carrying	Fair
	Amount	Value	Amount	Value
Long-term debt, including current maturities	\$8,576.6	\$7,643.6	\$8,349.7	\$9,085.3

	December 31, 2023		December 31, 2022	
	Carrying	Fair	Carrying	Fair
	Amount	Value	Amount	Value
Long-term debt, including current maturities	\$8,180.0	\$7,552.5	\$8,576.7	\$7,643.6

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9.8. DERIVATIVES AND HEDGING TRANSACTIONS

The Company uses foreign currency forward contracts, interest rate swap agreements, cross-currency swap derivative contracts and foreign currency debt to manage risks associated with foreign currency exchange rates, interest rates and net investments in foreign operations. The Company does not hold derivative financial instruments of a speculative nature or for trading purposes. The Company records derivatives as assets and liabilities on in the balance sheet Consolidated Balance Sheets at fair value. Changes in fair value are recognized immediately in earnings unless the derivative qualifies and is designated as a hedge. Cash flows from derivatives are classified in the statement Consolidated Statements of cash flows Cash Flows in the same category as the cash flows from the items subject to designated hedge or undesignated (economic) hedge relationships. The Company evaluates hedge effectiveness at inception and on an ongoing basis. If a derivative is no longer expected to be effective, hedge accounting is discontinued.

The Company is exposed to credit risk in the event of nonperformance of counterparties for foreign currency forward exchange contracts and interest rate swap agreements. The Company monitors its exposure to credit risk by using credit approvals and credit limits and by selecting major global banks and financial institutions as counterparties. The Company does not anticipate nonperformance by any of these counterparties, and therefore, recording a valuation allowance against the Company's derivative balance is not considered necessary.

Derivative Positions Summary

Certain of the Company's derivative transactions are subject to master netting arrangements that allow the Company to net settle contracts with the same counterparties. These arrangements generally do not call for collateral and as of the applicable dates presented in the following table, no cash collateral had been received or pledged related to the underlying derivatives.

The respective net amounts are included in other current assets, other assets, other current liabilities and other liabilities on the Consolidated Balance Sheets.

The following table summarizes the gross fair value and the net value of the Company's outstanding derivatives:

Derivative Assets	Derivative Liabilities	Derivative Assets	Derivative Liabilities

	December 31 2022	December 31 2021	December 31 2022	December 31 2021		December 31 2023	December 31 2022	December 31 2023	December 31 2022
(millions)									
Derivatives designated as hedging instruments									
Foreign currency forward contracts	\$78.6	\$44.7	\$9.2	\$2.6		\$6.7	\$78.6	\$5.2	\$9.2
Interest rate swap agreements	-	1.8	181.4	10.1		-	-	146.5	181.4
Cross-currency swap derivative contracts	58.7	9.4	14.5	1.6		29.1	58.7	24.9	14.5
Derivatives not designated as hedging instruments									
Foreign currency forward contracts	40.3	49.8	74.1	10.0		19.9	40.3	21.8	74.1
Gross value of derivatives	177.6	105.7	279.2	24.3		55.7	177.6	198.4	279.2
Gross amounts offset in the Consolidated Balance Sheets	(75.6)	(14.9)	(75.6)	(14.9)		(28.8)	(75.6)	(28.8)	(75.6)
Net value of derivatives	\$102.0	\$90.8	\$203.6	\$9.4		\$26.9	\$102.0	\$169.6	\$203.6

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The following table summarizes the notional values of the Company's outstanding derivatives:

	Notional Values		Notional Values	
	December 31 2022	December 31 2021	December 31 2023	December 31 2022
(millions)				
Foreign currency forward contracts	\$5,745	\$4,059	\$3,745	\$5,745
Interest rate swap agreements	1,500	1,250	1,500	1,500
Cross-currency swap derivative contracts	650	482	998	650

Cash Flow Hedges

The Company utilizes foreign currency forward contracts to hedge the effect of foreign currency exchange rate fluctuations on forecasted foreign currency transactions, including inventory purchases and intercompany royalty, intercompany loans, management fee and other payments. These forward contracts are designated as cash flow hedges. The changes in fair value of these contracts are recorded in accumulated other comprehensive income (loss) ("AOCI") until the hedged items affect earnings, at which time the gain or loss is reclassified into the same line item in the Consolidated Statements of Income as the underlying exposure being hedged. Cash flow hedged transactions impacting AOCI are forecasted to occur within the next year. For forward contracts designated as hedges of foreign currency exchange rate risk associated with forecasted foreign currency transactions, the Company excludes the changes in fair value attributable to time value from the assessment of hedge effectiveness. The initial value of the excluded component (i.e., the forward points) is amortized on a straight-line basis over the life of the hedging instrument and recognized in the same line item in the Consolidated Statements of Income as the underlying exposure being hedged for intercompany loans. For all other cash flow hedge types, the forward points are mark-to-

market monthly and recognized in the same line item in the Consolidated Statements of Income as the underlying exposure being hedged. The difference between fair value changes of the excluded component and the amount amortized in the Consolidated Statements of Income is recorded in AOCI.

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Fair Value Hedges

The Company manages interest expense using a mix of fixed and floating rate debt. To help manage exposure to interest rate movements and to reduce borrowing costs, the Company may enter into interest rate swaps under which the Company agrees to exchange, at specified intervals, the difference between fixed and floating interest amounts calculated by reference to an agreed upon notional principal amount. The mark-to-market of these fair value hedges is recorded as gains or losses in interest (income) expense and is offset by the gain or loss of the underlying debt instrument, which also is recorded in interest (income) expense. These fair value hedges are highly effective and thus, there is no impact on earnings due to hedge ineffectiveness.

In April 2022, the Company entered into an interest rate swap agreement that converted \$250 million of its 4.8% debt from a fixed interest rate to a floating interest rate. In aggregate, the Company has entered into a series of interest rate swap agreements to convert \$1.5 billion of its debt from a fixed interest rate to a floating interest rate. The fixed interest rates range from 1.3% to 4.8% and mature between 2026 and 2031. All of these These interest rate swaps swap agreements are designated as fair value hedges.

The following amounts were recorded in the Consolidated Balance Sheets related to cumulative basis adjustments for fair value hedges: hedges as of December 31 2023 and 2022:

Line item in which the hedged item is included	Cumulative amount of the fair value hedging adjustment included in the carrying amount of the hedged liabilities						Cumulative amount of the fair value hedging adjustment included in the carrying amount of the hedged liabilities			
	Carrying amount of the hedged liabilities			of the hedged liabilities			Carrying amount of the hedged liabilities		the hedged liabilities	
	2022	2021	2020	2022	2021	2020	2023	2022	2023	2022
(millions)										
Long-term debt	\$1,317.5	\$1,235.6	\$-	(\$184.8)	(\$12.1)	\$-	\$1,353.7	\$1,317.5	(\$148.6)	(\$184.8)

Net Investment Hedges

In November 2023, the Company elected to de-designate as a net investment hedge €316 million of its Euro debt maturing on January 15, 2024. The Company designates its remaining outstanding €1,150 million €834 million (\$1,194 908 million as of year-end 2022) 2023 senior notes ("Euronotes") and related accrued interest as a hedge of its Euro denominated exposures from the Company's investments in certain of its Euro denominated functional currency subsidiaries.

In October of 2022, the The Company entered into a cross-currency swap derivative contract with a notional amount of €200 million maturing in 2026. In aggregate, the Company has entered into a series of Euro cross-currency swap derivative contracts with a notional amount of €625 million maturing between in 2026 and 2030. These cross-currency swap derivative contracts are designated as net investment hedge hedges of the Company's Euro denominated exposures from the Company's investments in certain of its Euro denominated functional currency subsidiaries. The cross-currency swap derivative contracts exchange fixed-rate payments in one currency for fixed-rate payments in another currency. As of December 31, 2022 December 31, 2023, the Company had a €625 million (\$650 690 million) cross-currency swap derivative contracts outstanding as a hedge of the Company's net investment in foreign operations. The changes in the spot rate of these instruments are recorded in AOCI in stockholders' equity, partially offsetting the foreign currency translation adjustment of the Company's related net investment that is also recorded in AOCI. Any ineffective portions of net investment hedges are reclassified from AOCI into earnings during the period of change. The interest income or expense from these swaps are recorded in interest expense on the accompanying Consolidated Statements of Income consistent with the classification of interest expense attributable to the underlying debt.

The revaluation gains and losses on the Euronotes and cross-currency swap derivative, which are designated and effective as hedges of the Company's net investments, have been included as a component of the cumulative translation adjustment account, and were as follows:

(millions)	2022	2021	2020
Revaluation gain (loss), net of tax:			
Euronotes	\$81.9	\$45.3	(\$87.7)
Cross-currency swap derivative contracts	26.4	6.3	-
Total revaluation gain (loss), net of tax	\$108.3	\$51.6	(\$87.7)

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In August and October of 2023, the Company entered into CNH cross-currency swap derivative contracts with a notional amount of CNH 1,094 million and CNH 1,098 million, respectively, both maturing in 2032. The cross-currency swap derivative contracts are designated as net investment hedges of its Chinese Yuan ("CNY") denominated exposures from the Company's investments in certain CNY denominated functional currency subsidiaries. The cross-currency swap derivative contracts exchange fixed-rate payments in USD for fixed-rate payments in CNH. As of December 31, 2023, the Company had in aggregate, CNH 2,192 million (\$308 million) cross-currency swap derivative contracts outstanding as a hedge of the Company's net investment in foreign operations. The changes in the spot rate of these instruments are recorded in AOCI in stockholders' equity, partially offsetting the foreign currency translation adjustment of the Company's related net investment that is also recorded in AOCI. The interest income or expense from these swaps is recorded in interest expense on the accompanying Consolidated Statements of Income consistent with the classification of interest expense attributable to the underlying debt.

The revaluation gains and losses on the Euronotes and cross-currency swap derivative contracts, which are designated and effective as hedges of the Company's net investments, have been included as a component of the cumulative translation adjustment account, and were as follows:

(millions)	2023	2022	2021
Revaluation (loss) gain, net of tax:			
Euronotes	(\$42.3)	\$81.9	\$45.3
Cross-currency swap derivative contracts	(30.8)	26.4	6.3
Total revaluation (loss) gain, net of tax	(\$73.1)	\$108.3	\$51.6

Derivatives Not Designated as Hedging Instruments

The Company also uses foreign currency forward contracts to offset its exposure to the change in value of certain foreign currency denominated assets and liabilities held at foreign subsidiaries, primarily receivables and payables, which are remeasured at the end of each period. Although the contracts are effective economic hedges, they are not designated as accounting hedges. Therefore, changes in the value of these derivatives are recognized immediately in earnings, thereby offsetting the current earnings effect of the related foreign currency denominated assets and liabilities.

Effect of all Derivative Instruments on Income

The gain (loss) of all derivative instruments recognized in product and equipment cost of sales ("COS"), selling, general and administrative expenses ("SG&A") and interest expense, net ("interest") is summarized below:

(millions)	2022			2021			2020		
	COS	SG&A	Interest	COS	SG&A	Interest	COS	SG&A	Interest
Gain (loss) on derivatives in cash flow hedging relationship:									
Foreign currency forward contracts									
Amount of gain (loss) reclassified from AOCI to income	\$6.4	\$95.0	\$-	(\$11.0)	\$47.6	\$-	\$10.1	(\$108.3)	\$-
Amount excluded from the assessment of effectiveness recognized in earnings based on changes in fair value	-	-	13.9	-	-	21.0	-	-	27.5
Interest rate swap agreements									
Amount of gain (loss) reclassified from AOCI to income	-	-	(2.3)	-	-	(2.3)	-	-	(2.4)
Gain (loss) on derivatives not designated as hedging instruments:									
Foreign currency forward contracts									
Amount of gain (loss) recognized in income (a)	-	62.0	-	-	73.7	-	-	(12.3)	-
Total gain (loss) of all derivative instruments	\$6.4	\$157.0	\$11.6	(\$11.0)	\$121.3	\$18.7	\$10.1	(\$120.6)	\$25.1

(a) Gain (loss) on derivatives not designated as hedging instruments recognized in income recorded in SG&A includes discontinued operations of \$(2.5) for the year ended December 31, 2020.

(millions)	2023			2022			2021		
	COS	SG&A	Interest	COS	SG&A	Interest	COS	SG&A	Interest
Gain (loss) on derivatives in cash flow hedging relationship:									
Foreign currency forward contracts									
Amount of gain (loss) reclassified from AOCI to income	\$10.6	(\$18.9)	\$-	\$6.4	\$95.0	\$-	(\$11.0)	\$47.6	\$-
Amount excluded from the assessment of effectiveness recognized in earnings based on changes in fair value	-	-	7.7	-	-	13.9	-	-	21.0
Interest rate swap agreements									
Amount of (loss) gain reclassified from AOCI to income	-	-	(1.9)	-	-	(2.3)	-	-	(2.3)
Gain (loss) on derivatives not designated as hedging instruments:									
Foreign currency forward contracts									
Amount of (loss) gain recognized in income	-	(26.2)	-	-	62.0	-	-	73.7	-
Total gain (loss) of all derivative instruments	\$10.6	(\$45.1)	\$5.8	\$6.4	\$157.0	\$11.6	(\$11.0)	\$121.3	\$18.7

10.9. OTHER COMPREHENSIVE INCOME (LOSS) INFORMATION

Other comprehensive income (loss) includes net income, foreign currency translation adjustments, defined benefit pension and postretirement plan adjustments, gains and losses on derivative instruments designated and effective as cash flow hedges and non-derivative instruments designated and effective as foreign currency net investment hedges that are charged or credited to the AOCI account in shareholders' equity.

The following table provides other comprehensive income (loss) information related to the Company's derivatives and hedging instruments and pension and postretirement benefits. Refer to Note 9.8 for additional information related to the Company's derivatives and hedging transactions. Refer to Note 17.16 for additional information related to the Company's pension and postretirement benefits activity.

(millions)	2022	2021	2020	2023	2022	2021
Derivative and Hedging Instruments						
Unrealized gain (loss) on derivative & hedging instruments						
Unrealized (loss) gain on derivative & hedging instruments						
Amount recognized in AOCI	\$112.9	\$87.5	(\$93.3)	(\$12.8)	\$112.9	\$87.5
(Gain) loss reclassified from AOCI into income						
COS	(6.4)	11.0	(10.1)	(10.6)	(6.4)	11.0
SG&A	(95.0)	(47.6)	108.3	18.9	(95.0)	(47.6)
Interest (income) expense, net	(11.6)	(18.7)	(25.1)	(5.8)	(11.6)	(18.7)
	(113.0)	(55.3)	73.1	2.5	(113.0)	(55.3)
Other activity	1.1	(1.7)	(0.3)	-	1.1	(1.7)
Tax impact	(2.2)	(4.5)	3.5	2.5	(2.2)	(4.5)
Net of tax	(\$1.2)	\$26.0	(\$17.0)	(\$7.8)	(\$1.2)	\$26.0
Pension and Postretirement Benefits						
Amount recognized in AOCI						
Current period net gain (loss)	\$83.3	\$270.7	(\$189.9)			
Current period net (loss) gain				(\$80.7)	\$83.3	\$270.7
Amount reclassified from AOCI into income						
Settlement charge	51.6	38.8	-			
Settlement (income) charge				(2.7)	51.6	38.8
Amortization of losses and prior period service credits, net	47.7	78.6	68.1	6.9	47.7	78.6
	182.6	388.1	(121.8)	4.2	99.3	117.4
Tax impact	(52.3)	(98.4)	43.7	21.4	(52.3)	(98.4)
Net of tax	\$130.3	\$289.7	(\$78.1)	(\$55.1)	\$130.3	\$289.7

11.10. SHAREHOLDERS' EQUITY

Authorized common stock, par value \$1.00 per share, was 800 million shares at December 31, 2022, December 31, 2023, 2021, 2022 and 2020, 2021. Treasury stock is stated at cost. Dividends declared per share of common stock were \$2.16 for 2023, \$2.06 for 2022 and \$1.95 for 2021 and \$1.89 for 2020, 2021.

The Company has 15 million shares, without par value, of authorized but unissued and undesignated preferred stock.

Share Repurchase Authorization

In February 2015 and November 2022, the Company's Board of Directors authorized the repurchase of up to 20 million 20,000,000 and 10 million, 10,000,000, respectively, additional shares of its common stock, including shares to be repurchased under Rule 10b5-1. As of December 31, 2022 December 31, 2023, 12,917,097 shares remained to be repurchased under the Company's repurchase authorization. The Company intends to repurchase all shares under its authorization, for which no expiration date has been established, in open market or privately negotiated transactions, subject to market conditions.

Share Repurchases

During 2023, 2022 2021 and 2020, 2021, the Company reacquired 83,674, 3,038,107 502,132 and 761,245 502,132 shares, respectively, of its common stock, of which 0, 2,933,090 389,759 and 565,064, 389,759, respectively, related to share repurchases through open market or private purchases, and 83,674, 105,017 112,373 and 196,181 112,373, respectively, related to shares withheld for taxes on exercise of stock options and vesting of stock awards and units.

The IRA Inflation Reduction Act ("IRA") was signed into U.S. law on August 16, 2022 and is effective January 1, 2023. The IRA includes an excise tax on the repurchase of corporate stock. The Company does not anticipate the excise tax to have a material impact on the Company's financial statements.

Separation of ChampionX

In June 2020, the Company effected the split-off of ChampionX through the Exchange Offer and all shares of ChampionX common stock owned by Ecolab were exchanged for outstanding shares of Ecolab common stock. In the Exchange Offer, which was oversubscribed, the Company accepted 4,955,552 shares of Ecolab common stock in exchange for approximately 122,200,000 shares of ChampionX common stock.

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12 11. EQUITY COMPENSATION PLANS

The Company's equity compensation plans provide for grants of stock options, performance-based restricted stock units ("PBRsUs") and non-performance-based restricted stock units ("RSUs") and restricted stock awards ("RSAs"). Common shares available for grant as of December 31, 2022 December 31, 2023, 2022 and 2021 were 18,840,265, 5,475,903 and 2020 were 5,475,903, 7,544,458, and 8,644,262, respectively. The Company generally issues authorized but previously unissued shares to satisfy stock option exercises and stock award vesting.

The Company's annual long-term incentive share-based compensation program is made up of 40% stock options and 60% PBRsUs for 2023 and 50% stock options and 50% PBRsUs. PBRsUs for 2022 and 2021. The Company also periodically grants RSUs. Total compensation expense related to all share-based compensation plans was \$95.1 million (\$81.4 million net of tax benefit), \$87.8 million (\$74.8 million net of tax benefit), and \$89.5 million (\$75.4 million net of tax benefit) for 2023, 2022 and \$81.0 million (\$67.7 million net of tax benefit) for 2022, 2021, and 2020, respectively. As of December 31, 2022 December 31, 2023, there was \$150.7 million \$174.0 million of total measured but unrecognized compensation expense related to non-vested share-based compensation arrangements granted under all of the Company's plans. That cost is expected to be recognized over a weighted-average period of 2.2 years.

Stock Options

Stock options are granted to purchase shares of the Company's stock at the average daily share price on the date of grant. These options generally expire within ten years from the grant date. The Company generally recognizes compensation expense for these awards on a straight-line basis over the three year vesting period. Stock option grants to retirement eligible recipients are attributed to expense using the non-substantive vesting method.

A summary of stock option activity and average exercise prices is as follows:

	2022		2021		2020		2023		2022		2021	
	Number of	Exercise	Number of	Exercise	Number of	Exercise	Number of	Exercise	Number of	Exercise	Number of	Exercise
	Options	Price (a)	Options	Price (a)	Options	Price (a)	Options	Price (a)	Options	Price (a)	Options	Price (a)
Outstanding, beginning of year	6,217,161	\$160.91	6,802,415	\$144.20	9,042,320	\$121.72	7,031,103	\$160.45	6,217,161	\$160.91	6,802,415	\$144.20
Granted	1,228,673	148.79	812,853	223.85	931,750	220.95	861,840	190.53	1,228,673	148.79	812,853	223.85
Exercised	(294,228)	101.08	(1,306,998)	110.91	(2,733,130)	97.52	(832,050)	119.41	(294,228)	101.08	(1,306,998)	110.91
Canceled	(120,503)	210.26	(91,109)	192.49	(91,660)	166.67	(139,537)	183.77	(120,503)	210.26	(91,109)	192.49
Separation of ChampionX	-	-	-	-	(346,865)	126.37						
Outstanding, end of year	7,031,103	\$160.45	6,217,161	\$160.91	6,802,415	\$144.20	6,921,356	\$168.65	7,031,103	\$160.45	6,217,161	\$160.91
Exercisable, end of year	5,168,161	\$155.45	4,604,922	\$141.21	5,051,927	\$125.08	5,107,518	\$165.77	5,168,161	\$155.45	4,604,922	\$141.21
Vested and expected to vest, end of year	6,886,450	\$160.31					6,862,799	\$168.60				

(a) Represents weighted average price per share.

The total aggregate intrinsic value of options (the amount by which the stock price exceeded the exercise price of the option on the date of exercise) that were exercised during 2023, 2022 and 2021 was \$47.7 million, \$21.0 million and 2020 was \$21.0 million, \$148.1 million and \$298.7 million, respectively.

The total aggregate intrinsic value of options outstanding as of December 31, 2022 December 31, 2023 was \$62.3 million \$244.4 million, with a corresponding weighted-average remaining contractual life of 6.4 6.3 years. The total aggregate intrinsic value of options exercisable as of December 31, 2022 December 31, 2023 was \$62.3 million \$199.6 million, with a corresponding weighted-average remaining contractual life of 5.3 years. The total aggregate intrinsic value of options vested and expected to vest as of December 31, 2022 December 31, 2023 was \$62.3 million \$242.5 million, with a corresponding weighted-average remaining contractual life of 6.4 6.3 years.

The lattice (binomial) option-pricing model is used to estimate the fair value of options at grant date. The Company's primary employee option grant occurs during the fourth quarter. The weighted-average grant-date fair value of options granted and the significant assumptions used in determining the underlying fair value of each option grant, on the date of grant were as follows:

	2022	2021	2020	2023	2022	2021
Weighted-average grant-date fair value of options granted at market prices	\$37.04	\$47.65	\$44.16	\$50.26	\$37.04	\$47.65
Assumptions						
Risk-free rate of return	3.5 %	1.2 %	0.5 %	4.1 %	3.5 %	1.2 %
Expected life	6 years	6 years	6 years	6 years	6 years	6 years
Expected volatility	23.5 %	23.0 %	23.0 %	22.4 %	23.5 %	23.0 %
Expected dividend yield	1.4 %	0.9 %	0.9 %	1.2 %	1.4 %	0.9 %

The risk-free rate of return is determined based on a yield curve of U.S. treasury rates from one month to ten years and a period commensurate with the expected life of the options granted. Expected volatility is established based on historical volatility of the Company's stock price. The expected dividend yield is determined based on the Company's annual dividend amount as a percentage of the average stock price at the time of the grant.

PBSUs, RSUs and RSAs

The expense associated with PBSUs is based on the average of the high and low share price of the Company's common stock on the date of grant, adjusted for the absence of future dividends. The awards vest based on the Company achieving a defined performance target and with continued service for a three year period. Upon vesting, the Company issues shares of its common stock such that one award unit equals one share of common stock. The Company assesses the probability of achieving the performance target and recognizes expense over the three year vesting period when it is probable the performance target will be met. PBSU awards granted to retirement eligible recipients are attributed to expense using the non-substantive vesting method. The awards are generally subject to forfeiture in the event of termination of employment.

The expense associated with shares of non-performance based RSUs and RSAs is based on the average of the high and low share price of the Company's common stock on the date of grant, adjusted for the absence of future dividends and is amortized on a straight-line basis over the periods during which the restrictions lapse. The Company currently has RSUs that vest over periods between 12 24 and 60 months. The awards are generally subject to forfeiture in the event of termination of employment.

A summary of non-vested PBSUs and restricted stock activity is as follows:

	PBSU Awards	Grant Date Fair Value (a)	RSAs and RSUs	Grant Date Fair Value (a)	PBSU Awards	Grant Date Fair Value (a)	RSAs and RSUs	Grant Date Fair Value (a)
December 31, 2019	1,116,898	\$139.83	265,513	\$149.46				
Granted	202,187	215.23	62,693	203.09				
Vested / Earned	(333,676)	112.78	(81,150)	130.72				
Canceled	(26,285)	157.32	(15,996)	162.51				
Separation of ChampionX	(44,494)	142.10	(67,377)	161.82				
December 31, 2020	914,630	\$165.76	163,683	\$172.92	914,630	\$165.76	163,683	\$172.92
Granted	176,297	223.77	130,807	211.12	176,297	223.77	130,807	211.12
Vested / Earned	(271,731)	131.74	(48,977)	160.84	(271,731)	131.74	(48,977)	160.84
Canceled	(30,667)	178.46	(13,239)	192.12	(30,667)	178.46	(13,239)	192.12
December 31, 2021	788,529	\$189.96	232,274	\$195.95	788,529	\$189.96	232,274	\$195.95
Granted	291,496	142.24	240,370	146.90	291,496	142.24	240,370	146.90
Vested / Earned	(232,210)	152.63	(68,864)	163.81	(232,210)	152.63	(68,864)	163.81
Canceled	(24,645)	207.05	(18,683)	201.39	(24,645)	207.05	(18,683)	201.39
December 31, 2022	823,170	\$181.68	385,097	\$170.50	823,170	\$181.68	385,097	\$170.50
Granted					328,739	185.10	156,618	165.81
Vested / Earned					(180,674)	178.26	(61,776)	191.22
Canceled					(26,409)	175.05	(24,449)	166.22
December 31, 2023					944,826	\$183.71	455,490	\$166.31

(a) Represents weighted average price per share.

12. INCOME TAXES

Income before income taxes consisted of:

(millions)	2023	2022	2021
United States (U.S.)	\$408.9	\$295.6	\$277.7
International	1,346.6	1,047.8	1,136.5
Total	\$1,755.5	\$1,343.4	\$1,414.2

The provision (benefit) for income taxes consisted of:

(millions)	2023	2022	2021

U.S. federal and state	\$137.6	\$145.7	\$30.9
International	280.0	231.4	240.2
Total current	417.6	377.1	271.1
U.S. federal and state	(40.1)	(78.9)	3.6
International	(15.0)	(63.7)	(4.5)
Total deferred	(55.1)	(142.6)	(0.9)
Provision for income taxes	\$362.5	\$234.5	\$270.2

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13. INCOME TAXES

Income before income taxes consisted of:

(millions)	2022	2021	2020
United States (U.S.)	\$295.6	\$277.7	\$100.5
International	1,047.8	1,136.5	1,060.9
Total	\$1,343.4	\$1,414.2	\$1,161.4

The provision (benefit) for income taxes consisted of:

(millions)	2022	2021	2020
U.S. federal and state	\$145.7	\$30.9	(\$43.9)
International	231.4	240.2	259.8
Total current	377.1	271.1	215.9
U.S. federal and state	(78.9)	3.6	12.0
International	(63.7)	(4.5)	(51.3)
Total deferred	(142.6)	(0.9)	(39.3)
Provision for income taxes	\$234.5	\$270.2	\$176.6

The Company's overall net deferred tax assets and deferred tax liabilities were comprised of the following:

December 31 (millions)	2022	2021	2023	2022
Deferred tax assets				
Pension and post-retirement benefits	\$87.0	\$136.8	\$82.1	\$87.0
Other accrued liabilities	129.6	135.6	162.0	129.6
Lease liability	109.2	101.3	135.9	109.2
Credit carryforwards	97.8	81.8	83.7	97.8
Capitalization of R&D costs	84.5	-	180.9	84.5
Loss carryforwards	67.2	59.6	57.3	67.2
Share-based compensation	51.2	44.7	54.5	51.2
Deferred income	59.6	44.8	27.9	59.6
Other, net	98.8	71.0	113.3	98.8

Valuation allowance	(65.2)	(50.3)	(65.7)	(65.2)
Total deferred tax assets	719.7	625.3	831.9	719.7
Deferred tax liabilities				
Goodwill			(160.1)	(124.8)
Intangible assets	(611.1)	(631.0)	(451.3)	(486.3)
Property, plant and equipment	(319.7)	(333.5)	(332.3)	(319.7)
Lease asset	(109.1)	(100.3)	(136.1)	(109.1)
Financing	(33.5)	(34.2)	(32.1)	(33.5)
Other, net	(43.8)	(27.7)	(18.9)	(43.8)
Total deferred tax liabilities	(1,117.2)	(1,126.7)	(1,130.8)	(1,117.2)
Net deferred tax liabilities balance	(\$397.5)	(\$501.4)	(\$298.9)	(\$397.5)

Presentation of prior year amounts relating to goodwill and intangible assets are now presented separately and have been reclassified to conform with the current year presentation. These reclassifications had no effect on the reported results of operations.

As of December 31, 2022 December 31, 2023 the Company has tax effected federal, state and international net operating loss carryforwards of \$2.5 million \$0.2 million, \$16.1 million \$16.2 million and \$48.6 million \$40.9 million, respectively, and a tax effected federal tax capital loss carryforward of \$9.4 million \$3.6 million which will be available to offset future taxable income. The federal and state loss carryforwards of \$18.6 million \$16.4 million expire from 2023 2024 to 2043, 2044. The international loss carryforwards of \$9.9 million \$14.1 million expire from 2023 2024 to 2043 and \$38.7 million \$26.8 million have no expiration. The federal capital loss carryforwards of \$9.4 million \$3.6 million expire from 2023 to 2026, in 2025. The tax loss carryforwards expiring in 2023 2024 are not material.

Additionally, the Company has \$97.8 million \$83.7 million of net credit carryforwards that are primarily related to U.S. foreign tax credits and various state credits. The U.S. foreign tax credit carryforwards of \$71.1 million \$74.7 million expire from 2029 2030 to 2032 2033. Other state and the state international credit carryforwards of \$21.3 million will expire from 2023 2024 to 2037. Other international tax credit carryforwards of \$5.4 million do not expire. 2038. The tax credit carryforwards expiring in 2023 2024 are not material.

The Company has valuation allowances on certain deferred tax assets of \$65.7 million and \$65.2 million at December 31, 2023 and \$50.3 million at December 31, 2022 and 2021, 2022, respectively. The increase in valuation allowance from year end 2021 2022 to year end 2022 2023 was primarily due to U.S. state tax attributes, foreign net operating losses and other deferred tax assets.

In connection with the implementation of Organization for Economic Co-operation and Development ("OECD") global minimum tax initiative known as Pillar Two, any existing deferred taxes not disclosed in the Company's 2023 financial statements will not be available in the future to reduce tax otherwise due under Pillar Two. Accordingly, the Company is disclosing the existence of gross tax loss carryforwards in Luxembourg of \$1.3 billion. The losses are determined to have a remote possibility of realization and, therefore, are not reported in the table above.

The Company obtained tax benefits from a tax holiday in the Dominican Republic. The Company received a permit of operation, which expires in April 2036, from the National Council of Free Zones of Exportation for the Dominican Republic. Companies operating under the Free Zones are not subject to income tax in the Dominican Republic on export income. The Company had a tax incentive awarded by the Singapore Economic Development Board. This incentive provided for a preferential 10% tax rate on certain headquarter income which expired in January 2021. The tax reduction as the result of the tax holidays holiday for 2023 was \$6.6 million (\$0.02 per diluted share), 2022 was \$5.8 million (\$0.02 per diluted share), and 2021 was \$2.9 million (\$0.01 per diluted share) and 2020 was \$26.9 million (\$0.09 per diluted share).

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A reconciliation of the statutory U.S. federal income tax rate to the Company's effective income tax rate is as follows:

	2022	2021	2020	2023	2022	2021
Statutory U.S. rate	21.0 %	21.0 %	21.0 %	21.0 %	21.0 %	21.0 %
State income taxes, net of federal benefit	1.3	0.6	0.4	1.4	1.3	0.6
Foreign operations	(0.8)	(0.6)	(1.3)	(0.5)	(0.8)	(0.6)
Excess stock benefits	(0.4)	(2.0)	(4.9)	(0.3)	(0.4)	(2.0)
R&D credit	(1.4)	(1.3)	(1.1)	(1.3)	(1.4)	(1.3)
Foreign derived intangible income	(1.8)	(1.6)	(0.2)	(1.2)	(1.8)	(1.6)
Change in valuation allowance	0.7	0.5	0.6	0.5	0.7	0.5
Legal entity rationalization	(1.5)	-	-	0.1	(1.5)	-
One-time transfer of intangibles	-	1.8	-	-	-	1.8
Other, net	0.4	0.7	0.7	0.9	0.4	0.7
Effective income tax rate	17.5 %	19.1 %	15.2 %	20.6 %	17.5 %	19.1 %

The change in the Company's effective income tax rate includes the tax impact of special (gains) and charges and discrete tax items, which have impacted the comparability of the Company's historical effective income tax rates, as amounts included in special (gains) and charges are derived from tax jurisdictions with rates that vary from the statutory U.S. rate, and discrete tax items are not necessarily consistent across periods. The tax impact of special (gains) and charges and discrete tax items will likely continue to impact comparability of the Company's effective income tax rate in the future.

The Company's 2023 effective tax rate of 20.6% includes \$24.7 million of net tax benefits on special (gains) and charges, and net tax expense of \$11.2 million associated with discrete items. The net discrete tax expense was primarily related to the filing of federal, state and foreign tax returns and other income tax adjustments including the impact of changes in tax laws, audit settlements, share-based compensation excess tax benefit and other changes in estimates.

The Company's 2022 effective tax rate of 17.5% includes \$53.7 million of net tax benefits on special (gains) and charges, and net tax benefit of \$11.8 million associated with discrete items. Discrete items included a deferred tax benefits of \$14.6 million associated with utilization of tax attributes as a result of legal entity rationalization and share-based compensation excess tax benefits of \$6.0 million. The amount of the excess tax benefit is subject to variation in stock price and award exercises. The remaining discrete tax expense of \$8.8 million was primarily related to the filing of federal, state and foreign tax returns and other income tax adjustments including the impact of changes in tax laws, audit settlements and other changes in estimates.

The Company's 2021 effective tax rate of 19.1% includes \$53.3 million of net tax benefits on special (gains) and charges, and net tax expense of \$5.8 million associated with discrete items. During 2021, the Company recorded a discrete tax benefit of \$29.1 million related to share-based compensation excess tax benefits. Additionally, the Company recorded \$34.9 million discrete tax charges including a non-cash deferred tax charge of \$25.1 million associated with transferring certain intangible property between affiliates. The remaining \$9.8 million tax expense primarily related to the filing of federal, state and foreign tax returns and other income tax adjustments including the impact of changes in tax laws, audit settlements and other changes in estimates.

The Company's 2020 effective tax rate of 15.2% includes \$57.9 million of net tax benefits on special (gains) and charges, and net tax benefits of \$55.8 million associated with discrete items. During 2020, the Company recorded a discrete tax benefit of \$57.3 million related to share-based compensation excess tax benefits. The Company recorded changes in reserves in non-U.S. and U.S. jurisdictions due to audit settlements and the expiration of statutes of limitations which resulted in a \$9.8 million tax benefit. Additionally, the Company recognized a net tax expense of \$11.3 million primarily related to the filing of prior year federal, state and foreign tax returns and other income tax adjustments.

During 2022, the Company recorded a deferred tax liability of \$12.1 million as part of purchase accounting associated with the pre-acquisition undistributed earnings of Purolite that are not considered permanently reinvested. A deferred tax liability of \$6.8 million remains \$2.8 million is recorded as of December 31, 2022. December 31, 2023 related to deferred tax liabilities on unremitted earnings, which are not permanently reinvested. The Company otherwise continues to assert permanent reinvestment of the undistributed earnings of international affiliates unless the earnings can be remitted in a net income tax benefit or tax-neutral manner. If there are policy changes, the Company would record the applicable taxes in the period of change. Due to the complexity of the legal entity structure, the number of legal entities and jurisdictions involved, and the complexity of the laws and regulations, the Company believes it is not practicable to estimate the amount of additional taxes which may be payable upon distribution of these undistributed earnings. Accordingly, no deferred taxes have been provided for withholding taxes or other taxes on permanently reinvested earnings.

A reconciliation of the beginning and ending amount of gross liability for unrecognized tax benefits is as follows:

(millions)	2022	2021	2020	2023	2022	2021
Balance at beginning of year	\$25.1	\$20.7	\$27.0	\$24.9	\$25.1	\$20.7
Additions based on tax positions related to the current year	2.7	3.8	3.3	5.8	2.7	3.8

Additions for tax positions of prior years	3.6	3.0	-	1.7	3.6	3.0
Current year acquisitions	-	4.4	-	-	-	4.4
Reductions for tax positions of prior years	(1.5)	-	(1.1)	-	(1.5)	-
Reductions for tax positions due to statute of limitations	(0.7)	(3.0)	(9.1)	(2.7)	(0.7)	(3.0)
Settlements	(3.4)	(3.7)	-	(5.5)	(3.4)	(3.7)
Foreign currency translation	(0.9)	(0.1)	0.6	-	(0.9)	(0.1)
Balance at end of year	\$24.9	\$25.1	\$20.7	\$24.2	\$24.9	\$25.1

The total amount of unrecognized tax benefits, if recognized would affect the effective tax rate by \$21.6 million as of December 31, 2023, \$23.1 million as of December 31, 2022, and \$22.8 million as of December 31, 2021 and \$18.3 million as of December 31, 2020.

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The Company files U.S. federal income tax returns and income tax returns in various U.S. state and non- U.S. jurisdictions. With few exceptions, the Company is no longer subject to state and foreign income tax examinations by tax authorities for years before 2017. The IRS has completed examinations of the Company's U.S. federal income tax returns through 2016, and the years 2017 through 2020 are currently under audit. In addition to the U.S. federal examination, there is ongoing audit activity in several U.S. state and foreign

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jurisdictions. The Company anticipates changes to uncertain unrecognized tax positions benefits due to closing of various audits and statutes closing on years mentioned above. The Company does not believe these changes will result in a material impact during the next twelve months. Decreases in the Company's gross liability could result in offsets to other balance sheet accounts, cash payments, and adjustments to tax expense. The occurrence of these events and/or other events not included above within the next twelve months could change depending on a variety of factors.

The Company recognizes interest and penalties related to unrecognized tax benefits in its provision for income taxes. The Company had \$4.0 million, \$3.2 million \$4.0 million and \$4.1 million \$3.2 million of accrued interest, including minor amounts for penalties, at December 31, 2022 December 31, 2023, 2021 2022 and 2020, 2021, respectively.

14, 13. RENTALS AND LEASES

Lessee

The Company leases sales and administrative office facilities, distribution centers, research and manufacturing facilities, as well as vehicles and other equipment under operating leases. Certain of the Company's lease arrangements are finance leases, which are immaterial individually and in the aggregate.

The Company's operating lease cost was as follows:

(millions)	2022	2021	2020	2023	2022	2021
Operating lease cost*	\$196.9	\$179.4	\$183.8	\$215.4	\$196.9	\$179.4

*Includes immaterial short-term and variable lease costs

Future maturity of operating lease liabilities as of December 31, 2022 December 31, 2023 were as follows:

(millions)		
2023		\$124
2024		98 \$147
2025		75 128
2026		53 101
2027		32 69
2028		39
Thereafter		121 148
Total lease payments		503 632
Less: imputed interest		57 80
Present value of lease liabilities		\$446 \$552

The Company's operating leases term and discount rate were as follows:

	December 31 2022	December 31 2021	December 31 2020	December 31 2023	December 31 2022	December 31 2021
Weighted-average remaining lease terms (years)	6.71	5.99	5.52	6.44	6.71	5.99
Weighted-average discount rate	2.98%	3.07%	3.72%	4.02 %	2.98 %	3.07 %

The Company's other lease information was as follows:

(millions)	December 31 2022	December 31 2021	December 31 2020	December 31 2023	December 31 2022	December 31 2021
Cash paid for amounts included in the measurement of lease liabilities:						
Operating cash flows from operating leases	\$157.3	\$157.0	\$164.2	\$170.6	\$157.3	\$157.0
Leased assets obtained in exchange for new operating lease liabilities	202.7	116.8	60.4	251.5	202.7	116.8

Lessor

The Company leases warewashing and water treatment equipment to customers under operating leases.

Gross assets under operating leases recorded in Property, plant and equipment, net is \$1,288.3 million \$1,397.5 million and \$1,223.3 million \$1,288.3 million, and related accumulated depreciation is \$811.2 million \$878.9 million and \$767.3 million \$811.2 million, as of December 31, 2022 December 31, 2023 and 2021 2022, respectively.

The Company's operating lease revenue was as follows:

(millions)	2022	2021	2020	2023	2022	2021
Operating lease revenue*	\$466.7	\$412.5	\$356.3	\$511.8	\$466.7	\$412.5

*Includes immaterial variable lease revenue

Future revenue from operating leases for existing contracts as of December 31, 2022 December 31, 2023 were as follows:

(millions)		
2023		\$370
2024		269 \$424
2025		207 304
2026		140 243
2027		71 168
2028		84
Thereafter		41 49
Total lease revenue		\$1,098 \$1,272

The Company mitigates the risk of residual value subsequent to the lease term by redeploying assets. As such, the Company expects to receive revenue from the operating lease assets through the remaining useful life and therefore subsequent to the initial contract termination date.

15. 14. RESEARCH AND DEVELOPMENT EXPENDITURES

Research expenditures that relate to the development of new products and processes, including significant improvements and refinements to existing products, are expensed as incurred. Such costs were \$192 million in 2023, \$190 million in 2022 and \$186 million in 2021 and \$185 million in 2020. 2021. The Company did not participate in any material customer sponsored research during any of the years.

16. 15. COMMITMENTS AND CONTINGENCIES

The Company is subject to various claims and contingencies related to, among other things, workers' compensation, general liability (including product liability), automobile claims, health care claims, environmental matters and lawsuits. The Company is also subject to various claims and contingencies related to income taxes, which are discussed in Note 13 12. The Company also has contractual obligations including lease commitments, which are discussed in Note 14. 13.

The Company records liabilities when a contingent loss is probable and can be reasonably estimated. If the reasonable estimate of a probable loss is a range, the Company records the most probable estimate of the loss or the minimum amount when no amount within the range is a better estimate than any other amount. The Company discloses a contingent liability even if the liability is not probable or the amount is not estimable, or both, if there is a reasonable possibility that a material loss may have been incurred.

Insurance

Globally, the Company has insurance policies with varying deductible levels for property and casualty losses. The Company is insured for losses in excess of these deductibles, subject to policy terms and conditions and has recorded both a liability and an offsetting receivable for amounts in excess of these deductibles. The Company is self-insured for health care claims for eligible participating employees, subject to certain deductibles and limitations. The Company determines its liabilities for claims on an actuarial basis.

Litigation and Environmental Matters

The Company and certain subsidiaries are party to various lawsuits, claims and environmental actions that have arisen in the ordinary course of business. These include from time to time antitrust, employment, commercial, patent infringement, tort, product liability and wage hour lawsuits, as well as possible obligations to investigate and mitigate the effects on the environment of the disposal or release of certain chemical substances at various sites, such as Superfund sites and other operating or closed facilities. The Company has established accruals for certain lawsuits, claims and environmental matters. The Company currently believes that there is not a reasonably possible risk of material loss in excess of the amounts accrued related to these legal matters. Because litigation is inherently uncertain, and unfavorable rulings or developments could occur, there can be no certainty that the Company may not ultimately incur charges in excess of recorded liabilities. A future adverse ruling, settlement or unfavorable development could result in future charges that could have a material adverse effect on the Company's results of operations or cash flows in the period in which they are recorded.

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The Company currently believes that such future charges related to suits and legal claims, if any, would not have a material adverse effect on the Company's consolidated financial position.

TPC Group Litigation

On November 27, 2019, a Butadiene production plant owned and operated by TPC Group, Inc. ("TPC") in Port Neches, Texas, experienced an explosion and fire that resulted in personal injuries, the release of chemical fumes and extensive property damage to the plant and surrounding areas in and near Port Neches, Texas.

Nalco Company LLC, a subsidiary of Ecolab, supplied process chemicals to TPC used in TPC's production processes. Nalco did not operate, manage, maintain or control any aspect of TPC's plant operations.

In connection with its provision of process chemicals to TPC, Nalco has been named in numerous lawsuits stemming from the plant explosion. Nalco has been named a defendant, along with TPC and other defendants, in multi-district litigation ("MDL") proceedings pending in Orange County, Texas, alleging among other things claims for personal injury, property damage and business losses (In re TPC Group Litigation – A2020-0236-MDL, Orange County, Texas). In addition, numerous other lawsuits have been filed against Nalco, including TPC Group v. Nalco, E0208239, Jefferson County, Texas, a subrogation claim by TPC's insurers seeking reimbursement for property damage losses. Over 5,000 plaintiffs (including the subrogation matter) currently have asserted claims against Nalco.

All of these cases make similar allegations and seek damages for personal injury, property damage, business losses and other damages, including exemplary damages. The Company expects all these cases will be consolidated for pretrial purposes into the Orange County MDL referenced above. Due to the large number of plaintiffs, the early stage of the litigation and the fact that many of the claims do not specify an amount of damages, any estimate of any loss or range of losses cannot be made at this time.

On June 1, 2022, TPC and seven of its affiliated companies filed for bankruptcy under Chapter 11 (Case No. 22-10493-CTG, United States Bankruptcy Court for the District of Delaware). In connection with the bankruptcy cases, TPC disclosed an estimated range of its liability related to the Port Neches incident to individuals and homeowners (including subrogation claims) of approximately \$152 million to \$520 million. As part of their bankruptcy plan, TPC and its affiliates announced a settlement which allows the MDL plaintiffs a \$500 million claim solely for purposes of claim allowance in the chapter 11 case and distribution of value pursuant to TPC's bankruptcy plan. Other key terms of the settlement between TPC and the MDL plaintiffs include the establishment of a settlement trust for the benefit of certain general unsecured creditors, which is funded with \$30 million and the assignment of TPC's claims and causes of action, if any, against certain third parties, including Nalco, related to the TPC plant explosion. As part of the bankruptcy process, TPC and its debtor affiliates received a discharge of all MDL related claims, as did certain non-debtor affiliates to the extent third parties did not opt out of the non-debtor releases. Nalco opted out of these releases, preserving any direct causes of action it may have against non-debtors. Furthermore, the allowance of the \$500 million claim should have no effect on any claims or defenses asserted against or by Nalco in the MDL litigation. On December 1, 2022, the bankruptcy court confirmed the TPC bankruptcy plan, including the approval of the settlement and establishment of the aforementioned settlement trust. On December 16, 2022, the TPC bankruptcy plan went effective.

The Company believes the claims asserted against Nalco in the lawsuits stemming from the TPC plant explosion are without merit and intends to defend the claims vigorously. The Company also believes any potential loss should be covered by insurance subject to deductibles. However, the Company cannot predict the outcome of these lawsuits, the involvement the Company might have in these matters in the future or the potential for future litigation.

Environmental Matters

The Company is currently participating in environmental assessments and remediation at approximately 25 locations, the majority of which are in the U.S., and environmental liabilities have been accrued reflecting management's best estimate of future costs. Potential insurance reimbursements are not anticipated in the Company's accruals for environmental liabilities.

17 16. RETIREMENT PLANS

Pension and Postretirement Health Care Benefits Plans

The Company has a non-contributory, qualified, defined benefit pension plan covering the majority of its U.S. employees. The Company also has U.S. non-contributory, non-qualified, defined benefit pension plans, which provide for benefits to employees in excess of limits permitted under its pension plans. The U.S. non-qualified plans are not funded and the recorded benefit obligations for the non-qualified plans were \$87 million and \$86 million at December 31, 2023 and \$114 million at December 31, 2022 and 2021, 2022, respectively. The measurement date used for determining the U.S. pension plan assets and obligations is December 31.

Various international subsidiaries have defined benefit pension plans. International plans are funded based on local country requirements. The measurement date used for determining the international pension plan assets and obligations is November 30, the fiscal year end of the Company's international subsidiaries.

The Company provides postretirement health care and life insurance benefits to certain U.S. employees and retirees. The U.S. postretirement health care plans are contributory based on years of service and choice of coverage (family or single), with retiree contributions adjusted annually. The Company also maintains several U.S. postretirement life insurance plans. The measurement date used to determine the U.S. postretirement health care and life insurance plan assets and obligations is December 31. Certain employees

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outside the U.S. are covered under government-sponsored programs, which are not required to be fully funded. The expense and obligation for providing international postretirement health care benefits are not significant.

The following table sets forth financial information related to the Company's pension and postretirement benefit plans:

	U.S.						U.S.					
	Pensions		Pensions		Benefits		Pensions		Pensions		Benefits	
(millions)	2022	2021	2022	2021	2022	2021	2023	2022	2023	2022	2023	2022
Accumulated benefit obligation, end of year	\$1,799.0	\$2,462.7	\$1,171.1	\$1,696.2	\$115.5	\$155.4	\$1,859.5	\$1,799.0	\$1,125.8	\$1,171.1	\$112.0	\$115.5
Projected benefit obligation												
Projected benefit obligation, beginning of year	\$2,462.7	\$2,728.4	\$1,779.7	\$1,834.2	\$155.4	\$172.4	\$1,799.0	\$2,462.7	\$1,221.9	\$1,779.7	\$115.5	\$155.4
Service cost	40.8	43.9	28.4	31.4	0.8	1.0	40.9	40.8	21.7	28.4	0.4	0.8
Interest cost	65.3	51.4	22.0	17.3	3.3	2.9	88.1	65.3	45.9	22.0	5.6	3.3
Participant contributions	-	-	3.0	2.9	3.7	3.3	-	-	2.8	3.0	3.8	3.7
Plan amendments	-	-	-	0.7	-	-	-	-	(1.5)	-	-	-

Actuarial (gain) loss	(479.8)	(79.6)	(436.8)	(25.3)	(33.7)	(12.1)	90.2	(479.8)	(101.0)	(436.8)	(0.1)	(33.7)
Assumed through acquisitions	-	-	15.1	34.0	-	-	-	-	-	15.1	-	-
Other events	-	-	-	4.3	-	-	-	-	2.9	-	-	-
Benefits paid	(290.0)	(281.4)	(54.3)	(68.5)	(14.0)	(12.1)	(158.7)	(290.0)	(69.8)	(54.3)	(13.2)	(14.0)
Foreign currency translation	-	-	(135.2)	(51.3)	-	-	-	-	51.1	(135.2)	-	-
Projected benefit obligation, end of year	\$1,799.0	\$2,462.7	\$1,221.9	\$1,779.7	\$115.5	\$155.4	\$1,859.5	\$1,799.0	\$1,174.0	\$1,221.9	\$112.0	\$115.5
Plan assets												
Fair value of plan assets, beginning of year	\$2,376.8	\$2,372.9	\$1,219.9	\$1,148.0	\$5.2	\$5.7	\$1,668.5	\$2,376.8	\$905.1	\$1,219.9	\$3.2	\$5.2
Actual returns on plan assets	(430.3)	276.8	(218.3)	107.5	(0.8)	0.6	149.1	(430.3)	(44.0)	(218.3)	0.2	(0.8)
Company contributions	12.0	8.5	38.3	40.7	12.8	11.0	60.8	12.0	35.4	38.3	12.2	12.8
Participant contributions	-	-	3.0	2.9	-	-	-	-	2.8	3.0	-	-
Acquired through acquisitions	-	-	15.1	12.9	-	-	-	-	2.9	15.1	-	-
Benefits paid	(290.0)	(281.4)	(54.3)	(68.5)	(14.0)	(12.1)	(158.7)	(290.0)	(67.6)	(54.3)	(13.2)	(14.0)
Foreign currency translation	-	-	(98.6)	(23.6)	-	-	-	-	36.6	(98.6)	-	-
Fair value of plan assets, end of year	\$1,668.5	\$2,376.8	\$905.1	\$1,219.9	\$3.2	\$5.2	\$1,719.7	\$1,668.5	\$871.2	\$905.1	\$2.4	\$3.2
Funded Status, end of year	(\$130.5)	(\$85.9)	(\$316.8)	(\$559.8)	(\$112.3)	(\$150.2)	(\$139.8)	(\$130.5)	(\$302.8)	(\$316.8)	(\$109.6)	(\$112.3)
Amounts recognized in the Consolidated Balance Sheets:												
Other assets	\$-	\$28.2	\$118.6	\$86.5	\$-	\$-	\$-	\$-	\$118.4	\$118.6	\$-	\$-
Other current liabilities	(\$9.2)	(14.8)	(28.6)	(27.0)	(7.6)	(5.5)	(\$9.2)	(9.2)	(33.0)	(28.6)	(8.7)	(7.6)
Postretirement healthcare and pension benefits	(\$121.3)	(99.3)	(406.8)	(619.3)	(104.7)	(144.7)	(\$130.6)	(121.3)	(388.2)	(406.8)	(100.9)	(104.7)
Net liability	(\$130.5)	(\$85.9)	(\$316.8)	(\$559.8)	(\$112.3)	(\$150.2)	(\$139.8)	(\$130.5)	(\$302.8)	(\$316.8)	(\$109.6)	(\$112.3)
Amounts recognized in accumulated other comprehensive loss (income):												
Unrecognized net actuarial loss (gain)	\$411.9	\$396.8	\$279.7	\$485.7	(\$43.6)	(\$11.7)	\$495.2	\$411.9	\$278.5	\$279.7	(\$40.8)	(\$43.6)
Unrecognized net prior service (benefits) costs	(21.2)	(25.8)	0.3	(0.2)	-	-	(16.7)	(21.2)	(0.4)	0.3	-	-
Tax (benefit) expense	(100.8)	(95.3)	(66.5)	(117.8)	7.7	1.2	(122.8)	(100.8)	(64.4)	(66.5)	6.2	7.7
Accumulated other comprehensive loss (income), net of tax	\$289.9	\$275.7	\$213.5	\$367.7	(\$35.9)	(\$10.5)	\$355.7	\$289.9	\$213.7	\$213.5	(\$34.6)	(\$35.9)
Change in accumulated other comprehensive loss (income):												
Amortization of net actuarial gain (loss)	(\$30.2)	(\$56.2)	(\$22.7)	(\$28.7)	\$0.6	(\$0.7)	(\$0.2)	(\$30.2)	(\$14.8)	(\$22.7)	\$3.1	\$0.6
Amortization of prior service credits	4.5	6.9	0.1	0.1	-	-	4.5	4.5	0.5	0.1	-	-
Current period net actuarial loss (gain)	97.0	(203.0)	(147.8)	(56.1)	(32.5)	(12.3)	83.5	97.0	(1.0)	(147.8)	(0.3)	(32.5)
Current period prior service costs	-	-	-	0.7	-	-	-	-	(1.5)	-	-	-
Curtailments and settlements	(51.6)	(35.3)	-	(3.5)	-	-	-	(51.6)	2.7	-	-	-
Tax (benefit) expense	(5.5)	69.8	51.3	25.4	6.5	3.2	(22.0)	(5.5)	2.1	51.3	(1.5)	6.5
Foreign currency translation	-	-	(35.1)	(12.7)	-	-	-	-	12.2	(35.1)	-	-
Other comprehensive loss (income)	\$14.2	(\$217.8)	(\$154.2)	(\$74.8)	(\$25.4)	(\$9.8)	\$65.8	\$14.2	\$0.2	(\$154.2)	\$1.3	(\$25.4)

Estimate amounts in accumulated other comprehensive loss expected to be reclassified to net period cost during 2023 2024 were as follows:

(millions)	U.S.			U.S. Post-Retirement		
	Pensions	Pensions	Pensions	Pensions	Pensions	Benefits
Net actuarial loss (gain)	\$0.2	\$11.6	(\$3.1)	\$6.1	\$10.0	(\$3.2)
Net prior service benefits	(4.6)	(0.3)	-	(4.6)	(0.6)	-
Total	(\$4.4)	\$11.3	(\$3.1)	\$1.5	\$9.4	(\$3.2)

Service cost is included with employee compensation cost in either cost of sales and selling, general and administrative expenses in the Consolidated Statements of Income based on employee roles in the Company while all non-service components are included in other (income) expense in the Consolidated Statements of Income.

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The aggregate projected benefit obligation, accumulated benefit obligation and fair value of pension plan assets for plans with accumulated benefit obligations in excess of plan assets were as follows:

December 31, (millions)	2022	2021	2023	2022
Aggregate projected benefit obligation	\$2,392.1	\$1,022.3	\$2,428.8	\$2,392.1
Accumulated benefit obligation	2,355.8	964.5	2,392.4	2,355.8
Fair value of plan assets	1,828.1	280.9	1,868.9	1,828.1

These plans include the U.S. non-qualified pension plans which are not funded as well as various international pension plans which are funded consistent with local practices and requirements.

For the year ended December 31, 2023, the year-over-year decrease in the Company's consolidated net benefit obligations was due to an increase in pension plan assets, partially offset by a smaller increase in pension plan liabilities. Pension liabilities increased on a global basis primarily due to decreases in pension discount rates for U.S. plans, partially offset by increases in pension discount rates for international plans. The Company's pension discount rates are largely determined based on observable yields of investment grade corporate bonds or government issued debt-securities. The Company's pension plan assets are reported at fair value. The fair value of the Company's pension assets increased on a global basis primarily due to higher returns on the Company's equity and fixed income investments compared to prior year.

For the year ended December 31, 2022, the year-over-year decrease in the Company's consolidated net benefit obligations was due to decreases in both pension liabilities and pension plan assets. Pension liabilities decreased on a global basis primarily due to increases in pension discount rates used to discount projected pension benefit payments. The Company's pension discount rates are largely determined based on observable yields of investment grade corporate bonds or government issued debt-securities. Yields on these securities increased sharply in 2022 due, in part, to actions taken by many central banks to curb global inflation. The Company's pension plan assets are reported at fair value. The fair value of the Company's pension assets decreased on a global basis primarily due to unfavorable returns on the Company's equity and fixed income investments.

For the year ended December 31, 2021, the year-over-year decrease in the Company's consolidated net benefit obligations was due to decreases in pension liabilities and increases in pension plan assets. Pension liabilities decreased primarily due to increases in discount rates used to discount projected benefit payments. The Company's pension discount rates are largely determined based on observable yields on investment grade corporate bonds and government issued debt-securities which increased in many geographies year-over-year. The fair value of the Company's pension assets increased year-over-year as asset returns outpaced pension distributions due to strong returns for equities and fixed income investments.

Net Periodic Benefit Costs and Plan Assumptions

Pension and postretirement benefits expense for the Company's operations were as follows:

(millions)	U.S. Pensions			International Pensions			U.S. Postretirement Benefits			U.S. Pensions			International Pensions			U.S. Postretirement Benefits		
	2022	2021	2020	2022	2021	2020	2022	2021	2020	2023	2022	2021	2023	2022	2021	2023	2022	2021
Service cost	\$40.8	\$43.9	\$68.4	\$28.4	\$31.4	\$30.8	\$0.8	\$1.0	\$1.2	\$40.9	\$40.8	\$43.9	\$21.7	\$28.4	\$31.4	\$0.4	\$0.8	\$1.0
(a)																		

Interest cost on benefit obligation	65.3	51.4	70.3	22.0	17.3	22.3	3.3	2.9	4.4	88.1	65.3	51.4	45.9	22.0	17.3	5.6	3.3	2.9
Expected return on plan assets	(144.4)	(152.3)	(152.9)	(69.8)	(70.7)	(63.9)	(0.3)	(0.4)	(0.4)	(145.1)	(144.4)	(152.3)	(56.1)	(69.8)	(70.7)	(0.2)	(0.3)	(0.4)
Recognition of net actuarial loss (gain)	30.2	56.7	51.9	22.8	28.7	26.1	(0.6)	0.7	0.1	0.2	30.2	56.7	12.5	22.8	28.7	(3.1)	(0.6)	0.7
Amortization of prior service benefit	(4.5)	(6.9)	(7.4)	(0.1)	(0.1)	(0.1)	-	-	(11.0)	(4.5)	(4.5)	(6.9)	(0.5)	(0.1)	(0.1)	-	-	-
Curtailments and settlements	(b) (a)	51.6	35.3	2.5	-	3.5	2.2	-	-	-	51.6	35.3	(2.7)	-	3.5	-	-	-
Total expense (benefit)	\$39.0	\$28.1	\$32.8	\$3.3	\$10.1	\$17.4	\$3.2	\$4.2	(\$5.7)	(\$20.4)	\$39.0	\$28.1	\$20.8	\$3.3	\$10.1	\$2.7	\$3.2	\$4.2

(a) Service cost includes discontinued operations of \$2.5 for the year ended December 31, 2020.

(b) \$50.6 and \$37.2 of settlement expense was recognized as special charges in 2022 and 2021, respectively.

During 2022 and 2021, the Company incurred settlement expense in the U.S. of \$51.6 million (\$38.9 million after tax) and \$35.3 million (\$26.8 million after tax), respectively, related to lump-sum payments to retirees in its U.S. pension plans. In addition to the U.S. qualified plan settlements in 2022 and 2021, we have the Company has historically recognized settlements and curtailment gains and losses associated with our its U.S. nonqualified pension plans and International pension plans, the amounts of which have been historically not material. These charges have been included as a component of other (income) expense on the Consolidated Statements of Income.

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Pension The measurement of the Company's pension and postretirement health care benefits plan benefit obligations are dependent on a variety of assumptions determined by management and used by actuaries in their valuation method and calculations. The significant assumptions used in developing the required estimates of the projected benefit obligations are the discount rates, expected returns on assets, projected salary increases, and mortality tables. Assumptions for the Company were as follows:

Plan Assumptions (percent)	U.S. International U.S. Postretirement									U.S. International U.S. Postretirement								
	Pensions			Pensions			Benefits			Pensions			Pensions			Benefits		
	2022	2021	2020	2022	2021	2020	2022	2021	2020	2023	2022	2021	2023	2022	2021	2023	2022	2021
Weighted-average actuarial assumptions																		

remain at those levels thereafter. Health care costs for certain employees which are eligible for subsidy by the Company are limited by a cap on the subsidy.

Plan Asset Management

The Company's U.S. investment strategy and policies are designed to maximize the possibility of having sufficient funds to meet the long-term liabilities of the qualified pension plan, while achieving a balance between the goals of asset growth of the qualified pension plan and keeping risk at a reasonable level. Investment income is not a primary goal of the policy.

The asset allocation position reflects the Company's ability and willingness to accept relatively more short-term variability in the performance of the qualified pension plan asset portfolio in exchange for the expectation of better long-term returns, lower pension costs and better funded status in the long run. The U.S. qualified pension plan's asset are diversified across a number of asset classes and securities. Selected individual portfolios within the asset classes may be undiversified while maintaining the diversified nature of total plan assets. The Company has no significant concentration of risk in its U.S. qualified pension plan assets.

Assets of funded international retirement plans are managed in each local jurisdiction and asset allocation strategy is set in accordance with local rules, regulations and practices; therefore, no overall target asset allocation is presented. Although foreign equity securities are all considered international for the Company, some equity securities are considered domestic for the local plan. The funds are invested in a variety of equities, bonds and real estate investments and, in some cases, the assets are managed by insurance companies which may offer a guaranteed rate of return. The Company has no significant concentration of risk in the assets of its international pension plans.

The fair value hierarchy is used to categorize investments measured at fair value in one of three levels in the fair value hierarchy. This categorization is based on the observability of the inputs used in valuing the investments. Refer to Note 8 for definitions of these levels.

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The fair value hierarchy is used to categorize investments measured at fair value in one of three levels in the fair value hierarchy. This categorization is based on the observability of the inputs used in valuing the investments. Refer to Note 7 for definitions of these levels.

The fair value of the Company's U.S. qualified pension plan assets were as follows:

(millions)	Fair Value as of December 31, 2022			Fair Value as of December 31, 2021			Fair Value as of December 31, 2023			Fair Value as of December 31, 2022		
	Level 1	Level 2	Total	Level 1	Level 2	Total	Level 1	Level 2	Total	Level 1	Level 2	Total
Cash	\$54.8	\$-	\$54.8	\$43.6	\$-	\$43.6	\$30.1	\$-	\$30.1	\$54.8	\$-	\$54.8
Equity securities:												
Large cap equity	237.1	-	237.1	412.2	-	412.2	276.1	-	276.1	237.1	-	237.1
Small cap equity	15.4	25.1	40.5	21.3	40.7	62.0	14.6	29.6	44.2	15.4	25.1	40.5
International equity	37.4	17.2	54.6	62.9	28.0	90.9	40.4	19.2	59.6	37.4	17.2	54.6
Fixed income:												
Core fixed income	145.5	646.5	792.0	510.7	589.7	1,100.4	150.7	669.6	820.3	145.5	646.5	792.0
High-yield bonds	33.4	-	33.4	49.0	-	49.0	34.7	-	34.7	33.4	-	33.4
Emerging markets	-	25.4	25.4	-	36.6	36.6	-	24.8	24.8	-	25.4	25.4
Total investments at fair value	523.6	714.2	1,237.8	1,099.7	695.0	1,794.7	546.6	743.2	1,289.8	523.6	714.2	1,237.8
Investments measured at net asset value			433.9			587.3			432.3			433.9

Total	\$523.6	\$714.2	\$1,671.7	\$1,099.7	\$695.0	\$2,382.0	\$546.6	\$743.2	\$1,722.1	\$523.6	\$714.2	\$1,671.7

The Company had no Level 3 assets as part of its U.S. qualified pension plan assets as of December 31, 2022, December 31, 2023 or 2021, 2022.

The allocation of the Company's U.S. qualified pension plan assets plans were as follows:

Asset Category	Target Asset				Target Asset			
	Allocation		Percentage		Allocation		Percentage	
	Percentage		of Plan Assets		Percentage		of Plan Assets	
December 31	2022	2021	2022	2021	2023	2022	2023	2022
Cash	- %	- %	3 %	2 %	- %	- %	2 %	3 %
Equity securities:								
Large cap equity	21	21	14	17	21	21	16	14
Small cap equity	3	3	2	3	3	3	3	2
International equity	13	10	9	10	13	13	9	9
Fixed income:								
Core fixed income	48	48	47	46	48	48	48	47
High-yield bonds	3	3	2	2	3	3	2	2
Emerging markets	2	4	2	2	2	2	1	2
Other:								
Real estate	3	3	4	4	3	3	3	4
Private equity	5	5	15	11	5	5	14	15
Distressed debt	2	3	2	3	2	2	2	2
Total	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %

The fair value of the Company's international plan assets for its defined benefit pension plans were as follows:

(millions)	Fair Value as of December 31, 2022			Fair Value as of December 31, 2021			Fair Value as of December 31, 2023			Fair Value as of December 31, 2022		
	Level 1	Level 2	Total	Level 1	Level 2	Total	Level 1	Level 2	Total	Level 1	Level 2	Total
Cash	\$9.9	\$-	\$9.9	\$7.2	\$-	\$7.2	\$12.6	\$-	\$12.6	\$9.9	\$-	\$9.9
Equity securities:												
International equity	-	219.3	219.3	-	490.1	490.1	-	182.5	182.5	-	219.3	219.3
Fixed income:												
Corporate bonds	-	158.5	158.5	9.7	220.0	229.7	-	147.5	147.5	-	158.5	158.5
Government bonds	-	365.9	365.9	7.2	298.5	305.7	-	321.4	321.4	-	365.9	365.9
Insurance company accounts	-	106.2	106.2	-	121.2	121.2	-	163.4	163.4	-	106.2	106.2
Total investments at fair value	9.9	849.9	859.8	24.1	1,129.8	1,153.9	12.6	814.8	827.4	9.9	849.9	859.8
Investments measured at net asset value			45.3			66.0			43.8			45.3
Total	\$9.9	\$849.9	\$905.1	\$24.1	\$1,129.8	\$1,219.9	\$12.6	\$814.8	\$871.2	\$9.9	\$849.9	\$905.1

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The Company had no Level 3 assets as part of its international plan assets as of **December 31, 2022**, **December 31, 2023** or **2021, 2022**.

The allocation of plan assets of the Company's international plan assets for its defined benefit pension plans were as follows:

Asset Category	Percentage of Plan Assets		Percentage of Plan Assets	
	2022	2021	2023	2022
December 31				
Cash	1 %	1 %	1 %	1 %
Equity securities:				
International equity	24	40	21	24
Fixed income:				
Corporate bonds	18	19	17	18
Government bonds	40	25	37	40
Total fixed income	58	44	54	58
Other:				
Insurance contracts	12	10	19	12
Debt securities	-	2		
Real estate	5	3	5	5
Total	100 %	100 %	100 %	100 %

Cash Flows

As of year-end **2022, 2023**, the Company's estimate of pension and postretirement benefits expected to be paid in each of the next five fiscal years and in the aggregate for the five fiscal years thereafter are as follows:

(millions)	All Plans	All Plans
2023	\$207	
2024	220	\$242
2025	224	242
2026	226	241
2027	229	244
2028 - 2032	1,151	
2028		246
2029 - 2033		1,215

Depending on plan funding levels, the U.S. qualified pension plan provides certain terminating participants with an option to receive their pension benefits in the form of a lump sum payout.

The Company is currently in compliance with all funding requirements of its U.S. pension and postretirement benefit plans. **There were no A \$50.0 million** voluntary **contributions contribution was** made to its non-contributory qualified U.S. pension **plan, plan in 2023**. The Company is required to fund certain international pension benefit plans in accordance with local legal requirements. The Company estimates contributions to be made to its international plans will approximate **\$41 million \$47 million** in **2023, 2024**.

The Company seeks to maintain balance in its U.S. assets that meet the long-term funding requirements identified by the projections of the pension plans' actuaries while simultaneously satisfying the fiduciary responsibilities prescribed in ERISA. The Company also takes into consideration the tax deductibility of contributions to the benefit plans.

Savings Plan and ESOP

The Company provides a 401(k) savings plan for the majority of its U.S. employees under the Company's 401(k) savings plans, the Ecolab Savings Plan and ESOP (the "Ecolab Savings Plan").

Effective December 31, 2020, the Ecolab Savings Plan and ESOP for Traditional Benefit Employees (the "Traditional Plan") merged into and became part of the Ecolab Savings Plan. Following the merger, participants in the Traditional Plan became participants in the Ecolab Savings Plan and \$1,710 million of net assets of the Traditional Plan transferred to the Ecolab Savings Plan.

Under the Ecolab Savings Plan, Employee before-tax contributions of up to 4% of eligible compensation are matched 100% by the Company and employee before-tax contributions over 4% and up to 8% of eligible compensation are matched 50% by the Company.

The Company's matching contributions are 100% vested immediately. The Company's matching contribution expense was \$81.6 million \$88.2 million, \$81.6 million and \$78.2 million in 2023, 2022 and \$72.4 million in 2022, 2021, and 2020, respectively.

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18, 17. REVENUES

Revenue Recognition

Product and Sold Equipment

Product revenue is generated from sales of cleaning, sanitizing, water treatment, process treatment and colloidal silica products. In addition, the Company sells equipment which may be used in combination with its specialized products. Revenue recognized from product and sold equipment is recognized at the point in time when the obligations in the contract with the customer are satisfied, which generally occurs with the transfer of the product or delivery of the equipment.

On June 3, 2020, the Company completed the separation of its Upstream Energy business ("ChampionX"). The Company entered into a Master Cross Supply and Product Transfer agreement with ChampionX to provide, receive or transfer certain products for a period up to 36 months and for a smaller set of products with limited suppliers over the next few years. Sales of product to ChampionX under this agreement are recorded in product and equipment sales in the Corporate segment along with the related cost of sales, while purchases from ChampionX are recorded in inventory. Sales of product to ChampionX post-separation for 2023, 2022 and 2021 were \$69.0 million, \$123.8 million and \$139.1 million, respectively. As of December 31, 2023 and 2022, the Company had an outstanding accounts receivable balance for sales of product to ChampionX of \$3.8 and 12.9 million, respectively.

Service and Lease Equipment

Service and lease equipment revenue is generated from providing services or leasing equipment to customers. Service offerings include installing or repairing certain types of equipment, activities that supplement or replace headcount at the customer location, or fulfilling deliverables included in the contract. Global Industrial segment services are associated with water treatment and paper process applications. Global Institutional & Specialty services include cleaning and sanitizing programs and wash process solutions. Global Healthcare & Life Sciences segment services include pharmaceutical, personal care, infection and containment control solutions. Revenues included in Other primarily related to services designed to detect, eliminate and prevent pests. Service revenue is recognized over time utilizing an input method and aligns with when the services are provided. Typically, revenue is recognized over time using costs incurred to date because the effort provided by the field selling and service organization represents services provided, which corresponds with the transfer of control. Revenue recognized from leased equipment primarily relates to warewashing and water treatment equipment recognized on a straight-line basis over the length of the lease contract pursuant to Topic 842 Leases. In the second quarter ended June 30, 2020, the Company provided a one-time lease billing suspension of approximately \$38 million to certain restaurant customers within the Institutional Segment, in recognition of the impact of the COVID-19 pandemic. There was no substantial change to the consideration expected to be received under the lease arrangement. Refer to Note 14 13 for additional information related to lease equipment.

Practical Expedients and Exemptions

The revenue standard can be applied to a portfolio of contracts with similar characteristics if it is reasonable that the effects of applying the standard at the portfolio level would not be significantly different than applying the standard at the individual contract level. The Company applies the portfolio approach primarily within each operating segment by geographical region. Application of the portfolio approach was focused on those characteristics that have the most significant accounting consequences in terms of their effect on the timing of revenue recognition or the amount of revenue recognized. The Company determined the key criteria to assess with respect to the portfolio approach, including the related deliverables, the characteristics of the customers and the timing and transfer of goods and services, which most closely aligned within the operating segments. In addition, the accountability for the business operations, as well as the operational decisions on how to go to market and the product offerings, are performed at the operating segment level.

The following table shows principal activities, separated by reportable segments, from which the Company generates its revenue. The reportable segments have been revised to align with the Company's reportable segments in the current year. Corporate segment includes sales to ChampionX under the Master Cross Supply and Product Transfer agreements entered into as part of the ChampionX Separation. For more information about the Company's reportable segments, refer to Note 19, 18.

Net sales at public exchange rates by reportable segment were as follows:

(millions)	2022	2021	2020
Global Industrial			
Product and sold equipment	\$5,937.0	\$5,372.0	\$5,052.3
Service and lease equipment	868.0	865.8	818.5
Global Institutional & Specialty			
Product and sold equipment	3,645.1	3,265.5	2,968.7
Service and lease equipment	776.8	690.4	584.5
Global Healthcare & Life Sciences			
Product and sold equipment	1,398.3	1,068.9	1,071.4
Service and lease equipment	112.2	112.7	110.5
Other			
Product and sold equipment	342.1	308.9	274.5
Service and lease equipment	984.5	909.7	809.8
Corporate			
Product and sold equipment	123.7	138.0	99.7
Service and lease equipment	0.1	1.2	0.3
Total			
Total product and sold equipment	\$11,446.2	\$10,153.3	\$9,466.6
Total service and lease equipment	2,741.6	2,579.8	2,323.6

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Net sales at public exchange rates by reportable segment were as follows:

(millions)	2023	2022	2021
Global Industrial			
Product and sold equipment	\$6,331.0	\$5,937.0	\$5,372.4

Service and lease equipment	890.8	868.0	865.5
Global Institutional & Specialty			
Product and sold equipment	4,087.4	3,655.3	3,276.3
Service and lease equipment	911.8	776.8	690.5
Global Healthcare & Life Sciences			
Product and sold equipment	1,476.3	1,398.3	1,068.8
Service and lease equipment	109.7	112.2	112.8
Other			
Product and sold equipment	353.1	331.9	297.9
Service and lease equipment	1,091.1	984.5	909.8
Corporate			
Product and sold equipment	69.0	123.7	137.9
Service and lease equipment	-	0.1	1.2
Total			
Total product and sold equipment	\$12,316.8	\$11,446.2	\$10,153.3
Total service and lease equipment	3,003.4	2,741.6	2,579.8

Net sales at public exchange rates by geographic region were as follows:

(millions)	Global Industrial			Global Institutional & Specialty			Global Industrial			Global Institutional & Specialty		
	2022	2021	2020	2022	2021	2020	2023	2022	2021	2023	2022	2021
United States	\$2,945.1	\$2,603.0	\$2,564.3	\$3,050.0	\$2,721.8	\$2,400.4	\$3,059.3	\$2,945.1	\$2,603.1	\$3,454.2	\$3,050.0	\$2,721.8
Europe	1,373.6	1,367.1	1,262.6	624.0	557.9	510.3	1,496.6	1,373.6	1,367.1	681.9	624.0	558.0
Asia Pacific	830.1	802.5	747.2	212.6	201.2	203.9	880.0	830.1	802.5	231.2	212.6	201.2
Latin America	621.7	551.5	491.7	162.3	135.0	128.3	737.2	621.7	551.5	188.3	162.3	135.0
Greater China	419.3	394.9	333.0	124.5	132.3	114.9	391.4	419.3	394.9	158.5	134.7	143.1
India, Middle East and Africa	419.4	344.4	314.1	54.6	44.2	39.8	452.1	419.4	344.4	67.0	54.6	44.2
Canada	195.8	174.4	157.9	193.9	163.5	155.6	205.2	195.8	174.4	218.1	193.9	163.5
Total	\$6,805.0	\$6,237.8	\$5,870.8	\$4,421.9	\$3,955.9	\$3,553.2	\$7,221.8	\$6,805.0	\$6,237.9	\$4,999.2	\$4,432.1	\$3,966.8

(millions)	Global Healthcare & Life Sciences			Other			Global Healthcare & Life Sciences			Other		
	2022	2021	2020	2022	2021	2020	2023	2022	2021	2023	2022	2021
United States	\$612.5	\$442.3	\$432.6	\$816.0	\$719.9	\$645.7	\$647.7	\$612.5	\$443.8	\$898.6	\$816.0	\$719.9
Europe	688.8	647.2	643.6	272.7	264.9	228.8	735.0	688.8	625.3	301.7	272.7	264.9
Asia Pacific	92.8	59.6	69.8	76.1	72.4	64.8	95.3	92.8	65.2	85.9	76.1	72.4
Latin America	24.7	1.8	6.1	51.9	50.4	50.3	25.5	24.7	5.5	57.6	51.9	50.3
Greater China	61.0	6.3	3.6	78.8	80.0	63.4	51.2	61.0	10.1	69.2	68.6	69.2
India, Middle East and Africa	25.0	18.1	19.8	10.3	11.6	14.4	24.8	25.0	25.4	9.0	10.3	11.6
Canada	5.7	6.3	6.4	20.8	19.4	16.9	6.5	5.7	6.3	22.2	20.8	19.4
Total	\$1,510.5	\$1,181.6	\$1,181.9	\$1,326.6	\$1,218.6	\$1,084.3	\$1,586.0	\$1,510.5	\$1,181.6	\$1,444.2	\$1,316.4	\$1,207.7

(millions)	Corporate			Corporate		
	2022	2021	2020	2023	2022	2021
United States	\$107.5	\$98.2	\$75.2	\$55.6	\$107.5	\$98.1
Europe	3.0	3.9	4.8	3.0	3.0	3.9
Asia Pacific	4.1	5.5	2.8	3.7	4.1	5.5

Latin America	7.3	24.6	13.1	5.6	7.3	24.6
Greater China	0.1	2.3	0.9	-	0.1	2.3
India, Middle East and Africa	0.3	3.4	2.5	-	0.3	3.4
Canada	1.5	1.3	0.7	1.1	1.5	1.3
Total	\$123.8	\$139.2	\$100.0	\$69.0	\$123.8	\$139.1

Net sales by geographic region were determined based on origin of sale. There were no sales from a single foreign country or individual customer that were material to the Company's consolidated net sales. Sales of warewashing products were approximately 12%, 10% 12%, and 11% 10% of consolidated net sales in 2023, 2022 2021 and 2020, 2021, respectively.

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Contract Liability

Payments received from customers are based on invoices or billing schedules as established in contracts with customers. Accounts receivable are recorded when the right to consideration becomes unconditional. The contract liability relates to billings in advance of performance (primarily service obligations) under the contract. Contract liabilities are recognized as revenue when the performance obligation has been performed, which primarily occurs during the subsequent quarter.

(millions)	December 31 2022	December 31 2021
Contract liability as of beginning of the year	\$91.7	\$80.4
Revenue recognized in the year from:		
Amounts included in the contract liability at the beginning of the year	(91.7)	(80.4)
Increases due to billings excluding amounts recognized as revenue during the year ended	116.5	91.6
Business combinations	-	0.1
Contract liability as of end of year	\$116.5	\$91.7
(millions)	December 31 2023	December 31 2022
Contract liability as of beginning of the year	\$116.5	\$91.7
Revenue recognized in the year from:		
Amounts included in the contract liability at the beginning of the year	(116.5)	(91.7)
Increases due to billings excluding amounts recognized as revenue during the year ended	110.9	116.5
Contract liability as of end of year	\$110.9	\$116.5

19.18. OPERATING SEGMENTS AND GEOGRAPHIC INFORMATION

The Company's organizational structure consists of global business unit and global regional leadership teams. The Company's eleven ten operating segments follow its commercial and product-based activities and are based on engagement in business activities, availability of discrete financial information and review of operating results by the Chief Operating Decision Maker at the identified operating segment level.

The Company's operating segments that share similar economic characteristics and future prospects, nature of the products and production processes, end-use markets, channels of distribution and regulatory environment have been aggregated into three reportable segments: Global Industrial, Global Institutional & Specialty and Global Healthcare & Life Sciences. The Company's operating segments that do not meet the quantitative criteria to be separately reported have been combined into Other. The Company provides similar information for Other as the Company considers the information regarding its underlying operating segments as useful in understanding its consolidated results.

The Company's operating segments are aggregated as follows:

Global Industrial

Includes the Water, Food & Beverage Paper, and Downstream Paper operating segments. It provides water treatment and process applications, and cleaning and sanitizing solutions primarily to large industrial customers within the manufacturing, food and beverage processing, transportation, chemical, primary metals and mining, power generation, pulp and paper, commercial laundry, global petroleum and petrochemical industries. The underlying operating segments exhibit similar manufacturing processes, distribution methods and economic characteristics.

Global Institutional & Specialty

Includes the Institutional and Specialty operating segments. It provides specialized cleaning and sanitizing products to the foodservice, hospitality, lodging, government and education and retail industries. The underlying operating segments exhibit similar manufacturing processes, distribution methods and economic characteristics.

Global Healthcare & Life Sciences

Includes the Healthcare and Life Sciences operating segments. It provides specialized cleaning and sanitizing products to the healthcare, personal care and pharmaceutical industries. The underlying operating segments exhibit similar manufacturing processes, distribution methods and economic characteristics.

Other

Includes the Pest Elimination operating segment which provides services to detect, eliminate and prevent pests, such as rodents and insects, the CTG operating segment which produces and sells colloidal silica, which is comprised of nano-sized particles of silica in water used primarily for binding and polishing applications and the Textile Care operating segment which provides products and services that manage the entire wash process through custom designed programs, premium products, dispensing equipment, water and energy management and reduction, and real time data management.

Corporate

Consistent with the Company's internal management reporting, Corporate amounts in the table below include sales to ChampionX under the Master Cross Supply and Product Transfer agreements entered into as part of the ChampionX Separation, as discussed in Note 5.4, Corporate also includes intangible asset amortization specifically from the Nalco and Purloite acquisitions Purolite acquisitions and special (gains) and charges, as discussed in Note 3, that are not allocated to the Company's reportable segments.

Comparability of Reportable Segments

The Company made immaterial changes, including Effective January 1, 2023, the movement Company's former Downstream operating segment is now part of certain customers and cost allocations between the Water operating segment. This change did not have any impact on the Global Industrial reportable segments. These changes are reflected in the "Other" column in the table below. segment.

The Company evaluates the performance of its non-U.S. dollar functional currency international operations based on fixed currency exchange rates, which eliminate the impact of exchange rate fluctuations on its international operations. Fixed currency amounts are updated annually at the beginning of each year based on translation into U.S. dollars at foreign currency exchange rates established by management, with all periods presented using such rates. The "Fixed Currency Rate Change" column shown in the following table reflects the impact on previously reported values related to international operations at fixed currency exchange rates established by management at the beginning of 2023, rather than the 2022 and have been updated from the 2021 rates reflected in the Company's 2021 Form 10-K, established rates. The difference between the fixed currency exchange rates and the actual currency exchanges exchange rates is reported within the "Effect of foreign currency translation" row in the table below. following table. The "Other" column shown in the following table reflects immaterial changes between reportable segments, primarily including the movement of certain customers and cost allocations.

The impact of the preceding changes on previously reported full year 2021 2022 and 2020 2021 reportable segment net sales and operating income is summarized as follows:

	December 31, 2021				December 31, 2022			
	2021 Reported	Fixed	2021 Reported		2022 Reported	Fixed	2022 Reported	
	Valued at 2021	Currency	Valued at 2022		Valued at 2022	Currency	Valued at 2023	
(millions)	Management Rates	Other	Management Rates		Fixed Currency Rates	Other	Fixed Currency Rates	
Net Sales								
Global Industrial	\$6,304.9	\$-	(\$218.1)	\$6,086.8	\$6,944.0	\$-	(\$207.7)	\$6,736.3
Global Institutional & Specialty	3,978.2	-	(69.4)	3,908.8	4,480.0	10.2	(75.9)	4,414.3
Global Healthcare & Life Sciences	1,195.4	-	(45.8)	1,149.6	1,570.0	-	(64.2)	1,505.8
Other	1,226.9	-	(25.9)	1,201.0	1,355.0	(10.2)	(31.5)	1,313.3
Corporate	139.4	-	(2.0)	137.4	124.1	-	(0.4)	123.7
Subtotal at fixed currency rates	12,844.8	-	(361.2)	12,483.6	14,473.1	-	(379.7)	14,093.4
Effect of foreign currency translation	(111.7)	-	361.2	249.5	(285.3)	-	379.7	94.4
Consolidated reported GAAP net sales	\$12,733.1	\$-	\$-	\$12,733.1	\$14,187.8	\$-	\$-	\$14,187.8
Operating Income								
Global Industrial	\$1,031.0	\$4.0	(\$49.3)	\$985.7	\$977.0	\$0.8	(\$42.0)	\$935.8

Global Institutional & Specialty	556.9	(3.8)	(7.4)	545.7	634.5	(1.6)	(11.2)	621.7
Global Healthcare & Life Sciences	160.9	(0.9)	(7.7)	152.3	205.0	(1.8)	(9.9)	193.3
Other	187.3	0.7	(4.0)	184.0	212.8	2.6	(5.5)	209.9
Corporate	(318.6)	-	2.0	(316.6)	(416.7)	-	2.3	(414.4)
Subtotal at fixed currency rates	1,617.5	-	(66.4)	1,551.1	1,612.6	-	(66.3)	1,546.3
Effect of foreign currency translation	(18.9)	-	66.4	47.5	(50.1)	-	66.3	16.2
Consolidated reported GAAP operating income	\$1,598.6	\$-	\$-	\$1,598.6	\$1,562.5	\$-	\$-	\$1,562.5

(millions)	December 31, 2020			
	2020 Reported		Fixed	2020 Reported
	Valued at 2021	Segment	Currency	Valued at 2022
	Management Rates	Change	Rate Change	Management Rates
Net Sales				
Global Industrial	\$6,048.2	\$-	(\$202.5)	\$5,845.7
Global Institutional & Specialty	3,629.0	-	(69.2)	3,559.8
Global Healthcare & Life Sciences	1,241.1	-	(51.0)	1,190.1
Other	1,103.4	-	(23.6)	1,079.8
Corporate	100.6	-	(1.2)	99.4
Subtotal at fixed currency rates	12,122.3	-	(347.5)	11,774.8
Effect of foreign currency translation	(332.1)	-	347.5	15.4
Consolidated reported GAAP net sales	\$11,790.2	\$-	\$-	\$11,790.2
Operating Income				
Global Industrial	\$1,123.1	\$1.4	(\$45.4)	\$1,079.1
Global Institutional & Specialty	324.0	(1.6)	(6.1)	316.3
Global Healthcare & Life Sciences	218.3	(0.5)	(10.2)	207.6
Other	132.8	0.7	(2.9)	130.6
Corporate	(349.7)	-	2.0	(347.7)
Subtotal at fixed currency rates	1,448.5	-	(62.6)	1,385.9
Effect of foreign currency translation	(52.8)	-	62.6	9.8
Consolidated reported GAAP operating income	\$1,395.7	\$-	\$-	\$1,395.7

(millions)	December 31, 2021			
	2021 Reported		Fixed	2021 Reported
	Valued at 2022	Segment	Currency	Valued at 2023
	Fixed Currency Rates	Change	Rate Change	Fixed Currency Rates
Net Sales				
Global Industrial	\$6,086.8	\$-	(\$178.3)	\$5,908.5
Global Institutional & Specialty	3,908.8	10.9	(63.0)	3,856.7
Global Healthcare & Life Sciences	1,149.6	-	(48.5)	1,101.1
Other	1,201.0	(10.9)	(27.6)	1,162.5
Corporate	137.4	-	-	137.4
Subtotal at fixed currency rates	12,483.6	-	(317.4)	12,166.2
Effect of foreign currency translation	249.5	-	317.4	566.9
Consolidated reported GAAP net sales	\$12,733.1	\$-	\$-	\$12,733.1

Operating Income				
Global Industrial	\$985.7	\$0.4	(\$42.7)	\$943.4
Global Institutional & Specialty	545.7	(1.4)	(7.6)	536.7
Global Healthcare & Life Sciences	152.3	(1.6)	(9.7)	141.0
Other	184.0	2.6	(5.3)	181.3
Corporate	(316.6)	-	2.3	(314.3)
Subtotal at fixed currency rates	1,551.1	-	(63.0)	1,488.1
Effect of foreign currency translation	47.5	-	63.0	110.5
Consolidated reported GAAP operating income	\$1,598.6	\$-	\$-	\$1,598.6

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Reportable Segment Information

Financial information for each of the Company's reportable segments were as follows:

(millions)	Net Sales			Operating Income (Loss)			Net Sales			Operating Income (Loss)		
	2022	2021	2020	2022	2021	2020	2023	2022	2021	2023	2022	2021
Global Industrial	\$6,944.0	\$6,086.8	\$5,845.7	\$977.0	\$985.7	\$1,079.1	\$7,193.1	\$6,736.3	\$5,908.5	\$1,080.7	\$935.8	\$943.4
Global Institutional & Specialty	4,480.0	3,908.8	3,559.8	634.5	545.7	316.3	4,994.0	4,414.3	3,856.7	823.0	621.7	536.7
Global Healthcare & Life Sciences	1,570.0	1,149.6	1,190.1	205.0	152.3	207.6	1,576.9	1,505.8	1,101.1	160.0	193.3	141.0
Other	1,355.0	1,201.0	1,079.8	212.8	184.0	130.6	1,442.3	1,313.3	1,162.5	255.0	209.9	181.3
Corporate	124.1	137.4	99.4	(416.7)	(316.6)	(347.7)	69.1	123.7	137.4	(331.7)	(414.4)	(314.3)
Subtotal at fixed currency rates	14,473.1	12,483.6	11,774.8	1,612.6	1,551.1	1,385.9	15,275.4	14,093.4	12,166.2	1,987.0	1,546.3	1,488.1
Effect of foreign currency translation	(285.3)	249.5	15.4	(50.1)	47.5	9.8	44.8	94.4	566.9	5.3	16.2	110.5
Consolidated reported GAAP	\$14,187.8	\$12,733.1	\$11,790.2	\$1,562.5	\$1,598.6	\$1,395.7	\$15,320.2	\$14,187.8	\$12,733.1	\$1,992.3	\$1,562.5	\$1,598.6

The profitability of the Company's operating segments is evaluated by management based on operating income.

Consistent with the Company's internal management reporting, Corporate amounts in the table above include sales to ChampionX in accordance with the long-term supply agreement entered into with the Transaction, as discussed in Note 17. Corporate also includes intangible asset amortization specifically from the Nalco and Purolite

acquisitions and special (gains) and charges, as discussed in Note 3, that are not allocated to the Company's reportable segments.

The Company has an integrated supply chain function that serves all of its reportable segments. As such, asset and capital expenditure information by reportable segment has not been provided and is not available, since the Company does not produce or utilize such information internally. In addition, although depreciation and amortization expense is a component of each reportable segment's operating results, it is not discretely identifiable.

Geographic Information

Long-lived assets, which includes property, plant and equipment and right of use assets, at public exchange rates by geographic region were as follows:

(millions)	Long-Lived Assets, net		Long-Lived Assets, net	
	2022	2021	2023	2022
United States	\$2,508.9	\$2,416.4	\$2,708.6	\$2,508.9
Europe	574.3	580.7	631.2	574.3
Asia Pacific	210.3	237.1	213.0	210.3
Latin America			175.1	146.5
Greater China	176.6	186.4	167.4	176.6
Latin America	146.5	137.9		
India, Middle East and Africa	64.1	60.2	68.2	64.1
Canada	60.9	66.5	64.6	60.9
Total	\$3,741.6	\$3,685.2	\$4,028.1	\$3,741.6

Geographic data for long-lived assets is based on physical location of those assets. Refer to Note 18 17 for net sales by geographic region.

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20 19: QUARTERLY FINANCIAL DATA (UNAUDITED)

(millions, except per share)	First	Second	Third	Fourth	Year	First	Second	Third	Fourth	Year
	Quarter	Quarter	Quarter	Quarter		Quarter	Quarter	Quarter	Quarter	
2023										
Net sales	\$3,571.6	\$3,852.1	\$3,958.1	\$3,938.4	\$15,320.2					
Operating expenses										
Cost of sales										
(a)	2,205.2	2,334.8	2,330.5	2,284.4	9,154.9					

Selling, general and administrative expenses	990.3	1,011.6	1,024.9	1,034.8	4,061.6
Special (gains) and charges	24.5	21.0	36.7	29.2	111.4
Operating income	351.6	484.7	566.0	590.0	1,992.3
Other (income) expense (b)	(13.1)	(14.4)	(14.5)	(17.9)	(59.9)
Interest expense, net	74.2	77.8	74.3	70.4	296.7
Income before income taxes	290.5	421.3	506.2	537.5	1,755.5
Provision for income taxes	52.4	86.6	96.8	126.7	362.5
Net income including noncontrolling interest	238.1	334.7	409.4	410.8	1,393.0
Net income attributable to noncontrolling interest	4.7	5.0	5.4	5.6	20.7
Net income attributable to Ecolab	\$233.4	\$329.7	\$404.0	\$405.2	\$1,372.3
Earnings attributable to Ecolab per common share					
Basic	\$ 0.82	\$ 1.16	\$ 1.42	\$ 1.42	\$ 4.82
Diluted	\$ 0.82	\$ 1.15	\$ 1.41	\$ 1.41	\$ 4.79
Weighted-average common shares outstanding					
Basic	284.6	284.9	285.1	285.3	285.0
Diluted	285.9	286.3	286.9	287.1	286.5
2022					
Net sales	\$3,266.7	\$3,580.6	\$3,669.3	\$3,671.2	\$14,187.8
Operating expenses					
Cost of sales					
(a)	2,073.4	2,211.1	2,291.6	2,254.9	8,831.0
Selling, general and administrative expenses	914.7	940.1	876.9	922.1	3,653.8
Special (gains) and charges	24.1	3.6	17.8	95.0	140.5

Operating income	254.5	425.8	483.0	399.2	1,562.5	254.5	425.8	483.0	399.2	1,562.5
Other (income) expense (b)	(18.8)	(19.5)	5.7	8.1	(24.5)	(18.8)	(19.5)	5.7	8.1	(24.5)
Interest expense, net	53.0	56.0	65.1	69.5	243.6	53.0	56.0	65.1	69.5	243.6
Income before income taxes	220.3	389.3	412.2	321.6	1,343.4	220.3	389.3	412.2	321.6	1,343.4
Provision for income taxes	45.6	76.6	60.2	52.1	234.5	45.6	76.6	60.2	52.1	234.5
Net income including noncontrolling interest	174.7	312.7	352.0	269.5	1,108.9	174.7	312.7	352.0	269.5	1,108.9
Net income attributable to noncontrolling interest	2.8	4.4	4.9	5.1	17.2	2.8	4.4	4.9	5.1	17.2
Net income attributable to Ecolab	\$171.9	\$308.3	\$347.1	\$264.4	\$1,091.7	\$171.9	\$308.3	\$347.1	\$264.4	\$1,091.7
Earnings attributable to Ecolab per common share										
Basic	\$ 0.60	\$ 1.08	\$ 1.22	\$ 0.93	\$ 3.83	\$ 0.60	\$ 1.08	\$ 1.22	\$ 0.93	\$ 3.83
Diluted	\$ 0.60	\$ 1.08	\$ 1.21	\$ 0.93	\$ 3.81	\$ 0.60	\$ 1.08	\$ 1.21	\$ 0.93	\$ 3.81
Weighted-average common shares outstanding										
Basic	286.2	285.1	284.9	284.6	285.2	286.2	285.1	284.9	284.6	285.2
Diluted	288.1	286.6	286.3	285.8	286.6	288.1	286.6	286.3	285.8	286.6
2021										
Net sales	\$2,885.0	\$3,162.7	\$3,320.8	\$3,364.6	\$12,733.1					
Operating expenses										
Cost of sales										
(a)	1,712.0	1,844.0	2,016.7	2,043.1	7,615.8					
Selling, general and administrative expenses	862.9	853.3	832.0	867.9	3,416.1					
Special (gains) and charges	12.8	17.6	6.3	65.9	102.6					
Operating income	297.3	447.8	465.8	387.7	1,598.6					
Other (income) expense (b)	(17.0)	2.5	(13.0)	(6.4)	(33.9)					
Interest expense, net (c)	51.7	45.6	76.4	44.6	218.3					

Income before					
income taxes	262.6	399.7	402.4	349.5	1,414.2
Provision for					
income taxes	66.1	86.1	73.8	44.2	270.2
Net income					
including					
noncontrolling					
interest	196.5	313.6	328.6	305.3	1,144.0
Net income					
attributable to					
noncontrolling					
interest	2.9	2.8	4.1	4.3	14.1
Net income					
attributable to					
Ecolab	\$193.6	\$310.8	\$324.5	\$301.0	\$1,129.9
Earnings					
attributable to					
Ecolab per					
common share					
Basic	\$ 0.68	\$ 1.09	\$ 1.13	\$ 1.05	\$ 3.95
Diluted	\$ 0.67	\$ 1.08	\$ 1.12	\$ 1.04	\$ 3.91
Weighted-					
average					
common shares					
outstanding					
Basic	286.0	286.0	286.4	286.7	286.3
Diluted	288.8	288.8	289.2	289.5	289.1

Per share amounts do not necessarily sum due to changes in the calculation of shares outstanding for each discrete period and rounding. Gross profit is calculated as net sales minus cost of sales.

- (a) Cost of sales includes special charges of \$3.2, \$8.1, \$5.9 and \$5.3 in Q1, Q2, Q3 and Q4 of 2023, respectively, and \$52.9, \$1.7, \$7.1 and \$8.2 in Q1, Q2, Q3 and Q4 of 2022, respectively, and \$19.6, \$3.7, \$52.9 and \$17.7 in Q1, Q2, Q3 and Q4 of 2021, respectively.
- (b) Other (income) expense includes special charges of \$24.8 and \$25.8 in Q3 and Q4 of 2022, respectively, and \$19.6, \$7.0 and \$10.6 in Q2, Q3 and Q4 of 2021, respectively.
- (c) Interest expense, net includes special charges of \$32.3 and \$0.8 in Q3 and Q4 of 2021, respectively.

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[Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.](#)

None.

[Item 9A. Controls and Procedures.](#)

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

As of **December 31, 2022** **December 31, 2023**, we carried out an evaluation, under the supervision and with the participation of our management, including our Chairman and Chief Executive Officer and our Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the Securities Exchange Act of 1934 as amended). Based upon that evaluation, our Chairman and Chief Executive Officer and our Chief Financial Officer concluded that, as of **December 31, 2022** **December 31, 2023**, our disclosure controls and procedures were effective.

Management's Report on Internal Control Over Financial Reporting

Refer to page **50** **47** of this Annual Report for "Management's Report on Internal Control Over Financial Reporting."

Report of Registered Public Accounting Firm

Refer to page **51** **48** of this Annual Report for the "Report of Independent Registered Public Accounting Firm."

Changes in Internal Control Over Financial Reporting.

During the period **October 1 - December 31, 2022** **October 1, 2023 through December 31, 2023** there were no changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

We are continuing our implementation of our enterprise resource planning ("ERP") system upgrades, which are expected to occur in phases over the next several years. These upgrades, which include supply chain and certain finance functions, are expected to improve the efficiency of certain financial and related transactional processes. These upgrades of the ERP systems will affect the processes that constitute our internal control over financial reporting and will require testing for effectiveness.

[Item 9B. Other Information.](#)

Rule 10b5-1 Plan Adoptions and Modifications.

None.

[Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.](#)

Not applicable.

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PART III

Item 10. Directors, Executive Officers and Corporate Governance.

Information about our directors is incorporated by reference from the discussion under the heading "Proposal 1: Election of Directors" located in the Proxy Statement. Information about our Audit Committee, including the members of the Committee, and our Audit Committee financial experts, is incorporated by reference from the discussion under the heading "Corporate Governance," and sub-headings "Board Committees" and "Audit Committee," located in the Proxy Statement. Information about our Code of Conduct is incorporated by reference from the discussion under the heading "Corporate Governance" located in the Proxy Statement. Information regarding our executive officers is presented under the heading "Information about our Executive Officers" in Part I, Item 1 of this Form 10-K, and is incorporated herein by reference.

Item 11. Executive Compensation.

Information appearing under the following headings of the Proxy Statement is incorporated herein by reference:

- Director Compensation for 2022 2023
- Compensation Risk Analysis
- Compensation & Human Capital Management Committee Interlocks and Insider Participation
- Compensation & Human Capital Management Committee Report
- Compensation Discussion and Analysis
- Summary Compensation Table for 2022 2023
- Grants of Plan-Based Awards for 2022 2023
- Outstanding Equity Awards at Fiscal Year End for 2022 2023
- Option Exercises and Stock Vested for 2022 2023
- Pension Benefits for 2022 2023
- Non-Qualified Deferred Compensation for 2022 2023
- Potential Payments Upon Termination or Change in Control
- Pay Ratio Disclosure

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

Information appearing under the heading entitled "Security Ownership" located in the Proxy Statement is incorporated herein by reference. Information appearing under the heading entitled "Equity Compensation Plan Information" located in the Proxy Statement is incorporated herein by reference.

A total of 286,521 201,743 shares of Common Stock held by our directors and executive officers, some of whom may be deemed to be "affiliates" of the Company, have been excluded from the computation of market value of our Common Stock on the cover page of this Form 10-K. This total represents that portion of the shares reported as beneficially owned by our directors and executive officers as of June 30, 2022 June 30, 2023 which are actually issued and outstanding.

Equity Compensation Plan Information

Plan Category	(a)	(b)	(c)
	Number of securities to be	Weighted average exercise	Number of securities remaining
	issued upon exercise of	price of outstanding options,	available for future issuance under
	outstanding options,	warrants	equity compensation plans (excluding
	warrants	and rights	securities reflected in column (a))
Equity compensation plans approved	and rights	and rights	
by security holders	8,525,989 (1)	\$ 168.65 (1)	18,840,264
Total	8,525,989	\$ 168.65	18,840,264

(1) Includes 204,317 Common Stock equivalents representing deferred compensation stock units earned by non-employee directors under our 2001 Non-Employee Director Stock Option and Deferred Compensation Plan, 944,826 Common Stock equivalents under our 2010 and 2023 Stock Incentive Plans representing performance-based restricted stock units payable to employees, and 455,490 Common Stock equivalents under our 2010 and 2023 Stock Incentive Plans representing restricted stock units payable to employees. All of the Common Stock equivalents described in this footnote (1) are not included in the calculation of weighted average exercise price of outstanding options, warrants and rights in column (b) of this table.

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[Item 13. Certain Relationships and Related Transactions, and Director Independence.](#)

Information appearing under the headings entitled "Director Independence Standards and Determinations" and "Related Person Transactions" located in the Proxy Statement is incorporated herein by reference.

[Item 14. Principal Accounting Fees and Services.](#)

Information appearing under the heading entitled "Audit Fees" located in the Proxy Statement is incorporated herein by reference.

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PART IV

[Item 15. Exhibit and Financial Statement Schedules.](#)

The following information required under this item is filed as part of this report:

(a)(1) Financial Statements.

Document:	Page:
(i) Report of Independent Registered Public Accounting Firm . (PCAOB ID 238)	51 48
(ii) Consolidated Statements of Income for the years ended December 31, 2022, December 31, 2023, 2021, 2022 and 2020, 2021.	53 50
(iii) Consolidated Statements of Comprehensive Income for the years ended December 31, 2022, December 31, 2023, 2021, 2022 and 2020, 2021.	54 51
(iv) Consolidated Balance Sheets at December 31, 2022, December 31, 2023 and 2021, 2022.	55 52
(v) Consolidated Statements of Cash Flows for the years ended December 31, 2022, December 31, 2023, 2021, 2022 and 2020, 2021.	56 53
(vi) Consolidated Statements of Equity for the years ended December 31, 2022, December 31, 2023, 2021, 2022 and 2020, 2021.	57 54
(vii) Notes to Consolidated Financial Statements.	58 55

Exhibit No.:	Document:	Method of Filing:
(a)(2)	Financial Statement Schedules.	
	All financial statement schedules are omitted because they are not applicable or the required information is shown in the consolidated financial statements or the accompanying notes to the consolidated financial statements. The separate financial statements and summarized financial information of subsidiaries not consolidated and of fifty percent or less owned persons have been omitted because they do not satisfy the requirements for inclusion in this Form 10-K.	
(a)(3)	The documents below are filed as exhibits to this Report. We will, upon request and payment of a fee not exceeding the rate at which copies are available from the Securities and Exchange Commission, furnish copies of any of the following exhibits to stockholders.	
(2.1)	Agreement and Plan of Merger and Reorganization, dated December 18, 2019, by and among Ecolab Inc., ChampionX Holding Inc., Apergy Corporation and Athena Merger Sub, Inc.	Incorporated by reference to Exhibit (2.1) of our Form 8-K, dated December 18, 2019. (File No. 001-9328)
(2.2)	Separation and Distribution Agreement, dated December 18, 2019, by and among Ecolab Inc., ChampionX Holding Inc. and Apergy Corporation.	Incorporated by reference to Exhibit (2.2) of our Form 8-K, dated December 18, 2019. (File No. 001-9328)
(2.3)	Stock and Asset Purchase Agreement, dated October 28, 2021, by and among Ecolab Inc., Purolite Corporation, a Delaware corporation ("Purolite"), Stefan E. Brodie and Don B. Brodie (the "Founder Sellers" and together with Purolite, the "Sellers") and Stefan E. Brodie, solely in his capacity as the representative of the Sellers.	Incorporated by reference to Exhibit (2.1) of our Form 8-K, dated December 1, 2021. (File No. 001-9328)
(3.1)	Restated Certificate of Incorporation of Ecolab Inc., dated January 2, 2013.	Incorporated by reference to Exhibit (3.2) of our Form 8-K, dated January 2, 2013. (File No. 001-9328)
(3.2)	By-Laws, as amended through December 3, 2015 May 24, 2023.	Incorporated by reference to Exhibit (3.1) of our Form 8-K, dated December 3, 2015 May 4, 2023. (File No. 001-9328)
(4.1)	Common Stock.	See Exhibits (3.1) and (3.2)

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Exhibit No.:	Document:	Method of Filing:
(4.1)	Common Stock.	See Exhibits (3.1) and (3.2)
(4.2)	Amended and Restated Indenture, dated January 9, 2001, between Ecolab Inc. and The Bank of New York Mellon Trust Company, N.A. (formerly known as The Bank of New York Trust Company, N.A.) (as successor in interest to J.P. Morgan Trust Company, N.A. and Bank One, N.A.), as Trustee.	Incorporated by reference to Exhibit (4)(A) of our Form 8-K, dated January 23, 2001. (File No. 001-9328)

(4.3)	Second Supplemental Indenture, dated December 8, 2011, between Ecolab Inc., Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as Trustee and The Bank of New York Mellon Trust Company, N.A. (formerly known as The Bank of New York Trust Company, N.A.) (as successor in interest to J.P. Morgan Trust Company, N.A. and Bank One, N.A.), as original trustee.	Incorporated by reference to Exhibit (4.2) of our Form 8-K, dated December 5, 2011. (File No. 001-9328)
(4.4)	Form of 5.500% Notes due 2041.	Included in Exhibit (4.3) above.
(4.5)	Indenture, dated January 12, 2015, between Ecolab Inc. and Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as Trustee.	Incorporated by reference to Exhibit 4.1 of our Form 8-K, dated January 15, 2015. (File No. 001-9328)
(4.6)	Second Supplemental Indenture, dated July 8, 2015, by and among Ecolab Inc., Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as Trustee, Elavon Financial Services Limited, UK Branch, as paying agent, and Elavon Financial Services Limited, as transfer agent and registrar.	Incorporated by reference to Exhibit (4.2) of our Form 8-K, dated July 8, 2015. (File No. 001-9328)
(4.7)	Form of 2.625% Euro Notes due 2025.	Included in Exhibit (4.6) above.
(4.8)	Fourth Supplemental Indenture, dated October 18, 2016, between Ecolab Inc. and Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as Trustee.	Incorporated by reference to Exhibit (4.2) of our Form 8-K, dated October 13, 2016. (File No. 001-9328)
(4.9)	Forms of 2.700% Notes due 2026 and 3.700% Notes due 2046.	Included in Exhibit (4.8) above.
(4.10)	Fifth Seventh Supplemental Indenture, dated December 8, 2016 November 27, 2017, by and among between Ecolab Inc., and Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as Trustee, Elavon Financial Services DAC, UK Branch, as paying agent, and Elavon Financial Services DAC, as transfer agent and registrar, Trustee.	Incorporated by reference to Exhibit (4.2) of our Form 8-K, dated December 1, 2016 November 30, 2017. (File No. 001-9328)
(4.11)	Form of 1.000% Euro 3.250% Notes due 2024, 2027.	Included in Exhibit (4.10) above.
(4.12)	Seventh Supplemental Indenture, dated November 27, 2017, between Ecolab Inc. and Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as Trustee. Form of 3.950% Notes due 2047.	Incorporated by reference to Included in Exhibit (4.2) of our Form 8-K, dated November 30, 2017. (File No. 001-9328) (4.10) above.
(4.13)	Form of 3.250% Notes due 2027.	Included in Exhibit (4.12) above.
(4.14)	Form of 3.950% Notes due 2047.	Included in Exhibit (4.12) above.
(4.15)	Eighth Supplemental Indenture, dated March 24, 2020, between Ecolab Inc. and Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as Trustee.	Incorporated by reference to Exhibit (4.2) of our Form 8-K filed on March 24, 2020.(File No. 001-9328)
(4.14)	Form of 4.800% Notes due 2030.	Included in Exhibit (4.13) above.
(4.15)	Ninth Supplemental Indenture, dated August 13, 2020, between Ecolab Inc. and Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as Trustee.	Incorporated by reference to Exhibit (4.2) of our Form 8-K filed on August 13, 2020.

(4.16)	Form of 4.800% 1.300% Notes due 2030, 2031.	Included in Exhibit (4.15) above.
(4.17)	Form of 2.125% Notes due 2050.	Included in Exhibit (4.15) above.

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Exhibit No.:	Document:	Method of Filing:
(4.17)	Ninth Supplemental Indenture, dated August 13, 2020, between Ecolab Inc. and Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as Trustee.	Incorporated by reference to Exhibit (4.2) of our Form 8-K filed by Ecolab Inc. on August 13, 2020. (File No. 001-9328)
(4.18)	Form of 1.300% Notes due 2031.	Included in Exhibit (4.17) above.
(4.19)	Form of 2.125% Notes due 2050.	Included in Exhibit (4.17) above.
(4.20)	Tenth Supplemental Indenture, dated August 18, 2021, between Ecolab Inc. and Computershare Trust Company, N.A. (as successor to Wells Fargo Bank, National Association), as Trustee.	Incorporated by reference to Exhibit (4.2) of our Form 8-K filed on August 19, 2021. (File No. 001-9328)
(4.19)	Form of 2.750% Notes due 2055.	Included in Exhibit (4.18) above.
(4.20)	Eleventh Supplemental Indenture, dated December 15, 2021, between Ecolab Inc. and Computershare Trust Company, N.A., as Trustee.	Incorporated by reference to Exhibit (4.2) of our Form 8-K filed on December 15, 2021.
(4.21)	Form of 2.750% 1.650% Notes due 2055, 2027.	Included in Exhibit (4.20) above.
(4.22)	Eleventh Supplemental Indenture, dated December 15, 2021, between Ecolab Inc. and Computershare Trust Company, N.A., as Trustee. Form of 2.125% Notes due 2032.	Incorporated by reference to Included in Exhibit (4.2) of our Form 8-K filed by Ecolab Inc. on December 15, 2021. (4.20) above. (File No. 001-9328)
(4.23)	Form of 0.900% 2.700% Notes due 2023, 2051.	Included in Exhibit (4.22) (4.20) above.
(4.24)	Form of 1.650% Notes due 2027.	Included in Exhibit (4.22) above.
(4.25)	Form of 2.125% Notes due 2032.	Included in Exhibit (4.22) above.
(4.26)	Form of 2.700% Notes due 2051.	Included in Exhibit (4.22) above.
(4.27)	Twelfth Supplemental Indenture, dated as of November 17, 2022, between Ecolab Inc. and Computershare Trust Company, N.A., as Trustee.	Incorporated by reference to Exhibit (4.2) of our Form 8-K filed by Ecolab Inc. on November 17, 2022. (File No. 001-9328)
(4.28) (4.25)	Form of 5.250% Notes due 2028.	Included in Exhibit (4.27) (4.24) above.

(4.29)(4.27)

Description of Securities.

Incorporated by reference to Exhibit (4.20) of our Form 10-K Annual Report for the year ended December 31, 2019. (File No. 001-9328) Filed herewith electronically.

Copies of other constituent instruments defining the rights of holders of our long-term debt are not filed herewith, pursuant to Section (b)(4)(iii) of Item 601 of Regulation S-K, because the aggregate amount of securities authorized under each of such instruments is less than 10% of our total assets on a consolidated basis. We will, upon request by the Securities and Exchange Commission, furnish to the Commission a copy of each such instrument.

(10.1)

(i)

[Third Amended and Restated \\$2.0 billion 5-Year Revolving Credit Facility, dated as of April 16, 2021, among Ecolab Inc., the lenders party thereto, the issuing lenders party thereto, Bank of America, N.A., as administrative agent and swing line bank, and Citibank, N.A., JPMorgan Chase Bank, N.A. and MUFG Bank, Ltd., as co-syndication agents.](#)

Incorporated by reference to Exhibit (10.1) of our Form 8-K, dated April 20, 2021. (File No. 001-9328)

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(ii)

[First Amendment, dated as of March 17, 2023, to the Third Amended and Restated Multicurrency Credit Agreement dated as of April 16, 2021, among Ecolab Inc., the banks from time to time party thereto and Bank of America, N.A., as Agent](#)

Incorporated by reference to Exhibit (10.1) of our Form 10-Q, for the quarter ended March 31, 2023.

Exhibit No.:	Document:	Method of Filing:
(10.2)	Documents comprising global Commercial Paper Programs.	
	(i) U.S. \$2,000,000,000 Euro-Commercial Paper Programme.	

(a)	Amended and Restated Dealer Agreement, dated 9 June 2017, 30 October 2023, between Ecolab Inc., Ecolab Lux 1 S.A R.L., Ecolab Lux 2 S.A R.L, NL 10 B.V., Ecolab NL 10 11 B.V. and Ecolab NL 11 Nalco Overseas Holding B.V. (as Issuers), Ecolab Inc. (as Guarantor in respect of the notes issued by Ecolab Lux 1 S.A R.L., Ecolab Lux 2 S.A R.L. and Ecolab NL 10 B.V. and Ecolab NL 11 B.V. and Nalco Overseas Holding B.V.), Credit Suisse Securities (Europe) Limited Barclays Bank PLC (as Arranger), and Citibank Europe plc, UK Branch, Credit Suisse Securities (Europe) Limited, Barclays Bank Ireland PLC, Barclays Bank PLC, Citigroup Global Markets Europe AG Credit Suisse Securities Sociedad de Valores S.A. and Credit Suisse International Citigroup Global Markets Limited (as Dealers).	Incorporated by reference to Exhibit (10.1) (a) of our Form 10-Q for the quarter ended June 30, 2017. (File No. 001-9328) Filed herewith electronically.

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Exhibit No.:	Document:	Method of Filing:
	(b) Amended and Restated Note Agency Agreement, dated 9 June 2017, 30 October 2023, between Ecolab Inc., Ecolab Lux 1 S.A R.L., Ecolab Lux 2 S.A R.L., Ecolab NL 10 B.V. Ecolab NL 11 B.V. and Nalco Overseas Holding B.V. (as Issuers), Ecolab Inc. (as Guarantor in respect of the notes issued by Ecolab Lux 1 S.A R.L., Ecolab Lux 2 S.A R.L, NL 10 B.V., Ecolab NL 10 11 B.V. and Ecolab NL 11 Nalco Overseas Holding B.V.), and Citibank, N.A., London Branch (as Issue and Paying Agent).	Incorporated by reference to Exhibit (10.1)(b) of our Form 10-Q for the quarter ended June 30, 2017. (File No. 001-9328) Filed herewith electronically.
	(c) Deed of Covenant made on 9 June 2017 30 October 2023 by Ecolab Inc., Ecolab Lux 1 S.A R.L., Ecolab Lux 2 S.A R.L., Ecolab NL 10 B.V. and Ecolab NL 11 B.V. and Nalco Overseas Holding B.V. (as Issuers).	Incorporated by reference to Exhibit (10.1)(c) of our Form 10-Q for the quarter ended June 30, 2017. (File No. 001-9328) Filed herewith electronically.
	(d) Deed of Guarantee made on 9 June 2017 30 October 2023 by Ecolab Inc. (in respect of notes issued by Ecolab Lux 1 S.A R.L., Ecolab Lux 2 S.A R.L., Ecolab NL 10 B.V. and Ecolab NL 11 B.V. and Nalco Overseas Holding B.V.).	Incorporated by reference to Exhibit (10.1)(d) of our Form 10-Q for the quarter ended June 30, 2017. (File No. 001-9328) Filed herewith electronically.
(ii)	U.S. \$2,000,000,000 U.S. Commercial Paper Program.	

	(a)	Form of Commercial Paper Dealer Agreement for 4(a)(2) Program, dated September 22, 2014. The dealers for the program are Barclays Capital Inc., Citigroup Global Markets Inc., Credit Suisse Securities (USA) LLC, BofA Securities Inc., Mizuho Securities USA LLC, and Wells Fargo Securities, LLC.	Incorporated by reference to Exhibit (10.1)(a) of our Form 10-Q for the quarter ended September 30, 2014. (File No. 001-9328)
	(b)	Issuing and Paying Agent Agreement, dated September 18, 2017, between Ecolab Inc. and U.S. Bank National Association, as Issuing and Paying Agent (as successor, effective as of June 7, 2021, to MUFG Union Bank, N.A.).	Incorporated by reference to Exhibit (10.1)(a) of our Form 10-Q for the quarter ended September 30, 2017. (File No. 001-9328)
	(c)	Corporate Commercial Paper – Master Note, dated June 7, 2021, together with annex thereto.	Incorporated by reference to Exhibit (10.3)(ii) of our Form 10-Q for the quarter ended June 30, 2021. (File No. 001-9328)
(10.3)	† (i)	Ecolab Inc. 2001 Non-Employee Director Stock Option and Deferred Compensation Plan, as amended and restated, effective as of August 1, 2013.	Incorporated by reference to Exhibit (10.6) of our Form 10-K Annual Report for the year ended December 31, 2013. (File
	† (ii)	Declaration of Amendment, dated May 5, 2016, to Ecolab Inc. 2001 Non-Employee Director Stock Option and Deferred Compensation Plan, as amended and restated, effective as of August 1, 2013.	Incorporated by reference to Exhibit (10.1) of our Form 10-Q for the quarter ended June 30, 2016.
	† (iii)	Master Agreement Relating to Periodic Options, as amended, effective as of May 1, 2004.	Incorporated by reference to Exhibit (10)D(ii) of our Form 10-Q for the quarter ended June 30, 2004.
	† (iv)	Amendment No. 001-9328 1 to Master Agreement Relating to Periodic Options, as amended, effective as of May 2, 2008.	Incorporated by reference to Exhibit (10)B of our Form 10-Q for the quarter ended September 30, 2008.
(10.4)	†	Form of Indemnification Agreement, effective as of December 7, 2023. Substantially identical agreements are in effect as to each of our directors and certain of our officers.	Filed herewith electronically.
(10.5)	† (i)	Ecolab Executive Death Benefits Plan, as amended and restated, effective as of March 1, 1994.	Incorporated by reference to Exhibit (10)H(i) of our Form 10-K Annual Report for the year ended December 31, 2006. See also Exhibit (10.12) hereof.

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Exhibit No.:	Document:	Method of Filing:

	† (ii)	Amendment No. 1 to Ecolab Executive Death Benefits Plan, effective as of July 1, 1997.	Incorporated by reference to Exhibit (10)H(ii) of our Form 10-K Annual Report for the year ended December 31, 1998.
	† (iii)	Second Declaration of Amendment to Ecolab Executive Death Benefits Plan, effective as of March 1, 1998.	Incorporated by reference to Exhibit (10)H(iii) of our Form 10-K Annual Report for the year ended December 31, 1998.
	† (iv)	Amendment No. 3 to the Ecolab Executive Death Benefits Plan, effective as of August 12, 2005.	Incorporated by reference to Exhibit (10)B of our Form 8-K, dated December 13, 2005.
	† (v)	Amendment No. 4 to the Ecolab Executive Death Benefits Plan, effective as of January 1, 2005.	Incorporated by reference to Exhibit (10)H(v) of our Form 10-K Annual Report for the year ended December 31, 2009.
	† (vi)	Amendment No. 5 to the Ecolab Executive Death Benefits Plan, effective as of May 6, 2015.	Incorporated by reference to Exhibit 10.2 of our Form 10-Q for the quarter ended June 30, 2015.
	† (vii)	Amendment No. 6 to the Ecolab Executive Death Benefits Plan, effective as of June 23, 2017.	Incorporated by reference to Exhibit 10.1(vii) of Ecolab's Form 8-K dated June 23, 2017.
(10.6)	† (i)	Ecolab Executive Long-Term Disability Plan, as amended and restated, effective as of January 1, 1994.	Incorporated by reference to Exhibit (10)I of our Form 10-K Annual Report for the year ended December 31, 2004. See also Exhibit (10.12) hereof..
	† (ii)	Amendment No. 1 to the Ecolab Executive Long-Term Disability Plan, effective as of August 21, 2015.	Incorporated by reference to Exhibit 10.1 of our Form 10-Q for the quarter ended September 30, 2015.
(10.7)	† (i)	Ecolab Supplemental Executive Retirement Plan, as amended and restated, effective as of January 1, 2022.	Incorporated by reference to Exhibit (10.7)(i) of our Form 10-K Annual Report for the year ended December 31, 2021..
(10.8)	† (i)	Ecolab Mirror Savings Plan, as amended and restated, effective as of January 1, 2022.	Incorporated by reference to Exhibit (10.8)(i) of our Form 10-K Annual Report for the year ended December 31, 2021..
(10.9)	† (i)	Ecolab Mirror Pension Plan, as amended and restated, effective as of January 1, 2022.	Incorporated by reference to Exhibit (10.9)(i) of our Form 10-K Annual Report for the year ended December 31, 2021..
(10.10)	† (i)	Ecolab Inc. Administrative Document for Non-Qualified Plans, as amended and restated, effective as of January 1, 2022.	Incorporated by reference to Exhibit (10.10)(i) of our Form 10-K Annual Report for the year ended December 31, 2021..
(10.11)	† (i)	Ecolab Inc. Change in Control Severance Compensation Policy, as amended and restated, effective as of February 26, 2010.	Incorporated by reference to Exhibit (10) of our Form 8-K, dated February 26, 2010.
	† (ii)	Amendment No. 1 to Ecolab Inc. Change-in-Control Severance Policy, as amended and restated, effective as of February 26, 2010.	Incorporated by reference to Exhibit (10.18)(ii) of our Form 10-K Annual Report for the year ended December 31, 2011.
(10.12)	†	Description of Ecolab Management Incentive Plan.	Filed herewith electronically.
(10.13)	† (i)	Ecolab Inc. 2010 Stock Incentive Plan, as amended and restated, effective as of May 2, 2013.	Incorporated by reference to Exhibit (10.1) of our Form 8-K, dated May 2, 2013.
	† (ii)	Declaration of Amendment, effective as of February 22, 2019, to Ecolab Inc. 2010 Stock Incentive Plan, as amended and restated, effective as of May 2, 2013.	Incorporated by reference to Exhibit (10.3) of our Form 10-Q, for the quarter ended March 31, 2019.

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Exhibit No.:	Document:	Method of Filing:
	† (ii) Declaration of Amendment, dated May 5, 2016, to Ecolab Inc. 2001 Non-Employee Director Stock Option and Deferred Compensation Plan, as amended and restated, effective as of August 1, 2013.	Incorporated by reference to Exhibit (10.1) of our Form 10-Q for the quarter ended June 30, 2016. (File No. 001-9328)
	† (iii) Master Agreement Relating to Periodic Options, as amended, effective as of May 1, 2004.	Incorporated by reference to Exhibit (10)D(ii) of our Form 10-Q for the quarter ended June 30, 2004. (File No. 001-9328)
	† (iv) Amendment No. 1 to Master Agreement Relating to Periodic Options, as amended, effective as of May 2, 2008.	Incorporated by reference to Exhibit (10)B of our Form 10-Q for the quarter ended September 30, 2008. (File No. 001-9328)
(10.4)	† Form of Director Indemnification Agreement. Substantially identical agreements are in effect as to each of our directors.	Incorporated by reference to Exhibit (10)I of our Form 10-K Annual Report for the year ended December 31, 2003. (File No. 001-9328)
(10.5)	† (i) Ecolab Executive Death Benefits Plan, as amended and restated, effective as of March 1, 1994.	Incorporated by reference to Exhibit (10)H(i) of our Form 10-K Annual Report for the year ended December 31, 2006. See also Exhibit (10.12) hereof. (File No. 001-9328)
	† (ii) Amendment No. 1 to Ecolab Executive Death Benefits Plan, effective as of July 1, 1997.	Incorporated by reference to Exhibit (10)H(ii) of our Form 10-K Annual Report for the year ended December 31, 1998. (File No. 001-9328)
	† (iii) Second Declaration of Amendment to Ecolab Executive Death Benefits Plan, effective as of March 1, 1998.	Incorporated by reference to Exhibit (10)H(iii) of our Form 10-K Annual Report for the year ended December 31, 1998. (File No. 001-9328)
	† (iv) Amendment No. 3 to the Ecolab Executive Death Benefits Plan, effective as of August 12, 2005.	Incorporated by reference to Exhibit (10)B of our Form 8-K, dated December 13, 2005. (File No. 001-9328)
	† (v) Amendment No. 4 to the Ecolab Executive Death Benefits Plan, effective as of January 1, 2005.	Incorporated by reference to Exhibit (10)H(v) of our Form 10-K Annual Report for the year ended December 31, 2009. (File No. 001-9328)
	† (vi) Amendment No. 5 to the Ecolab Executive Death Benefits Plan, effective as of May 6, 2015.	Incorporated by reference to Exhibit 10.2 of our Form 10-Q for the quarter ended June 30, 2015. (File No. 001-9328)
	† (vii) Amendment No. 6 to the Ecolab Executive Death Benefits Plan, effective as of June 23, 2017.	Incorporated by reference to Exhibit 10.1(vii) of Ecolab's Form 8-K dated June 23, 2017. (File No. 001-9328)
(10.6)	† (i) Ecolab Executive Long-Term Disability Plan, as amended and restated, effective as of January 1, 1994.	Incorporated by reference to Exhibit (10)I of our Form 10-K Annual Report for the year ended December 31, 2004. See also Exhibit (10.12) hereof. (File No. 001-9328).

	† (ii)	Amendment No. 1 to the Ecolab Executive Long-Term Disability Plan, effective as of August 21, 2015.	Incorporated by reference to Exhibit 10.1 of our Form 10-Q for the quarter ended September 30, 2015. (File No. 001-9328)
(10.7)	† (i)	Ecolab Supplemental Executive Retirement Plan, as amended and restated, effective as of January 1, 2022.	Incorporated by reference to Exhibit (10.7)(i) of our Form 10-K Annual Report for the year ended December 31, 2021. (File No. 001-9328).
(10.8)	† (i)	Ecolab Mirror Savings Plan, as amended and restated, effective as of January 1, 2022.	Incorporated by reference to Exhibit (10.8)(i) of our Form 10-K Annual Report for the year ended December 31, 2021. (File No. 001-9328).

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Exhibit No.:		Document:	Method of Filing:
(10.9)	† (i)	Ecolab Mirror Pension Plan, as amended and restated, effective as of January 1, 2022.	Incorporated by reference to Exhibit (10.9)(i) of our Form 10-K Annual Report for the year ended December 31, 2021. (File No. 001-9328).
(10.10)	† (i)	Ecolab Inc. Administrative Document for Non-Qualified Plans, as amended and restated, effective as of January 1, 2022.	Incorporated by reference to Exhibit (10.10)(i) of our Form 10-K Annual Report for the year ended December 31, 2021. (File No. 001-9328).
(10.11)	† (i)	Ecolab Inc. Change in Control Severance Compensation Policy, as amended and restated, effective as of February 26, 2010.	Incorporated by reference to Exhibit (10) of our Form 8-K, dated February 26, 2010. (File No. 001-9328)
	† (ii)	Amendment No. 1 to Ecolab Inc. Change-in-Control Severance Policy, as amended and restated, effective as of February 26, 2010.	Incorporated by reference to Exhibit (10.18)(ii) of our Form 10-K Annual Report for the year ended December 31, 2011. (File No. 001-9328)
(10.12)	†	Description of Ecolab Management Incentive Plan.	Incorporated by reference to Exhibit (10.16) of our Form 10-K Annual Report for the year ended December 31, 2015. (File No. 001-9328)
(10.13)	† (i)	Ecolab Inc. 2010 Stock Incentive Plan, as amended and restated, effective as of May 2, 2013.	Incorporated by reference to Exhibit (10.1) of our Form 8-K, dated May 2, 2013. (File No. 001-9328)
	† (ii)	Declaration of Amendment, effective as of February 22, 2019, to Ecolab Inc. 2010 Stock Incentive Plan, as amended and restated, effective as of May 2, 2013.	Incorporated by reference to Exhibit (10.3) of our Form 10-Q, dated May 2, 2019. (File No. 001-9328)
	† (iii)	Sample form of Non-Statutory Stock Option Agreement under the Ecolab Inc. 2010 Stock Incentive Plan, adopted May 6, 2010.	Incorporated by reference to Exhibit (10)B of our Form 8-K, dated May 6, 2010. (File No. 001-9328)
	† (iv)	Sample form of Restricted Stock Unit Award Agreement under the Ecolab Inc. 2010 Stock Incentive Plan, adopted May 6, 2010 August 4, 2010.	Incorporated by reference to Exhibit (10)C A of our Form 8-K, dated May 6, 2010 10-Q, for the quarter ended September 30, 2010. (File No. 001-9328)

	† (v)	Sample form of Performance-Based Restricted Stock Unit Award Agreement under the Ecolab Inc. 2010 Stock Incentive Plan, adopted August 4, 2010 December 3, 2020.	Incorporated by reference to Exhibit (10)A (10.13)(ix) of our Form 10-Q, 10-K Annual Report for the quarter year ended September 30, 2010 December 31, 2020. (File No. 001-9328)
	† (vi)	Sample form of Performance-Based Restricted Stock Unit Award Agreement under the Ecolab Inc. 2010 Stock Incentive Plan, adopted December 3, 2019 December 1, 2021.	Incorporated by reference to Exhibit (10.15) (10.13)(ix) of our Form 10-K Annual Report for the year ended December 31, 2019 December 31, 2021..
(10.14)	† (i)	Ecolab Inc. 2023 Stock Incentive Plan, as amended and restated, effective as of May 4, 2023. (File No. 001-9328)	Incorporated by reference to Exhibit (10.1) of our Form 10-Q, for the quarter ended June 30, 2023.
	† (vii) (ii)	Sample form of Performance-Based Restricted Non-Statutory Stock Unit Award Option Agreement under the Ecolab Inc. 2010 2023 Stock Incentive Plan, adopted December 3, 2020 May 4, 2023.	Incorporated by reference to Exhibit (10.13)(ix) (10.2) of our Form 10-K Annual Report 10-Q, for the year quarter ended December 31, 2020 June 30, 2023. (File No. 001-9328)
	† (viii) (iii)	Sample form of Performance-Based Restricted Stock Unit Award Agreement under the Ecolab Inc. 2010 2023 Stock Incentive Plan, adopted December 1, 2021 May 4, 2023.	Incorporated by reference to Exhibit (10.13)(ix) (10.4) of our Form 10-K Annual Report 10-Q, for the year quarter ended December 31, 2021. (File No. 001 9328) June 30, 2023.
(10.14)	† (iv)	Policy on Reimbursement Sample form of Performance-Based Restricted Stock Unit Award Agreement under the Ecolab Inc. 2023 Stock Incentive Payments, as amended February 22, 2019 Plan, adopted December 6, 2023.	Incorporated by reference to Exhibit (10.16) of our Form 10-K Annual Report for the year ended December 31, 2018. (File No. 001-9328) Filed herewith electronically.
(10.15)	†	Nalco Company Supplemental Retirement Income Plan, as Amended and Restated effective as of December 31, 2012.	Incorporated by reference to Exhibit (10.3) of our Form 10-Q, for the quarter ended March 31, 2023.
(10.16)	†	Nalco Company Supplemental Profit Sharing Plan, as Amended and Restated effective as of December 31, 2012.	Incorporated by reference to Exhibit (10.4) of our Form 10-Q, for the quarter ended March 31, 2023.
(10.17)	†	Form of Nalco Company Death Benefit Agreement and Addendum to Death Benefit Agreement.	Incorporated by reference from Exhibit (99.2) on Form 8-K of Nalco Holding Company filed on May 11, 2005. (File No. 001-32342)

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Exhibit No.:	Document:	Method of Filing:
(10.16) (10.18) †	Employment Transition Severance Death Benefit Agreement dated November 16, 2022 between Ecolab Inc, Nalco Company and Timothy Mulhere, Laurie M. Marsh effective as of December 17, 2009.	Filed herewith electronically, Incorporated by reference to Exhibit (10.5) of our Form 10-Q, for the quarter ended March 31, 2023.

(10.19)	† Offer letter relating to employment of Lanesha Minnix dated April 19, 2022 and accompanying signing bonus, payback agreement, sign on bonus repayment agreement and relocation repayment agreement referenced therein.	Incorporated by reference to Exhibit (10.2) of our Form 10-Q, for the quarter ended March 31, 2023.
(21.1)	List of Subsidiaries.	Filed herewith electronically.
(23.1)	Consent of Independent Registered Public Accounting Firm.	Filed herewith electronically.
(24.1)	Powers of Attorney.	Filed herewith electronically.
(31.1)	Rule 13a-14(a) CEO Certification.	Filed herewith electronically.
(31.2)	Rule 13a-14(a) CFO Certification.	Filed herewith electronically.
(32.1)	Section 1350 CEO and CFO Certifications.	Filed herewith electronically.
(97.1)	Ecolab Inc. Rule 10D-1 Clawback Policy, adopted November 2, 2023.	Filed herewith electronically.

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Exhibit No.:	Document:	Method of Filing:
(101.INS)	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.	Filed herewith electronically.
(101.SCH)	Inline XBRL Taxonomy Extension Schema.	Filed herewith electronically.
(101.CAL)	Inline XBRL Taxonomy Extension Calculation Linkbase.	Filed herewith electronically.
(101.DEF)	Inline XBRL Taxonomy Extension Definition Linkbase.	Filed herewith electronically.
(101.LAB)	Inline XBRL Taxonomy Extension Label Linkbase.	Filed herewith electronically.
(101.PRE)	Inline XBRL Taxonomy Extension Presentation Linkbase.	Filed herewith electronically.
(104)	Cover Page Interactive Data File.	Formatted as Inline XBRL and contained in Exhibit 101.

† This exhibit is an executive compensation plan or arrangement.

[Item 16. Form 10-K Summary.](#)

None.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, Ecolab Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on the 24 23rd day of February, 2023, 2024.

ECOLAB INC.
(Registrant)

By: /s/ Christophe Beck
Christophe Beck
Chairman and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of Ecolab Inc. and in the capacities indicated, on the 24 23rd day of February, 2023, 2024.

<u>/s/ Christophe Beck</u> Christophe Beck	Chairman and Chief Executive Officer (Principal Executive Officer and Director)
<u>/s/ Scott D. Kirkland</u> Scott D. Kirkland	Chief Financial Officer (Principal Financial Officer)
<u>/s/ Jennifer J. Bradway</u> Jennifer J. Bradway	Senior Vice President and Corporate Controller (duly authorized officer and Principal Accounting Officer)
<u>/s/ Lanesha T. Minnix</u> Lanesha T. Minnix	Directors

as attorney-in-fact for:
Shari L. Ballard, Barbara J. Beck, Jeffrey M. Ettinger, Eric M. Green, Arthur J. Higgins,
Michael Larson, David W. MacLennan, Tracy B. McKibben, Lionel L. Nowell, III, Victoria
J. Reich, Suzanne M. Vautrinot and John J. Zillmer

Exhibit (10.16)

EMPLOYMENT TRANSITION SEVERANCE AGREEMENT EXHIBIT (4.27)

THIS EMPLOYMENT TRANSITION SEVERANCE AGREEMENT ("Agreement") is made and entered into as of November 16, 2022 (the "Effective Date"), by and among

Ecolab Inc., a Delaware corporation (together with "Ecolab," "we," "our," "us," "the Company"), has three classes of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended: (i) its common stock, \$1.00 par value per share, (ii) its 2.625% Euro Notes due 2025, and (iii) its 1.000% Euro Notes due 2024.

1. COMMON STOCK, \$1.00 PAR VALUE

The following description of Ecolab common stock is a summary and does not purport to be complete. It is subject to and qualified in its entirety by reference to Ecolab's Restated Certificate of Incorporation dated January 2, 2013 (the "Certificate of Incorporation"), which is incorporated by reference as an exhibit to the Annual Report on Form 10-K, and Ecolab's Bylaws as last amended on May 4, 2023 (the "Bylaws"), which is incorporated by reference as an exhibit to our Current Report on Form 8-K of which this Exhibit 4.1 is a part. We encourage you to read our Restated Certificate of Incorporation, our Bylaws and the applicable provisions of the Delaware General Corporation Law, Title 8, Chapter 1 of the Delaware Code ("DGCL") for additional information.

Authorized Capital Stock

Under Ecolab's Certificate of Incorporation, Ecolab's authorized capital stock consists of 800,000,000 shares of common stock, par value \$1.00 per share, and 15,000,000 shares of preferred stock, no par value.

Common Stock

Under Ecolab's Bylaws, the holders of common stock are entitled to one vote for each share held of record on all matters submitted to a vote of stockholders.

Ecolab's Bylaws establish that directors shall be elected by the vote of the majority of the votes cast at any meeting for the election of directors at which a quorum is present; provided, however, that directors shall be elected by a plurality of the votes cast at any meeting of stockholders for which number of nominees exceeds the number of directors to be elected as of the 10th day preceding the date Ecolab first mails its notice of meeting for such meeting to the stockholders. For purposes of electing directors, a majority of votes cast shall mean that the number of shares voted "for" a nominee exceeds 50% of the number of votes cast with respect to such nominee. Votes cast with respect to a nominee shall exclude abstentions with respect to such nominee.

Subject to preferences which may be applicable to any outstanding preferred stock, holders of common stock are entitled to receive ratably such dividends as may be declared by the board of directors out of funds legally available therefor. In the event of our liquidation or dissolution, holders of common stock are entitled to share ratably in all assets remaining after payment of liabilities and the liquidation preference of any outstanding preferred stock.

Holders of common stock have no preemptive rights and have no rights to convert their common stock into any other securities. Ecolab common stock is not redeemable.

Preferred Stock

Our board of directors is authorized without further action of the stockholders to issue preferred stock in one or more series and may fix the designations and the powers, preferences and rights of the preferred stock. No class of preferred stock is currently outstanding.

Certain Provisions under Ecolab's Certificate of Incorporation, Bylaws and the DGCL**State Antitakeover Statute**

Ecolab is subject to Section 203 of the DGCL, which regulates corporate takeovers and generally prohibits a publicly-held Delaware corporation from engaging in a business combination, such as a merger, with a person or group owning 15% or more of the corporation's voting stock for a period of three years following the time the person became an interested stockholder, unless (with certain exceptions) the business combination or the transaction in which the person became an interested stockholder is approved in a prescribed manner.

Number and Classification of the Board of Directors

Ecolab's Certificate of Incorporation and Bylaws provide that the Ecolab Board of Directors shall consist of a number of directors, which number shall be determined from time to time exclusively by Ecolab's Board of Directors pursuant to a resolution adopted by affirmative vote of a majority of Ecolab's entire Board of Directors. All directors are elected for a one-year term expiring at the next annual meeting of stockholders. Pursuant to such procedures, Ecolab's Board of Directors is not classified.

Removal of Directors

Under Ecolab's Certificate of Incorporation and Bylaws, any director may be removed at any time by the holders of a majority of the shares then entitled to vote at an election of directors.

Vacancies on the Board of Directors

Ecolab's Certificate of Incorporation and Bylaws provide newly created directorships and vacancies in the Board of Directors, however occurring, may be filled only by a majority vote of the directors then in office (even if less than a quorum), and shall not be filled by the stockholders.

Amendment of Restated Certificate of Incorporation

The DGCL generally permits the adoption of amendments to the Certificate of Incorporation if those amendments are approved and declared advisable by the board of directors of the corporation and adopted by the holders of a majority of the outstanding shares of stock of the corporation, unless the Certificate of Incorporation requires a greater vote.

Amendment of By-Laws

Under Ecolab's Certificate of Incorporation and Bylaws, the Ecolab Board of Directors may, by vote of a majority of its members, alter, amend or rescind all or any of its Bylaws, as permitted by law, subject to the power of the stockholders to change or repeal a particular bylaw.

Special Meetings of Stockholders

Under Ecolab's Bylaws, special meetings of the Ecolab stockholders may be called at any time by Ecolab's Board of Directors or by the Chairman of the Ecolab Board, and shall be called by the Chairman of the Ecolab Board, Ecolab's President or Secretary at the written request of the majority of Ecolab's Board of Directors or at the written request of stockholders owning capital stock having 25% of the voting power of the entire issued and outstanding capital stock of Ecolab. Such request shall state the purpose or purposes of the proposed meeting. No business shall be transacted at any special meeting of the stockholders except that stated in the notice of the meeting.

Action by Written Consent

Ecolab's Bylaws provide that any action required or permitted to be taken at any annual or special meeting of stockholders, may be taken without a meeting, without prior notice and without a vote, if a consent in writing, setting forth the action so taken, shall be signed by the holders of outstanding Ecolab stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted.

Advance Notice Requirements of Stockholder Nominations and Proposals

Under Ecolab's Bylaws, stockholders who wish to make a proposal or nominate directors at an annual meeting of stockholders must notify Ecolab no later than the 120th day nor earlier than the 150th day prior to the first anniversary of the date of the preceding year's annual meeting. However, in the event that an annual meeting is called for on a date that is more than 30 days before or after the first anniversary of the preceding year's annual meeting, then, in order to be timely, a stockholder's notice must be received not later than the close of business on the earlier of the 10th day following the day on which notice of the date of such annual meeting was mailed or the date on which Ecolab first publicly announces the date of such annual meeting.

In the case of a special meeting of stockholders for the purpose of electing directors, a nominating stockholder must give notice not later than the close of business on the 10th day following the day on which notice of the date of the special meeting was mailed or public disclosure of the date of the special meeting was made, whichever first occurs. In no event shall the public disclosure of an adjournment of an annual meeting commence a new time period for the giving of a stockholder's notice as described above.

A stockholder's notice must set forth the information required by Ecolab's Bylaws with respect to each matter the stockholder proposes to bring before an annual or special meeting.

Whenever the Ecolab Board of Directors solicits proxies with respect to the election of directors at an annual meeting of stockholders, Ecolab shall include in its proxy statement for such annual meeting, in addition to any persons nominated for election by or at the direction of the Ecolab Board of Directors, the name, together with other required information, of any person nominated for election to the Board of Directors by an eligible stockholder who expressly elects at the time of providing the required notice to have such nominee included in Ecolab's proxy materials.

In order to qualify as an eligible stockholder, such stockholder must be a stockholder or a group of no more than 20 stockholders that (i) has owned (and continues to own through the date of the annual meeting) at least 3% of the number of outstanding shares of Ecolab's stock continuously for at least three years as of the date the notice of proxy access nomination is received by Ecolab's Secretary and (ii) satisfies all of the other requirements with respect to proxy access as set forth in Ecolab's Bylaws.

Limitation of Personal Liability of Directors

Ecolab's Certificate of Incorporation provides that the directors of Ecolab will not be personally liable to Ecolab or its stockholders for monetary damages for breach of fiduciary duty as a director; provided, however, that the Certificate of Incorporation shall not eliminate or limit the liability of a director to the extent provided by applicable law (i) for any breach of the director's duty of loyalty to Ecolab or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the DGCL, or (iv) for any transaction from which the director derived an improper personal benefit.

Indemnification of Directors, Officers and Employees

Ecolab's Bylaws provide that every person who was or is a party or is threatened to be made a party to or is involved in any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he or she is or was a director or officer of Ecolab, or while a director or officer of Ecolab, is or was serving at the request of

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Ecolab or for its benefit as a director, officer, employee or agent of another corporation, or as its representative in a partnership, joint venture, trust nonprofit entity or other enterprise, including any employee benefit plan, shall be indemnified and held harmless by Ecolab to the fullest extent legally permissible under the DGCL in the manner prescribed therein, from time to time, against all liability and loss suffered and expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him or her in connection therewith. Similar indemnification shall be provided by Ecolab to every person who was or is an employee of Ecolab or one of its subsidiaries who was or is a party or is threatened to be made a party to or is involved in any threatened, pending or completed action, suit or proceeding, by reason of the fact that he is or was serving at the request of Ecolab as a director or officer of another corporation or as Ecolab's representative in a partnership, joint venture, trust, nonprofit entity or other enterprise, including any employee benefit plan.

Exclusive Forum

Ecolab's Bylaws provide that, unless Ecolab consents in writing to the selection of alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of Ecolab, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer, stockholder, employee or agent of Ecolab to Ecolab or Ecolab's stockholders, (iii) any action asserting a claim against Ecolab or any director, officer, stockholder, employee or agent of Ecolab arising out of or relating to any provision of the DGCL or Ecolab's Certificate of Incorporation or Ecolab's Bylaws, or (iv) any action asserting a claim against Ecolab or any director, officer, stockholder, employee or agent of Ecolab governed by the internal affairs doctrine of the State of Delaware; provided, however, that, in the event that the Court of Chancery of the State of Delaware lacks subject matter jurisdiction over any such action or proceeding, the sole and exclusive forum for such action or proceeding shall be another state or federal court located within the State of Delaware, in each such case, unless the Court of Chancery (or such other state or federal court located within the State of Delaware, as applicable) has dismissed a prior action by the same plaintiff asserting the same claims because such court lacked personal jurisdiction over an indispensable party named as a defendant therein.

Listing

Our common stock is listed and traded on the New York Stock Exchange under the symbol "ECL".

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. Its address for general inquiries delivered by regular mail is P.O. Box 505000, Louisville, KY 40233 and for courier services, registered mail or overnight deliveries it is 462 South 4th Street, Suite 1600, Louisville, KY 40202. Its toll-free number is (800) 322-8325.

2. 2.625% EURO NOTES DUE 2025

The following description of the Ecolab 2.625% Euro Notes due 2025 is a summary and does not purport to be complete. It is subject to and qualified in its entirety by reference to the Indenture, dated January 12, 2015, between the Company and Wells Fargo Bank, National Association, and the Second Supplemental Indenture,

dated as of July 8, 2015, by and among the Company, Wells Fargo Bank, National Association, Elavon Financial Services Limited, UK Branch, as paying agent, and Elavon Financial Services Limited, as transfer agent and registrar (such Indenture and Second Supplemental Indenture referred to, respectively, as the "base indenture" and the "supplemental indenture" and, collectively, as the "indenture" in the description below), each of which are incorporated by reference as an exhibit to the Annual Report on Form 10-K for the fiscal year ended December 31, 2022. We encourage you to read the base indenture and the supplemental indenture for additional information.

General

The notes were issued under an indenture, dated as of January 12, 2015, between us and Wells Fargo Bank, National Association, as trustee (the "base indenture"). Certain terms of the notes are contained in a second supplemental indenture (the "supplemental indenture" and, together with the base indenture, the "indenture"), among us, Wells Fargo Bank, National Association, as trustee, and certain other parties.

The notes are our senior unsecured obligations and rank equally in right of payment to our other senior debt from time to time outstanding. The notes are structurally subordinated to all liabilities of our subsidiaries, including trade payables. Since we conduct many of our operations through our subsidiaries, our right to participate in any distribution of the assets of a subsidiary when it winds up its business is subject to the prior claims of the creditors of the subsidiary. This means that a holder of our notes will also be subject to the prior claims of these creditors if a subsidiary liquidates or reorganizes or otherwise winds up its business. Unless we are considered a creditor of the subsidiary, a holder's claims will be recognized behind these creditors.

The indenture does not limit the amount of notes, debentures or other evidences of indebtedness that we may issue under the indenture and provides that notes, debentures or other evidences of indebtedness may be issued from time to time in one or more series. We may from time to time, without giving notice to or seeking the consent of the holders of the notes offered hereby, issue additional debt securities having the same terms (except for the issue date and, in some cases, the public offering price and the first interest payment date) and ranking equally and ratably with the notes offered hereby. Any additional debt securities having such similar terms, together with the notes offered hereby, will constitute a single series of securities under the indenture.

The notes were initially issued in €575,000,000 aggregate principal amount and will mature on July 8, 2025. The notes bear interest at the rate of 2.625% per year from the date of original issuance, or from the most recent interest payment date to which interest has been paid or provided for. Interest on the notes accrued from July 8, 2015. We make interest payments on the notes annually in arrears on July 8 of each year, commencing July 8, 2016. Payment of interest on the notes on any interest payment date is made to the person in whose name such note (or predecessor note) is registered (which shall initially be the common depositary) at the close of business on the business day immediately preceding such interest payment date (the record date with respect to the

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notes). Interest on the notes is computed on the basis of the actual number of days in the period for which interest is being calculated and the actual number of days from and including the last date on which interest was paid on the notes (or from July 8, 2015, if no interest has been paid on the notes) to but excluding the next scheduled interest payment date. This payment convention is referred to as ACTUAL/ACTUAL (ICMA) (as defined in the rulebook of the International Capital Market Association).

If an interest payment date or the maturity date with respect to the notes falls on a day that is not a business day, the payment is made on the next business day as if it were made on the date the payment was due, and no interest will accrue on the amount so payable for the period from and after that interest payment date or the maturity date, as the case may be, to the date the payment is made. Interest payment for the notes includes accrued interest from and including the date of issue or from and including the last date in respect of which interest has been paid, as the case may be, to, but excluding, the interest payment date or the date of maturity, as the case may be.

For purposes of the notes, "business day" means any day, other than a Saturday or Sunday, (1) which is not a day on which banking institutions in The City of New York or London are authorized or required by law, regulation or executive order to close and (2) on which the Trans-European Automated Real-Time Gross Settlement Express Transfer system (the TARGET2 system), or any successor thereto, is open.

The notes were issued only in registered book-entry form, in minimum denominations of €100,000 and integral multiples of €1,000 in excess thereof.

Issuance in Euro

Initial holders were required to pay for the notes in euros, and all payments of principal of, and premium or redemption price, if any, and interest on the notes, is made in euros.

If the euro is unavailable to us due to the imposition of exchange controls or other circumstances beyond our control or the euro is no longer used by the then member states of the European Monetary Union that have adopted the euro as their currency or for the settlement of transactions by public institutions within the international banking community, then all payments in respect of the notes will be made in U.S. dollars until the euro is again available to us or so used. In such circumstances, the amount payable on any date in euros will be converted to U.S. dollars on the basis of the Market Exchange Rate (as defined below) on the second business day before the date that payment is due, or if such Market Exchange Rate is not then available, on the basis of the most recently available Market Exchange

Rate on or before the date that payment is due. Any payment in respect of the notes so made in U.S. dollars will not constitute an event of default under the indenture. Neither the trustee nor the Paying Agent will be responsible for obtaining exchange rates, effecting conversions or otherwise handling redenominations. "Market Exchange Rate" means the noon buying rate in The City of New York for cable transfers of euros as certified for customs purposes (or, if not so certified, as otherwise determined) by the Federal Reserve Bank of New York. Investors are subject to foreign exchange risks as to payments of principal and interest that may have important economic and tax consequences to them. See "Risk Factors."

Optional Redemption

The notes are redeemable, at any time in whole or from time to time in part, in each case at our option, at a redemption price equal to the greater of:

- (i) 100% of the principal amount of the notes to be redeemed on that redemption date; and
- (ii) the sum of the present values of the remaining scheduled payments of principal and interest on the notes to be redeemed (exclusive of interest accrued to the redemption date), discounted to the redemption date on an annual basis (ACTUAL/ACTUAL (ICMA)) at the applicable Comparable Government Bond Rate plus 30 basis points,

plus, in each case, accrued and unpaid interest, if any, to but excluding the redemption date.

Notwithstanding the foregoing, if the notes are redeemed on or after April 8, 2025 (three months prior to their maturity), the redemption price will be 100% of the principal amount of the notes to be redeemed, plus accrued and unpaid interest, if any, to but excluding the redemption date.

Notwithstanding the foregoing, installments of interest on notes that are due and payable on interest payment dates falling on or prior to a redemption date will be payable on the interest payment date to the registered holders as of the close of business on the relevant record date according to the notes and the indenture.

"Comparable Government Bond" means, in relation to any Comparable Government Bond Rate calculation, at the discretion of an Independent Investment Banker, a German government bond whose maturity is closest to the maturity of the notes to be redeemed, or if the Independent Investment Banker in its discretion determines that such similar bond is not in issue, such other German government bond as such Independent Investment Banker may, with the advice of the Reference Bond Dealers, determine to be appropriate for determining the Comparable Government Bond Rate.

"Comparable Government Bond Rate" means the price, expressed as a percentage (rounded to three decimal places, with 0.0005 being rounded upwards), at which the gross redemption yield on the notes to be redeemed, if they were to be purchased at such price on the third business day prior to the date fixed for redemption, would be equal to the gross redemption yield on such business day of the Comparable Government Bond on the basis of the middle market price of the Comparable Government Bond prevailing at 11:00 a.m. (London time) on such business day as determined by an Independent Investment Banker.

"Independent Investment Banker" means one of the Reference Bond Dealers that we appoint to act as the Independent Investment Banker from time to time.

"Reference Bond Dealer" means each of Credit Suisse Securities (Europe) Limited and Merrill Lynch International and their successors, and any other firm that is a broker of, and/or market maker in German government bonds (each a "Primary Bond

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Dealer") which we specify from time to time; provided, however, that if any of them ceases to be a Primary Bond Dealer, we will substitute another Primary Bond Dealer.

Notice of any redemption will be delivered at least 30 days but not more than 60 days before the redemption date to each registered holder of the notes to be redeemed (with a copy to the trustee and the paying agent) by us; provided that notice of redemption may be delivered more than 60 days prior to a redemption date if the notice is issued in connection with a defeasance of the notes or a satisfaction and discharge of the notes. Once notice of redemption is delivered, the notes called for redemption will become due and payable on the redemption date and at the applicable redemption price, plus accrued and unpaid interest to, but excluding, the redemption date.

Unless we default in payment of the redemption price, on and after the redemption date, interest will cease to accrue on the notes or portions thereof called for redemption. On or before the redemption date, we will deposit with a paying agent (or the trustee) money sufficient to pay the redemption price of and accrued interest on the notes to be redeemed on that date. If less than all of the notes are to be redeemed, the notes to be redeemed will be selected by the registrar in accordance with applicable procedures of Clearstream or Euroclear.

Payment of Additional Amounts

All payments in respect of the notes will be made by or on behalf of us without withholding or deduction for, or on account of, any present or future taxes, duties, assessments or governmental charges of whatever nature, imposed or levied by the United States or any taxing authority thereof or therein, unless such withholding or deduction is required by law. If such withholding or deduction is required by law, we or a paying agent will pay to a holder who is not a United States person such additional amounts on the notes as are necessary in order that the net payment by us or a paying agent of the principal of, and premium or redemption price, if any, and interest on, the notes to such holder, after such withholding or deduction, will not be less than the amount provided in the notes to be then due and payable; provided, however, that the foregoing obligation to pay additional amounts will not apply.

- (1) to any tax, assessment or other governmental charge that would not have been imposed but for the holder, or a fiduciary, settlor, beneficiary, member or shareholder of the holder if the holder is an estate, trust, partnership or corporation, or a person holding a power over an estate or trust administered by a fiduciary holder, being considered as:
 - a. being or having been engaged in a trade or business in the United States or having or having had a permanent establishment in the United States or having or having had a qualified business unit which has the United States dollar as its functional currency;
 - b. having a current or former connection with the United States (other than a connection arising solely as a result of the ownership of the notes, the receipt of any payment or the enforcement of any rights thereunder) or being considered as having such relationship, including being or having been a citizen or resident of the United States;
 - c. being or having been a personal holding company, a passive foreign investment company or a controlled foreign corporation with respect to the United States or a foreign personal holding company that has accumulated earnings to avoid United States federal income tax;
 - d. being or having been an owner of a 10% or greater interest in the capital or profits of the Company within the meaning of Section 871(h)(3) of the U.S. Internal Revenue Code of 1986, as amended (the "Code") or any successor provision; or
 - e. being a bank receiving payments on an extension of credit made pursuant to a loan agreement entered into in the ordinary course of its trade or business;
- (2) to any holder that is not the sole beneficial owner of the notes, or a portion of the notes, or that is a fiduciary, partnership or limited liability company, but only to the extent that a beneficiary or settlor with respect to the fiduciary, a beneficial owner or member of the partnership or limited liability company would not have been entitled to the payment of an additional amount had the beneficiary, settlor, beneficial owner or member received directly its beneficial or distributive share of the payment;
- (3) to any tax, assessment or other governmental charge that would not have been imposed but for the failure of the holder or any other person to comply with certification, identification or information reporting requirements concerning the nationality, residence, identity or connection with the United States of the holder or beneficial owner of the notes, if compliance is required by statute, by regulation of the United States or any taxing authority therein or by an applicable income tax treaty to which the United States is a party as a precondition to exemption from such tax, assessment or other governmental charge;
- (4) to any tax, assessment or other governmental charge that is imposed otherwise than by withholding by us or a paying agent from the payment;
- (5) to any tax, assessment or other governmental charge that would not have been imposed but for a change in law, regulation, or administrative or judicial interpretation that becomes effective more than 15 days after the payment becomes due or is duly provided for, whichever occurs later;
- (6) to any estate, inheritance, gift, sales, excise, transfer, wealth, capital gains or personal property tax or similar tax, assessment or other governmental charge;
- (7) to any withholding or deduction that is imposed on a payment to an individual and that is required to be made pursuant to European Council Directive 2003/48/EC on the taxation of savings income or any other Directive amending, supplementing or replacing such Directive, or any law implementing or complying with, or introduced in order to conform to, such Directive or Directives;

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- (8) to any tax, assessment or other governmental charge required to be withheld by any paying agent from any payment of principal or of interest on any note, if such payment can be made without such withholding by at least one other paying agent;
- (9) to any tax, assessment or other governmental charge that would not have been imposed but for the presentation by the holder of any note, where presentation is required, for payment on a date more than 30 days after the date on which payment became due and payable or the date on which payment thereof is duly provided for, whichever occurs later;
- (10) to any withholding or deduction that is imposed on a payment pursuant to Sections 1471 through 1474 of the Code and related Treasury regulations and pronouncements (the "Foreign Account Tax Compliance Act") or any successor provisions and any regulations or official law, agreement or interpretations thereof in any jurisdiction implementing an intergovernmental approach thereto; or
- (11) in the case of any combination of items (1), (2), (3), (4), (5), (6), (7), (8), (9) and (10).

The notes are subject in all cases to any tax, fiscal or other law or regulation or administrative or judicial interpretation applicable to the notes. Except as specifically provided under this heading "—Payment of Additional Amounts," we will not be required to make any payment for any tax, duty, assessment or governmental charge of whatever nature imposed by any government or a political subdivision or taxing authority of or in any government or political subdivision.

As used under this heading "—Payment of Additional Amounts" and under the heading "—Redemption for Tax Reasons," the term "United States" means the United States of America (including the States and the District of Columbia), its territories and its possessions and other areas subject to its jurisdiction, and the term "United States person" means any individual who is a citizen or resident of the United States for U.S. federal income tax purposes, a corporation, partnership or other entity created or organized in or under the laws of the United States, any state of the United States or the District of Columbia, including an entity treated as a corporation for United States income tax purposes, or any estate or trust the income of which is subject to United States federal income taxation regardless of its source.

Redemption for Tax Reasons

If, as a result of any change in, or amendment to, the laws (or any regulations or rulings promulgated under the laws) of the United States (or any taxing authority thereof or therein), or any change in, or amendments to, an official position regarding the application or interpretation of such laws, regulations or rulings, which change or amendment is announced or becomes effective on or after July 1, 2015, we become or, based upon a written opinion of independent counsel of recognized standing selected by us, will become obligated to pay additional amounts as described herein under the heading "—Payment of Additional Amounts" with respect to the notes; then we may at our option, having given not less than 30 nor more than 60 days' prior notice to holders, redeem, in whole, but not in part, the notes at a redemption price equal to 100% of the principal amount of the notes being redeemed, together with accrued and unpaid interest on such notes to, but excluding, the redemption date.

Sinking Fund

The notes are not subject to any sinking fund.

Offer to Repurchase upon a Change of Control Repurchase Event

If a Change of Control Repurchase Event (as defined below) occurs, unless we have exercised our right to redeem the notes in whole as described above, we will make an offer to each holder to repurchase all or any part (equal to €100,000 and integral multiples of €1,000 in excess thereof) of that holder's notes at a repurchase price in cash equal to 101% of the aggregate principal amount of notes repurchased plus any accrued and unpaid interest on the notes repurchased to the date of repurchase.

Within 30 days following any Change of Control Repurchase Event or, at our option, prior to any Change of Control (as defined below), but after the public announcement of the transaction or transactions that constitutes or may constitute a Change of Control, we will mail a notice to each holder, with a copy to the trustee and the paying agent, describing the transaction or transactions that constitute or may constitute the Change of Control Repurchase Event and offering to repurchase notes on the payment date specified in the notice, which date will be no earlier than 30 days and no later than 60 days from the date such notice is mailed. The notice shall, if mailed prior to the date of consummation of the Change of Control, state that the offer to purchase is conditioned on the Change of Control Repurchase Event occurring on or prior to the payment date specified in the notice.

We will comply with the requirements of Rule 14e-1 under the Exchange Act and any other securities laws and regulations thereunder, to the extent those laws and regulations are applicable in connection with the repurchase of the notes as a result of a Change of Control Repurchase Event. To the extent that the provisions of any securities laws or regulations conflict with the Change of Control Repurchase Event provisions of the notes, we will comply with the applicable securities laws and regulations and will not be deemed to have breached our obligations under the Change of Control Repurchase Event provisions of the notes by virtue of such conflict.

On the Change of Control Repurchase Event payment date, we will, to the extent lawful:

- accept for payment all notes or portions of notes properly tendered pursuant to our offer;
- deposit with the paying agent an amount equal to the aggregate purchase price in respect of all notes or portions of notes properly tendered; and
- deliver or cause to be delivered to the trustee the notes properly accepted, together with an officers' certificate stating the aggregate principal amount of notes being repurchased by us.

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The paying agent will promptly deliver to each holder of notes properly tendered the purchase price for the notes, and the trustee will promptly authenticate and mail (or cause to be transferred by book-entry) to each holder a new note equal in principal amount to any unpurchased portion of any notes surrendered; provided, that each new note will be in a principal amount of €100,000 or integral multiples of €1,000 above that amount.

We will not be required to make an offer to repurchase the notes upon a Change of Control Repurchase Event if a third party makes such an offer in the manner, at the times and otherwise in compliance with the requirements for an offer made by us and such third party purchases all notes properly tendered and not withdrawn under its offer.

The definition of "Change of Control" includes a phrase relating to the direct or indirect sale, transfer, conveyance or other disposition of "all or substantially all" of our assets and those of our subsidiaries, taken as a whole. Although there is a limited body of case law interpreting the phrase "substantially all," there is no precise established definition of the phrase under applicable law. Accordingly, the ability of a holder of notes to require us to repurchase the notes as a result of a sale, transfer, conveyance or other disposition of less than all of our assets and the assets of our subsidiaries, taken as a whole, to another person or group may be uncertain.

Definitions

"Below Investment Grade Rating Event" means the rating on the notes is lowered by each of the Rating Agencies and the notes are rated below Investment Grade by each of the Rating Agencies on any day within the 60-day period (which 60-day period will be extended so long as the rating of the notes is under publicly announced consideration for a possible downgrade by any of the Rating Agencies) after the earlier of (1) the occurrence of a Change of Control and (2) public notice of the occurrence of a Change of Control or our intention to effect a Change of Control; provided that a Below Investment Grade Rating Event otherwise arising by virtue of a particular reduction in rating will not be deemed to have occurred in respect of a particular Change of Control (and thus will not be deemed a Below Investment Grade Rating Event for purposes of the definition of Change of Control Repurchase Event) if the Rating Agencies making the reduction in rating to which this definition would otherwise apply do not announce or publicly confirm or inform the trustee in writing at its request that the reduction was the result, in whole or in part, of any event or circumstance comprised of or arising as a result of, or in respect of, the applicable Change of Control (whether or not the applicable Change of Control has occurred at the time of the Below Investment Grade Rating Event).

"Change of Control" means the occurrence of any of the following:

- (1) the direct or indirect sale, transfer, conveyance or other disposition (other than by way of merger or consolidation), in one or a series of related transactions, of all or substantially all of our assets and those of our subsidiaries, taken as a whole, to any "person" (as that term is used in Section 13(d)(3) of the Exchange Act), other than us or one of our subsidiaries;
- (2) the first day on which a majority of the members of our Board of Directors are not Continuing Directors; or
- (3) the consummation of any transaction (including, without limitation, any merger or consolidation) the result of which is that any "person" (as that term is used in Section 13(d)(3) of the Exchange Act), other than us or one or more of our wholly-owned subsidiaries, becomes the beneficial owner, directly or indirectly, of more than 50% of the then outstanding number of shares of our Voting Stock.

Notwithstanding the foregoing, a transaction will not be deemed to involve a Change of Control if (1) we become a direct or indirect wholly-owned subsidiary of a holding company and (2)(A) the direct or indirect holders of the voting stock of such holding company immediately following that transaction are substantially the same as the holders of our voting stock immediately prior to that transaction or (B) immediately following that transaction no person (other than a holding company satisfying the requirements of this sentence) is the beneficial owner, directly or indirectly of more than 50% of the voting stock of such holding company. The term "person," as used in this definition, has the meaning given thereto in Section 13(d)(3) of the Exchange Act.

"Change of Control Repurchase Event" means the occurrence of both a Change of Control and a Below Investment Grade Rating Event.

"Continuing Director" means, as of any date of determination, any member of our Board of Directors who (1) was a member of our Board of Directors on the date of the issuance of the notes; or (2) was nominated for election, elected or appointed to our Board of Directors with the approval of a majority of the Continuing Directors who were members of our Board of Directors at the time of such nomination, election or appointment (either by a specific vote or by approval of our proxy statement in which such member was named as a nominee for election as a director).

"Investment Grade" means a rating of Baa3 or better by Moody's (or its equivalent under any successor rating categories of Moody's) and a rating of BBB- or better by S&P (or its equivalent under any successor rating categories of S&P) or the equivalent investment grade credit rating from any additional Rating Agency or Rating Agencies selected by us.

"Moody's" means Moody's Investors Service Inc., a subsidiary of Moody's Corporation, and its successors.

"Rating Agency" means (1) each of Moody's and S&P; and (2) if either Moody's or S&P ceases to rate the notes or fails to make a rating of the notes publicly available for reasons outside of our control, a "nationally recognized statistical rating organization" as defined in Section 3(a)(62) of the Exchange Act, selected by us as a replacement agency for Moody's or S&P, or both, as the case may be.

"S&P" means Standard & Poor's Ratings Services, a division of The McGraw-Hill Companies, Inc., and its successors.

"Voting Stock" of any specified person as of any date means the capital stock of such person that is at the time entitled to vote generally in the election of the board of directors of such person.

Certain Covenants of the Company

You can find the definitions of certain terms used in this section under "—Certain Definitions."

Restrictions on Liens

The Company will not, and will not permit any Restricted Subsidiary to, issue, assume or guarantee any indebtedness for money borrowed (herein referred to as "Debt") if such Debt is secured by any mortgage, security interest, pledge, lien or other encumbrance (herein referred to as a "mortgage") upon any Operating Property (as defined under "—Certain Definitions" below) of the Company or any Restricted Subsidiary or any shares of stock or Debt of any Restricted Subsidiary, whether owned at the date of the issuance of the notes or thereafter acquired, without effectively securing the notes equally and ratably with such Debt for at least the period such other Debt is so secured unless, after giving effect thereto, the aggregate amount of all Debt so secured (not including Debt permitted in clauses (1) through (7) in the following sentence), together with all present Attributable Debt (as defined under "—Certain Definitions" below) in respect of Sale and former parents, subsidiaries, successors, assigns Leaseback Transactions involving Operating Properties pursuant to clause (2) under "—Restrictions on Sale and affiliated corporations Leaseback Transactions" in existence at such time would not exceed 15% of Consolidated Net Tangible Assets (as defined under "—Certain Definitions" below).

The foregoing restriction does not apply to, and therefore will be excluded in computing secured Debt for the "Company" purpose of such restriction, Debt secured by:

- (1) mortgages on Operating Property, shares of stock or Debt of any entity existing at the time such entity becomes a Restricted Subsidiary, provided that such mortgages are not incurred in anticipation of such entity's becoming a Restricted Subsidiary;
- (2) mortgages on Operating Property, shares of stock or Debt existing at the time of acquisition thereof by the Company or a Restricted Subsidiary or mortgages thereon to secure the payment of all or any part of the purchase price thereof, or mortgages on Operating Property, shares of stock or Debt to secure any Debt incurred prior to, at the time of, or within 180 days after, the latest of the acquisition thereof or, in the case of Operating Property, the completion of construction, the completion of improvements or the commencement of substantial commercial operation of such Operating Property for the purpose of financing all or any part of the purchase price thereof, such construction or the making of such improvements;
- (3) mortgages to secure Debt owing to the Company or to a Restricted Subsidiary;

- (4) mortgages on Operating Property, shares of stock or Debt existing at the date of the initial issuance of the notes;
- (5) mortgages on Operating Property, shares of stock or Debt of a person existing at the time such person is merged into or consolidated with the Company or a Restricted Subsidiary or at the time of a sale, lease or other disposition of the properties of a person as an entirety or substantially as an entirety to the Company or a Restricted Subsidiary, provided that such mortgage was not incurred in anticipation of such merger or consolidation or sale, lease or other disposition;
- (6) mortgages on Operating Property, shares of stock or Debt in favor of the United States or any state, territory or possession thereof (or the District of Columbia), or any department, agency, instrumentality or political subdivision of the United States or any state, territory or possession thereof (or the District of Columbia), to secure partial, progress, advance or other payments pursuant to any contract or statute or to secure any Debt incurred for the purpose of financing all or any part of the purchase price or the cost of constructing or improving the Operating Property subject to such mortgages; or
- (7) extensions, renewals or replacements, in whole or in part, of any mortgage referred to in the foregoing clauses (1) through (6), provided, however, that the principal amount of Debt secured thereby will not exceed the principal amount of Debt so secured at the time of such extension, renewal or replacement.

Restrictions on Sale and Timothy P. Mulhere ("Executive"). In consideration Leaseback Transactions

Sale and Leaseback Transactions by the Company or any Restricted Subsidiary with a third party of any Operating Property are prohibited (except for temporary leases for a term, including renewals, of not more than 60 months and except for leases between the Company and a Restricted Subsidiary or between Restricted Subsidiaries) unless the net proceeds of such Sale and Leaseback Transactions are at least equal to the fair market value (as determined in good faith by the Board of Directors of the mutual promises made below, Company Company) of the Operating Property to be leased and Executive agree as follows: either:

- (1) the Company or such Restricted Subsidiary would (at the time of entering into such arrangement) be entitled, as described in clauses (1) through (7) of the paragraph under the caption "—Restrictions on Liens" herein, without equally and ratably securing the notes, to issue, assume or guarantee Debt secured by a mortgage on such Operating Property;
- (2) the Attributable Debt of the Company and its Restricted Subsidiaries in respect of such Sale and Leaseback Transactions (other than such Sale and Leaseback Transactions as are referred to in clause (1) or (3) of this paragraph), plus the aggregate principal amount of Debt secured by mortgages on Operating Properties then outstanding (excluding any such Debt secured by mortgages described in clauses (1) through (7) of the paragraph under the caption "—Restrictions on Liens" herein) which do not equally and ratably secure the notes, would not exceed 15% of Consolidated Net Tangible Assets; or
- (3) the Company, within 180 days after the sale or transfer, applies or causes a Restricted Subsidiary to apply an amount equal to the greater of the net proceeds of such sale or transfer or fair market value of the Operating Property (as determined in good faith by the Board of Directors of the Company) so sold and leased back at the time of entering into such Sale and Leaseback Transaction to:

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- (a) retire (other than any mandatory retirement, mandatory repayment or sinking fund payment or by payment at maturity) notes or other Debt of the Company or a Restricted Subsidiary (other than Debt subordinated to the notes) having a Stated Maturity (as defined in the indenture) more than 12 months from the date of such application or which is extendible at the option of the obligor thereon to a date more than 12 months from the date of such application or
- (b) purchase, construct or develop one or more Operating Properties (other than that involved in such Sale and Leaseback Transaction);

provided that the Company;

WHEREAS, In appreciation and recognition amount to be so applied pursuant to clause (3) will be reduced by the principal amount of Executive's many contributions notes delivered within 180 days after such sale or transfer to the Company, in particular his positive leadership, partnership, Trustee for retirement and commitment cancellation.

Restricted and Unrestricted Subsidiaries

The restrictive provisions described above under "—Certain Covenants of the Company" are applicable to the Company and based its Restricted Subsidiaries and do not apply to Unrestricted Subsidiaries. The assets and liabilities of Unrestricted Subsidiaries are not consolidated with those of the Company and its Restricted Subsidiaries in calculating Consolidated Net Tangible Assets under the indenture.

"Unrestricted Subsidiaries" are defined as (1) any Subsidiary substantially all of whose physical properties are located, or substantially all of whose business is carried on, Executive's outside the United States and Company's mutual desire Canada, (2) any finance Subsidiary and (3) any Subsidiary of an Unrestricted Subsidiary. In addition, the Board of Directors may designate any other Subsidiary of the Company (including any newly acquired or newly formed Subsidiary) to provide for be an orderly transition Unrestricted Subsidiary unless such Subsidiary owns any capital stock of, Executive's duties or owns or holds any mortgage on any Operating Property of, the Company or any Restricted Subsidiary of the Company; provided that the Subsidiary to be so designated has total assets at the time of such designation of \$5 million or less. "Restricted Subsidiaries" are all Subsidiaries other than Unrestricted Subsidiaries.

The term "Subsidiary" means, among other things, any corporation or other entity of which the Company directly or indirectly owns or controls more than 50% of the total voting power of the shares of capital stock (or equivalent) entitled to vote in the election of directors (or equivalent).

Neither the Company nor any Restricted Subsidiary may transfer an Operating Property or shares of stock or Debt of a Restricted Subsidiary to an Unrestricted Subsidiary.

An Unrestricted Subsidiary may not be designated a Restricted Subsidiary unless, after giving effect thereto, the aggregate amount of all Debt of the Company and responsibilities, we are entering into this Agreement whereby Executive its Restricted Subsidiaries secured by mortgages which would otherwise be subject to the restrictions described under "—Certain Covenants of the Company—Restrictions on Liens" and the Attributable Debt in respect of all Sale and Leaseback Transactions pursuant to clause (2) under "—Certain Covenants of the Company—Restrictions on Sale and Leaseback Transactions" in existence at such time does not at the time exceed 15% of Consolidated Net Tangible Assets.

Certain Definitions

"Attributable Debt" in respect of a Sale and Leaseback Transaction means, as of any particular time, the present value (discounted at the rate of interest implicit in the terms of the lease involved in the Sale and Leaseback Transaction, as determined in good faith by the Company) of the obligation of the lessee thereunder for net rental payments (excluding, however, any amounts required to be paid by such lessee, whether or not designated as rent or additional rent, on account of maintenance and repairs, services, insurance, taxes, assessments, water rates and similar charges or any amounts required to be paid by such lessee thereunder contingent upon monetary inflation or the amount of sales, maintenance and repairs, insurance, taxes, assessments, water rates or similar charges) during the remaining term of such lease (including any period for which such lease has been extended or may, at the option of the lessor, be extended).

"Consolidated Net Tangible Assets" means the aggregate amount of assets (less applicable reserves and other properly deductible items) of the Company have agreed that Executive and its Restricted Subsidiaries after deducting therefrom (a) all goodwill, tradenames, trademarks, patents, unamortized debt discount and expense and other like intangibles and (b) all current liabilities (excluding any current liabilities for money borrowed having a maturity of less than 12 months but by its terms being renewable or extendible beyond 12 months from such date at the option of the borrower), all as reflected in the Company's latest audited consolidated balance sheet contained in the Company's most recent annual report to its stockholders prior to the time as of which "Consolidated Net Tangible Assets" will voluntarily separate from employment be determined.

"Operating Property" means any manufacturing or processing plant, warehouse or distribution center, together with the land upon which it is situated located within the United States or in Canada and owned and operated now or hereafter by the Company or any Restricted Subsidiary and having a net book value on December 31, 2022 the date as of which the determination is being made of more than 1.0% of Consolidated Net Tangible Assets other than property which, in the opinion of the Board of Directors of the Company, is not of material importance to the total business conducted by the Company and its Restricted Subsidiaries taken as a whole.

"United States" means the United States of America (including the States and the District of Columbia), its territories and that Executive its possessions and other areas subject to its jurisdiction.

Merger, Consolidation and Sale of Assets

The Company will receive certain compensation through not: (a) consolidate with or merge into another corporation or entity or (b) sell, convey, transfer or lease all or substantially all its assets to another corporation or entity, unless:

- (1) the corporation or entity formed by such consolidation or into which the Company is merged or to which such sale, conveyance, transfer or lease is made is a domestic corporation or entity and expressly assumes, pursuant to a supplemental indenture, all the obligations of the Company under the indenture and the notes; and

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- (2) immediately after the completion of the transaction, no default or event of default has occurred and is continuing.

Clause (2) above will not apply to (A) any sale, conveyance, transfer or lease between the Company and one or more of its subsidiaries, (B) any merger of the Company into one of its subsidiaries or (C) any merger of the Company into one of its affiliates for the purpose of reincorporating or reorganizing.

The surviving or successor entity formed by any such date pursuant consolidation or into which the Company is so merged or to this Agreement, which such sale, conveyance, transfer or lease is made, will succeed to, and that Executive be substituted for, and may exercise every right and power of, the Company under the indenture with the same effect as if such successor entity had been named as the Company under the indenture, and after any such transaction, other than a lease, the Company will be eligible to receive certain severance compensation through December 31, 2023, pursuant to this Agreement.

WHEREAS, in furtherance relieved of and discharged from all obligations and covenants under the foregoing, Executive indenture and the Company have mutually negotiated and reached notes.

Events of Default

The indenture defines an agreement event of default with respect to the notes as being any one of the following events:

- (1) default for 30 days in any payment of interest on the notes when due;
- (2) default in any payment of principal of the notes when due either at maturity, upon redemption, by declaration or otherwise;
- (3) default for 60 days after appropriate notice in performance of any other covenant or agreement in the indenture applicable to the notes; or
- (4) certain events of bankruptcy, insolvency or reorganization.

If an event of default (other than an event of default described in clause (4) above) occurs and is continuing, the trustee or the holders of not less than 25% in aggregate principal amount of the outstanding notes may declare the principal of and accrued but unpaid interest on such notes to be immediately due and payable. If an event of default described in clause (4) above occurs and is continuing, then the principal amount of and all rights, duties accrued but unpaid interest on all of the notes will automatically, and obligations arising between them, including, but without any declaration or any other action on the part of the trustee or any holder, become due and payable immediately.

Any event of default may be waived by the holders of a majority in no way limited principal amount of the outstanding notes, except a failure to any rights, duties and obligations that have arisen or might arise out pay principal of or are interest on the notes.

The indenture requires the Company to file annually with the trustee an officer's certificate as to the company's compliance with all conditions and covenants under the indenture. The indenture provides that the trustee will, within 90 days after the occurrence of a default in respect of the notes known by it, transmit by mail to all holders of the notes notice of any way related default known to Executive's continued employment the trustee, unless such default has been cured or waived; provided, that the trustee will be protected in withholding notice to the holders of the notes of any default (except in payment of principal or interest or any sinking fund installment) if responsible officers of the trustee in good faith determine it is in the interest of the holders of the notes to do so.

If an event of default occurs and is continuing, the indenture provides that the trustee will be under no obligation to exercise any of its rights or powers under the indenture at the request or direction of the holders of the notes unless such holders have offered to the trustee security or indemnity satisfactory to it. Subject to such provisions for indemnification and certain other rights of the trustee, the indenture provides that the holders of a majority in principal amount of the outstanding notes may direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to the notes. However, the indenture provides that the trustee need not take any action which would be unduly prejudicial to the holders not joining such direction.

No holder of any note will have any right to institute any proceeding with respect to the indenture or for any remedy thereunder unless (1) such holder has previously given to the trustee written notice of a continuing event of default, (2) the holders of at least 25% in principal amount of the outstanding notes have made a written request, and offered to the trustee security and indemnity satisfactory to it, to institute such proceeding as trustee, (3) the trustee has not received from the holders of a majority in principal amount of the outstanding notes a direction inconsistent with such request within 60 days of such notice, request and offer of indemnity and (4) the trustee has failed to institute such proceeding within that 60-day period. However, the holder of any note will have an absolute right to receive payment of the principal of and interest on such note on or after the due dates expressed in such note and to institute suit for the enforcement of any such payment.

Modification and Waiver

The indenture provides that, with the consent of the holders of a majority in aggregate principal amount of the outstanding notes, the Company and the trustee may enter into an indenture or supplemental indentures for the purpose of modifying or changing the indenture or the rights of the holders of the notes; provided, however, that no such supplemental indenture may, without the consent of the holder of each outstanding note, (1) extend the stated maturity of the principal of, or any installment of interest on, any note, (2) reduce the principal amount of or the interest on or any premium payable upon redemption of any note, (3) change the place of payment where, or the currency in which the principal of and premium, if any, or interest on such note is denominated or payable, (4) alter the provisions with respect to the redemption or repurchase of such note, (5) reduce the amount of the principal of an original issue discount security that would be due and payable upon a declaration of acceleration of maturity, (6) impair the right to institute suit for the enforcement of any payment on or after the stated maturity thereof (or, in the case of redemption, on or after the redemption date), (7) reduce the percentage in principal amount of the outstanding notes that is required for a supplemental indenture or waiver or (8) waive an event of default in the payment of principal of, or interest or premium, if any, on any note.

The holders of at least a majority of the principal amount of the outstanding notes may on behalf of the holders of all the notes waive compliance by the Company with certain restrictive provisions of the indenture.

The indenture also permits the Company and the trustee to amend the indenture in certain circumstances without the consent of the holders of the notes to evidence the merger of the Company or the replacement of the trustee and for certain other purposes.

Legal Defeasance and Covenant Defeasance

The indenture provides that, at the Company's option, either (a) the Company will be deemed to have been discharged from its obligations with respect to the notes on the first day after the applicable conditions set forth below have been satisfied or (b) the Company will be deemed to have effected covenant defeasance with respect to the notes at any time after the applicable conditions set forth below have been satisfied:

- (1) the Company has deposited or caused to be deposited irrevocably with the trustee as trust funds in trust, specifically pledged as security for, and dedicated solely to, the benefit of the holders of the notes (i) money in an amount, or (ii) U.S. government obligations that through the payment of interest and principal in respect thereof in accordance with their terms will provide, not later than one day before the due date of any payment, money in an amount, or (iii) a combination of (i) and (ii), sufficient to pay and discharge each installment of principal of and premium, if any, and interest on, the outstanding notes on the dates such installments of interest or principal and premium are due, accompanied, except in the event of clause (i) of this paragraph, by a report as to the sufficiency of the amount deposited from an independent certified accountant or other financial professional of national standing;
- (2) no default with respect to the notes has occurred and is continuing on the date of such deposit; and
- (3) the Company has delivered to the trustee an opinion of counsel to the effect that holders of the notes will not recognize income, gain or loss for United States federal income tax purposes as a result of the Company's exercise of its option and will be subject to federal income tax on the same amounts and in the same manner and at the same times as would have been the case if such action had not been exercised and, in the case of the notes being discharged, accompanied by a ruling to that effect received from or published by the United States Internal Revenue Service (the "IRS").

Satisfaction and Discharge

The indenture will be discharged, and will cease to be of further effect as to the notes, when:

- (1) either:
 - (a) all of the notes that have been authenticated, except lost, stolen or destroyed notes that have been replaced or paid and the notes for whose payment money has been deposited in trust and thereafter repaid to the Company, have been delivered to the trustee for cancellation; or
 - (b) all of the notes that have not been delivered to the trustee for cancellation (1) have become due and payable, (2) will become due and payable at their stated maturity within one year or (3) are to be called for redemption within one year under arrangements satisfactory to the trustee for the giving of notice of redemption and, in the case of the provisions described in (1), (2) or (3), as applicable, of this clause (b), the Company has irrevocably deposited or caused to be deposited with the trustee or paying agent as trust funds in trust an amount sufficient to pay and discharge the entire indebtedness on the notes for principal, premium, if any, and interest to the date of such deposit or the date of maturity or redemption, as the case may be; and
- (2) the Company has paid or caused to be paid all other sums payable by it under the indenture with respect to the notes.

In addition, the Company must deliver an officers' certificate and an opinion of counsel to the trustee stating that all conditions precedent relating to satisfaction and discharge of the indenture with respect to the notes have been complied with.

Trustee, Paying Agent, Transfer Agent and Registrar

Wells Fargo Bank, National Association, is the trustee for the notes. In the ordinary course of business, the trustee and affiliates of the trustee have engaged and may in the future engage in commercial banking transactions with the Company and its affiliates.

Elavon Financial Services Limited, UK Branch will act as the conclusion paying agent with respect to the notes and Elavon Financial Services Limited will act as the transfer agent and the registrar with respect to the notes.

No Personal Liability of that employment (other than as specifically provided in this Agreement). Directors, Officers, Employees and Stockholders

NOW, THEREFORE, in consideration No director, officer, employee, incorporator or stockholder of the covenants Company, and mutual promises made below, the parties agree as follows:

1. Employment; Duties.

a. **Transition Period.** During the period beginning on October 1, 2022, and ending on the Separation Date (as defined in Section 1(c) below) (such period the "Transition Period"), Executive shall serve no director, officer, employee, incorporator, member or stockholder of any subsidiary of the Company, as its Executive Vice President – Special Initiatives – Institutional ("EVP Special Initiatives – Institutional") such, will have any liability for any obligations of the issuer under the notes, or the indenture or for any claim based on, in respect of, or by reason of such obligations or their creation. Each holder of the notes by accepting a note waives and perform releases all duties such liability. The waiver and accept all responsibilities incident release are part of the consideration for issuance of the notes. Such waiver and release may not be effective to waive liabilities under the U.S. federal securities laws, and it is the view of the SEC that such position a waiver is against public policy.

Book-Entry Procedures

Global Clearance and Settlement

The notes will be issued in the form of one or more global notes in fully registered form, without coupons, and will be deposited with, or on behalf of, a common depository, and registered in the name of the nominee of the common depository, for, and in respect of interests held through, Euroclear and Clearstream. Except as described herein, certificates will not be issued in exchange for beneficial interests in the global notes.

Except as set forth below, the global notes may be reasonably assigned transferred, in whole and not in part, only to Executive Euroclear or Clearstream or their respective nominees.

Beneficial interests in the global notes will be represented, and transfers of such beneficial interests will be effected, through accounts of financial institutions acting on behalf of beneficial owners as direct or indirect participants in Euroclear or Clearstream. Those beneficial interests will be in denominations of €100,000 and integral multiples of €1,000 in excess thereof. Investors may hold notes directly through Euroclear or Clearstream, if they are participants in such systems, or indirectly through organizations that are participants in such systems.

For so long as the notes are represented by a global note deposited with, and registered in the name of a nominee for, a common depositary for Euroclear and/or Clearstream, each person (other than Euroclear or Clearstream) who is for the time being shown in the records of Euroclear or of Clearstream as the holder of a particular nominal amount of the notes (in which regard any certificate or other document issued by Euroclear or Clearstream as to the nominal amount of the notes standing to the account of any person shall be conclusive and binding for all purposes save in the case of manifest error) shall upon their receipt of a certificate or other document be treated by the Company's President Company and Chief Executive Officer ("CEO"). During the Transition Period, trustee as the Executive have holder of such duties, responsibilities nominal amount of the notes and authority commensurate the registered holder of the global note shall be deemed not to be the holder for all purposes other than with an Executive Vice President title respect to the payment of principal or interest on such nominal amount of the notes, for which purpose the registered holder of the relevant global note shall be treated by the Company and Executive's experience the trustee as the holder of such nominal amount of the notes in accordance with and subject to the terms of the global note and the expressions "noteholder" and "holder of notes" and related expressions shall be construed accordingly.

Exchange of Global Notes for Certificated Notes

Subject to certain conditions, the notes represented by the global notes are exchangeable for certificated notes in definitive form of like tenor in minimum denominations of €100,000 principal amount and multiples of €1,000 in excess thereof if:

- (1) the common depositary notifies us that it is no longer willing or able to act as a depositary for such global notes or ceases to be a clearing agency registered under the Exchange Act and we fail to appoint a successor common depositary within 90 days;
- (2) an event of default has occurred and is continuing and the common depositary requests the issuance of certificated notes; or
- (3) we determine not to have the notes represented by a global note.

In all cases, certificated notes delivered in exchange for any global note or beneficial interest therein will be registered in the names, and issued in any approved denominations, requested by or on behalf of the common depositary (in accordance with its customary procedures).

Payments (including principal, premium and interest) and transfers with respect to notes in certificated form may be assigned executed at the office or agency maintained for such purpose in London (initially the corporate trust office of the paying agent) or, at our option, by check mailed to the holders thereof at the respective addresses set forth in the register of holders of the notes (maintained by the CEO, registrar), provided that all payments (including principal, premium and shall additionally (x) transition interest) on notes in certificated form, for which the duties and responsibilities holders thereof have given wire transfer instructions, will be required to be made by wire transfer of his position as the EVP Special Initiatives – Institutional to such individuals as the CEO may designate, including to Executive's successor(s) in such role, (y) provide such assistance directly related immediately available funds to the successor(s) as accounts specified by the holders thereof. No service charge will be made for any registration of transfer, but payment of a sum sufficient to cover any tax or governmental charge payable in connection with such registration may be requested required.

Governing Law

The indenture and the debt securities are governed by, and construed in accordance with, the CEO, and (z) have and perform such duties, responsibilities and authority directly related to Executive's position as laws of the EVP Special Initiatives – Institutional as may be assigned by the CEO from time to time. State of New York.

b.

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**Employment
Conditions.
During the
Transition
Period and
through the
Separation**

Date,
Executive
shall be
able to
perform his
assigned
duties
remotely,
except as
reasonably



EXHIBIT (10.2(i)(a))

CLIFFORD CHANCE LLP

EXECUTION VERSION

ECOLAB INC.
(incorporated under the laws of the State of Delaware)
ECOLAB NL 10 B.V.
(a private limited liability company (besloten vennootschap met beperkte aansprakelijkheid) incorporated under the laws of The Netherlands)
ECOLAB NL 11 B.V.
(a private limited liability company (besloten vennootschap met beperkte aansprakelijkheid) incorporated under the laws of The Netherlands)
NALCO OVERSEAS HOLDING B.V.
(a private limited liability company (besloten vennootschap met beperkte aansprakelijkheid) incorporated under the laws of The Netherlands)

as Issuers

ECOLAB INC.
(incorporated under the laws of the State of Delaware)
(as Guarantor in respect of the notes issued by Ecolab NL 10 B.V., Ecolab NL 11 B.V. and Nalco Overseas Holding B.V.)

BARCLAYS BANK PLC
as Arranger

and

BARCLAYS BANK IRELAND PLC
BARCLAYS BANK PLC
CITIGROUP GLOBAL MARKETS LIMITED
CITIGROUP GLOBAL MARKETS EUROPE AG
as Dealers

AMENDED AND RESTATED DEALER
AGREEMENT
RELATING TO A U.S.\$2,000,000,000
EURO COMMERCIAL PAPER PROGRAMME

directed

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THIS AGREEMENT is made on 30 October 2023

BETWEEN

- (1) **ECOLAB INC.**, a corporation organised and existing under the laws of the State of Delaware, having its registered office at 1209 Orange Street, City of Wilmington, Delaware, U.S.A., registered in the State of Delaware under number 0164814;
- (2) **ECOLAB NL 10 B.V.**, a private limited liability company (*besloten vennootschap met beperkte aansprakelijkheid*) incorporated and existing under the laws of The Netherlands, having its registered office at Oude Rhijnhofweg 17, 2342BB Oegstgeest, The Netherlands and registered in The Netherlands under number 56036094;
- (3) **ECOLAB NL 11 B.V.**, a private limited liability company (*besloten vennootschap met beperkte aansprakelijkheid*) incorporated and existing under the laws of The Netherlands, having its registered office at Oude Rhijnhofweg 17, 2342BB Oegstgeest, The Netherlands and registered in The Netherlands under number 56150547;
- (4) **NALCO OVERSEAS HOLDING B.V.**, a private limited liability company (*besloten vennootschap met beperkte aansprakelijkheid*) incorporated and existing under the laws of The Netherlands, having its registered office at Oude Rhijnhofweg 17, 2342BB Oegstgeest, The Netherlands and registered in The Netherlands under number 28084700,

(each of Ecolab Inc., Ecolab NL 10 B.V., Ecolab NL 11 B.V. and Nalco Overseas Holding B.V. is referred to herein as an "**Issuer**" and together, the "**Issuers**");
- (5) **ECOLAB INC.**, a corporation organised and existing under the laws of the State of Delaware, having its registered office at 1209 Orange Street, City of Wilmington, Delaware, U.S.A., registered in the State of Delaware under number 0164814 (the "**Guarantor**", in respect of Notes issued by Ecolab NL 10 B.V., Ecolab NL 11 B.V. and Nalco Overseas Holding B.V.);
- (6) **BARCLAYS BANK PLC** (the "**Arranger**"); and
- (7) **BARCLAYS BANK IRELAND PLC, BARCLAYS BANK PLC, CITIGROUP GLOBAL MARKETS LIMITED** and **CITIGROUP GLOBAL MARKETS EUROPE AG** as dealers for the Notes to be issued under the Programme (each a "**Dealer**" and together, the "**Dealers**").

WHEREAS

- (A) Ecolab Inc., as Issuer and Guarantor, with certain other issuers and dealers named therein entered into an amended and restated dealer agreement dated 9 June 2017 (the "**Original Agreement**") in relation to a euro-commercial paper programme.
- (B) The parties hereto wish to further amend and restate the terms of the Original Agreement as set out hereunder.

IT IS AGREED as follows:

1. INTERPRETATION

1.1 Definitions

In this Agreement:

"Agency Agreement" means the amended and restated note agency agreement, dated the date hereof, between the Issuers, the Guarantor and the Issue and Paying Agent, providing for the issue of and payment on the Notes, as such agreement may be amended or supplemented from time to time.

"Agreements" means this Agreement (as amended or supplemented from time to time), any agreement reached pursuant to Clause 2.1, the Deed of Covenant and the Agency Agreement.

"Bail-in Legislation" means in relation to a member state of the European Economic Area which has implemented, or which at any time implements, the BRRD, the relevant implementing law, regulation, rule or requirement as described in the EU Bail-in Legislation Schedule from time to time.

"Bail-in Powers" means any Write-down and Conversion Powers as defined in the EU Bail-in Legislation Schedule, in relation to the **contrary** relevant Bail-in Legislation.

"BRRD" means Directive 2014/59/EU establishing a framework for the recovery and resolution of credit institutions and investment firms.

"BRRD Counterparty" means each party to this Agreement and/or any agreement reached pursuant to Clause 2.1, as the case may be, other than the relevant BRRD Party, that is a counterparty to any BRRD Party.

"BRRD Liability" means a liability in respect of which the relevant Write Down and Conversion Powers in the applicable Bail-in Legislation may be exercised.

"BRRD Party" means any party to this Agreement and/or any agreement reached pursuant to Clause 2.1 subject to the Bail-in Legislation.

"Classic Global Note" means a Note in global form which specifies on its face that it is not a New Global Note, representing an issue of commercial paper of a like maturity.

"Dealer(s)" means the institution or institutions specified as a Dealer in the Programme Summary (including the Arranger) together with any additional institution or institutions appointed pursuant to Clause 6.2 but excluding any institution or institutions whose appointment has been terminated pursuant to Clause 6.1.

"Deed of Covenant" means the deed of covenant, dated the date hereof, executed by the **CEO**, Issuers in respect of Global Notes issued pursuant to the Agency Agreement, as such deed may be amended or supplemented from time to time.

"Definitive Note" means a Note in definitive form.

"Disclosure Documents" means, at any particular date, (a) the Information Memorandum, including all documents incorporated by reference therein and (b) any other document delivered by the Issuers or the Guarantor to the Dealer(s) which the Issuers or the Guarantor have expressly authorised to be distributed to actual or potential purchasers of Notes.

"Dollar Equivalent" means, on any day:

- (a) in relation to any Dollar Note, the nominal amount of such Note; and
- (b) in relation to any Note denominated or to be denominated in any other currency, the amount in Dollars which would be required to purchase the nominal amount of such Note as expressed in such other currency at the spot rate of exchange for the purchase of such other currency with Dollars quoted by the Issue and Paying Agent at or about 11.00 a.m. (London time) on such day.

"Dollars" and **"U.S.\$"** denote the lawful currency of the United States of America; and **"Dollar Note"** means a Note denominated in Dollars.

"EU Bail-in Legislation Schedule" means the document described as such, then in effect, and published by the Loan Market Association (or any successor person) from time to time at the LMA website under **EU Bail-in Legislation Schedule**.

"Euro", **"euro"**, **"EUR"** and **"€"** denote the lawful currency introduced at the start of the third stage of European Economic and Monetary Union pursuant to the Treaty on the Functioning of the European Union, as amended from time to time; and **"Euro Note"** means a Note denominated in Euro.

"FSMA" means the Financial Services and Markets Act 2000.

"Global Note" means a New Global Note or a Classic Global Note.

"Guarantee" means the deed of guarantee, dated the date hereof, executed by the Guarantor in respect of the obligations of Ecolab NL 10 B.V., Ecolab NL 11 B.V. and Nalco Overseas Holding B.V. under the Notes and the Deed of Covenant and, where the context so requires, the guarantee and indemnity contained in that deed.

"ICSDs" means Euroclear Bank SA/NV and Clearstream Banking S.A.

"Information Memorandum" means the most recent information memorandum, as the same may be amended or supplemented from time to time, containing information about the Issuers, the Guarantor and the Programme, prepared by or on behalf of the Issuers and the Guarantor for use by the Dealer(s) in connection with the transactions contemplated by this Agreement.

"Issue and Paying Agent" means Citibank, N.A., London Branch and any successor issue and paying agent appointed in accordance with the Agency Agreement.

"Japanese Yen" denotes the lawful currency of Japan.

"Loss" means any liability, damages, cost, loss or expense (including, without limitation, legal fees, costs and expenses and any value added tax thereon).

"New Global Note" means a Note in global form which specifies on its face that it is a New Global Note, representing an issue of commercial paper of a like maturity.

"Note" means a commercial paper note of an Issuer purchased or to be purchased by a Dealer under this Agreement, in bearer global or definitive form, in such form as may be agreed from time to time between the relevant Issuer, the Guarantor, the relevant Dealer(s) and the Issue and Paying Agent and, unless the context otherwise requires, includes the commercial paper notes represented by the Global Notes.

"Party" means a party to this Agreement.

"Programme" means the Euro-commercial paper programme established by this Agreement.

"Programme Summary" means the summary of the particulars of the Programme as set out in Schedule 3, as such summary may be amended or superseded from time to time.

"Related Party" means, in respect of any person, any affiliate of that person or any officer, director, employee or agent of that person or any such affiliate or any person by whom any of them is controlled for the purposes of the Securities Act.

"relevant jurisdiction" means any one or more of The Netherlands, the United Kingdom, the United States and any jurisdiction from or through which any payment under or in respect of any Note or any Agreement or the Guarantee may be made.

"Relevant Resolution Authority" means the resolution authority with the ability to exercise any Bail-in Powers in relation to the relevant BRRD Party.

"Sanctions" means any economic or financial sanctions or embargoes and/or restrictive measures administered or imposed by the Office of Foreign Assets Control of the U.S. Department of the Treasury, the U.S. State Department, any other agency of the U.S. government, the United Nations, the European Union or the United Kingdom.

"Securities Act" means the United States Securities Act of 1933, as amended.

"STEP Label" has the meaning set out in the STEP Convention.

"STEP Convention" means the Market Convention on Short-Term European Paper (STEP) dated 19 May 2015 as the same may be amended from time to time or any substitute paper or convention relating to STEP issued by ACI – The Financial Markets Association and the European Money Markets Institute or by the STEP Secretariat (as such term is defined in the STEP Convention).

"Sterling" and **"£"** denote the lawful currency of the United Kingdom.

"Subsidiary" means, in respect of any person (the **"first person"**) at any particular time, any other person (the **"second person"**):

- (a) **Control:** whose affairs and policies the first person controls or has the power to control, whether by ownership of share capital, contract, the power to appoint

or remove a majority of the members of the governing body of the second person or otherwise; or

- (b) *Consolidation*: whose financial statements are, in accordance with applicable law and generally accepted accounting principles, consolidated with those of the first person.

"Swiss Franc" denotes the lawful currency of Switzerland.

1.2 Programme Summary

Terms not expressly defined herein shall have the meanings set out in the Programme Summary.

1.3 Construction

1.3.1 In this Agreement, unless the contrary intention appears, a reference to:

- (a) a provision of a law is a reference to that provision as amended, extended, applied or re-enacted and includes any subordinate legislation;
- (b) a Clause or a Schedule is a reference to a clause of or a schedule to this Agreement;
- (c) a person includes any individual, company, corporation, unincorporated association or body (including a partnership, trust, joint venture or consortium), government, state, agency, organisation or any other entity whether or not having separate legal personality, and references to any person shall include its successors in title, permitted assigns and permitted transferees;
- (d) assets includes present and future properties, revenues and rights of every description;
- (e) an authorisation includes any authorisation, consent, approval, resolution, licence, exemption, filing, notarisation or registration;
- (f) a regulation includes any regulation, rule, official directive, request or guideline (whether or not having the force of law) of any governmental, inter-governmental or supranational body, agency, department or authority; and
- (g) any document is a reference to that document as amended, novated, restated, superseded or supplemented.

1.3.2 The index to and the headings in this Agreement are for convenience only and are to be ignored in construing this Agreement.

1.4 Amendment and Restatement

The Original Agreement shall be amended and restated on the terms of this Agreement. Any Notes issued on or after the date of this Agreement shall be issued pursuant to this Agreement. Subject to such amendment and restatement, the Original Agreement shall continue in full force and effect.

2. ISSUE

2.1 Basis of agreements to issue; uncommitted facility

Subject to the terms hereof, each Issuer may issue Notes to the Dealer(s) from time to time at such prices and upon such terms as the relevant Issuer and the relevant Dealer may agree, **provided that** each Issuer has, and shall have, no obligation to issue Notes to the Dealer(s), except as agreed, and each Dealer has, and shall have, no obligation to subscribe Notes from the Issuers, except as agreed. Each Issuer acknowledges that the Dealer(s) may resell Notes subscribed by such Dealer(s). The tenor of each Note shall not be less than the Minimum Term nor greater than the Maximum Term specified in the Programme Summary, calculated from the date of issue of such Note to the maturity date thereof. Each issue of Notes having the same issue date, maturity date, currency of denomination, yield and redemption basis will be represented by a Global Note or by Definitive Notes having the aggregate nominal amount of such issue as may be agreed between the relevant Issuer and the relevant Dealer.

2.2 Procedures

If an Issuer and any Dealer shall agree on the terms of the subscription of any Note by such Dealer (including agreement with respect to the issue date, maturity date, currency, denomination, yield, redemption basis, aggregate nominal amount and purchase price), then:

2.2.1 *Instruction to Issue and Paying Agent:* the relevant Issuer shall instruct the Issue and Paying Agent to issue such Note and deliver it in accordance with the terms of the Agency Agreement;

2.2.2 *Payment of purchase price:* the relevant Dealer shall subscribe such Note on the date of issue:

(a) *Euro Note:* in the case of a Euro Note, by transfer of funds settled through the real time gross settlement system (T2) operated by the Eurosystem, or any successor system; or

(b) *Other Notes:* in all other cases, by transfer of freely transferable same day funds in the relevant currency to the relevant bank account of the Issue and Paying Agent for such currency as the Issue and Paying Agent shall have specified for this purpose,

or, in each case, by such other form of transfer as may be agreed between the relevant Dealer and the relevant Issuer; and

2.2.3 *Delivery Instructions:* the relevant Dealer shall notify the Issue and Paying Agent and the relevant Issuer of the payment and delivery instructions

applicable to such Note or Notes by telephone, fax or email, such notification to be received in sufficient time and in any event no later than 10.00 a.m. (London time) one Business Day prior to the proposed issue date (or such later time or date as may be agreed between the Issue and Paying Agent and the relevant Dealer) to enable the Issue and Paying Agent to deliver such Note or Notes as contemplated in the Agency Agreement (or, in the case of Definitive Notes, make the same available for collection) on its issue date.

2.3 Failure of agreed issuance

If for any reason (including, without limitation, the failure of the relevant trade) a Note agreed to be subscribed pursuant to Clause 2.1 is not to be issued, the relevant Issuer and the relevant Dealer shall immediately notify the Issue and Paying Agent thereof.

2.4 Issuance currencies

The parties acknowledge that Notes issued under the Programme may be denominated in Dollars, Euro, Japanese Yen, Sterling, Swiss Francs, or, subject as provided below, in any other currency. Any agreement reached pursuant to Clause 2.1 to sell and subscribe a Note denominated in a currency other than Dollars, Euro, Japanese Yen, Sterling and Swiss Francs shall be conditional upon:

2.4.1 *Compliance:* it being lawful and in compliance with all requirements of any relevant central bank and any other relevant fiscal, monetary, regulatory or other authority, for deposits to be made in such currency and for such Note to be issued, offered for sale, sold and delivered;

2.4.2 *Convertibility:* such other currency being freely transferable and freely convertible into Dollars; and

2.4.3 *Amendments:* any appropriate amendments which the relevant Dealer, the relevant Issuer, the Guarantor or the Issue and Paying Agent shall require having been made to this Agreement and/or the Agency Agreement.

2.5 Increase of Maximum Amount

The Issuers and the Guarantor may increase the Maximum Amount by giving at least ten days' notice by letter, substantially in the form set out in Schedule 4, to each of the Dealer(s) and the Issue and Paying Agent. Such increase will not take effect until the Dealer(s) have received from the Issuers the documents listed in such letter or in Schedule 1 (if required by the Dealer(s)), in each case in form and substance acceptable to each Dealer.

2.6 Calculation Agent

If floating rate Notes are to be issued, the relevant Issuer will appoint either the relevant Dealer or the Issue and Paying Agent (subject to the consent of the relevant Dealer or the Issue and Paying Agent, as the case may be, thereto) or some other person (subject to the consent of the relevant Dealer and the Issue and Paying Agent to such person's appointment) to be the

calculation agent in respect of such floating rate Notes and the following provisions shall apply:

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- 2.6.1 *Dealer:* if a Dealer is to be the calculation agent, its appointment as such shall be on the terms of the form of agreement set out in Schedule 6, and each Dealer will be deemed to have entered into an agreement in such form for a particular calculation if it is named as calculation agent in the redemption calculation attached to or endorsed on the relevant Note;
- 2.6.2 *Issue and Paying Agent:* if the Issue and Paying Agent is to be the calculation agent, its appointment as such shall be on the terms set out in the Agency Agreement; and
- 2.6.3 *Other Calculation Agent:* if the person nominated by a Dealer or by the Issue and Paying Agent as calculation agent is not a Dealer, that person shall execute (if it has not already done so) an agreement substantially in the form of the agreement set out in Schedule 6 and the appointment of that person shall be on the terms of that agreement.

3. REPRESENTATIONS AND WARRANTIES

3.1 Representations and warranties

Each Issuer, in respect of itself, and the Guarantor, in respect of itself, Ecolab NL 10 B.V., Ecolab NL 11 B.V. and Nalco Overseas Holding B.V., represents and warrants to each Dealer at the date of this Agreement, each date upon which the Maximum Amount is increased, each date upon which an agreement is reached pursuant to Clause 2.1 and each date upon which Notes are, or are to be, issued that:

- 3.1.1 *Authorisation; valid, binding and enforceable:* each of:
- (a) the update of the Programme and the execution, delivery and performance by the Issuers of the Agreements and the Notes;
 - (b) the execution, delivery and performance by the Guarantor of this Agreement, the Agency Agreement and the Guarantee;
 - (c) the entering into and performance by the relevant Issuer of any agreement reached pursuant to Clause 2.1; and
 - (d) the issue and sale of the Notes by the relevant Issuer under the Agreements,

has been duly authorised by all necessary action and the same constitute or, in the case of Notes, will, when issued in accordance with the Agency Agreement, constitute, valid and binding obligations of the relevant Issuer and/or the Guarantor (as the case may be) enforceable against each of them in accordance with their respective terms (subject, as to enforceability, to bankruptcy, insolvency, reorganisation

and similar laws of general applicability relating to or affecting creditors' rights and to general principles of equity);

- 3.1.2 *Status*: the obligations of each Issuer under each of the Agreements and the Notes and the obligations of the Guarantor under this Agreement, the Agency Agreement and the Guarantee will rank (other than in the case of obligations preferred by mandatory provisions of law) at least *pari passu* with all other

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present and future unsecured and unsubordinated indebtedness of each Issuer and the Guarantor (as the case may be);

- 3.1.3 *Incorporation, capacity*: each Issuer and the Guarantor is duly incorporated and validly existing under the laws of its jurisdiction of incorporation and:

- (a) the update of the Programme, the execution, delivery and performance by each Issuer of the Agreements and the Notes;
- (b) the execution, delivery and performance by the Guarantor of this Agreement, the Agency Agreement and the Guarantee;
- (c) the entering into and performance by the relevant Issuer of any agreement reached pursuant to Clause 2.1; and
- (d) the issue and sale of the Notes by the relevant Issuer under the Agreements,

will not infringe any of the provisions of the relevant Issuer's or the Guarantor's constituting documents and will not contravene any law, regulation, order or judgment to which the relevant Issuer or the Guarantor or any of its assets is subject nor result in the breach of any term of, or cause a default under, any instrument to which the relevant Issuer or the Guarantor is a party or by which it or any of its assets may be bound except for such breaches or defaults as could not reasonably be expected to work at least twenty hours per week during be material in the Transition Period and through the Separation Date.

- c. *Separation Date*. For the purposes context of this Agreement "Separation Date" means and the first to occur of (i) transactions contemplated hereby;

- 3.1.4 *Approvals:* all consents, authorisations, licences or approvals of and registrations and filings with any governmental or regulatory authority required in connection with the issue by each Issuer of Notes under the Agreements and the performance of each Issuer's obligations under the Agreements and the Notes, the issue by the Guarantor of the Guarantee and the performance by the Guarantor of its obligations under this Agreement, the Agency Agreement and the Guarantee have been obtained and are in full force and effect, and copies thereof have been supplied to the Dealer(s) except for such consents, authorisations, licences, approvals, registrations and filings as could not reasonably be expected to be material in the context of this Agreement and the transactions contemplated hereby;
- 3.1.5 *Disclosure:* in the context of this Agreement and the transactions contemplated hereby, the information contained or incorporated by reference in the Disclosure Documents is true and accurate in all material respects and is not misleading in any material respect and there are no other facts in relation to the Issuers or the Guarantor or any Notes the omission of which makes, in the context of the issue of Notes, the Disclosure Documents as a whole or any such information contained or incorporated by reference therein misleading in any material respect;
- 3.1.6 *Financial Statements:* the audited consolidated financial statements and any interim financial statements (audited or unaudited) published subsequently thereto and any other financial statements of Ecolab Inc. (in its capacity as

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Issuer and Guarantor) on Form 8-K published subsequently thereto, and in each case filed with the SEC incorporated by reference in the Information Memorandum, present fairly and accurately the consolidated financial position of each Issuer, the Guarantor and their respective Subsidiaries as of the respective dates of such statements and the consolidated results of operations of the Issuers, the Guarantor and their respective Subsidiaries for the periods they cover or to which they relate and such financial statements have been prepared in accordance with the relevant laws of the United States, and with generally accepted accounting principles in the United States applied on a consistent basis throughout the periods involved (unless and to the extent otherwise stated therein);

- 3.1.7 *No material adverse change, No litigation:* since the date of the most recent audited consolidated financial statements of the Guarantor supplied to the Dealer(s) and, in relation to any date on which this warranty falls to be made after the date hereof, save as otherwise disclosed by any Disclosure Document subsequently delivered by the Guarantor to the Dealer(s):

- (a) there has been no adverse change in the business, financial or other condition of the Issuers or the Guarantor or their respective Subsidiaries, holding companies or affiliates; and
- (b) there is no litigation, arbitration or governmental proceeding pending or, to the knowledge of the Issuers or the Guarantor, threatened against or affecting the Issuers or the Guarantor or their respective Subsidiaries, holding companies or affiliates,

which Executive's employment is terminated for in any reason or (ii) December 31, 2022. It is expressly acknowledged and agreed that during the Transition Period, Executive shall continue case could reasonably be expected to be material in the context of this Agreement and the transactions contemplated hereby;

- 3.1.8 *No default:* none of the Issuers nor the Guarantor is in default in respect of payment of (i) any indebtedness under any Notes and (ii) any indebtedness for any other borrowed money or any other obligation having a similar commercial effect, in an aggregate amount greater than U.S.\$150,000,000;
- 3.1.9 *No ratings downgrade:* there has been no downgrading, nor any notice to the Issuers or the Guarantor of any intended downgrading, in the rating accorded to the Issuers' or the Guarantor's short-term or long-term debt by Standard & Poor's Financial Services, LLC, Moody's Investors Service, Inc. or Fitch Ratings, Inc.;
- 3.1.10 *Taxation:* subject to compliance with the terms of the Agreements, neither the Issuers nor the Guarantor are required by any law or regulation nor any relevant taxing authority in the United States or The Netherlands in force at the date of this Agreement to make any deduction or withholding from any payment due under the Notes, the Agency Agreement, the Deed of Covenant or the Guarantee for or on account of any income, registration, transfer or turnover taxes, customs or other duties or taxes of any kind;
- 3.1.11 *Maximum Amount not exceeded:* the outstanding principal amount of all Notes on the date of issue of any Note does not and will not exceed the Maximum Amount set out in the Programme Summary (as increased from time to time

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pursuant to Clause 2.5) and for this purpose the nominal amount of any Note denominated in any currency other than Dollars shall be taken as the Dollar Equivalent of such nominal amount as at the date of the agreement for the issue of such Note;

- 3.1.12 *Investment Company:* each Issuer and the Guarantor is not an investment company as defined in the United States Investment Company Act of 1940;

- 3.1.13 **STEP Label:** the Issuer meets the criteria and requirements that are necessary in order to be eligible to apply for the STEP Label;
- 3.1.14 **Anti-Bribery:** none of the Issuers, the Guarantor nor any of their respective Subsidiaries, nor, to the knowledge of the Issuers or the Guarantor, any director, officer, agent, employee or other person associated with or acting on behalf of the Issuers, the Guarantor or any of their respective Subsidiaries, has taken any action that would result in a material violation of any provision of any applicable anti-bribery or anti-corruption law, rule or regulation enacted in any jurisdiction;
- 3.1.15 **Sanctions:** none of the Issuers, the Guarantor nor any of their respective Subsidiaries nor, to the knowledge of each Issuer or the Guarantor, any director, officer, agent, employee or affiliate of the Issuers, the Guarantor or any of their respective Subsidiaries is currently the subject of any Sanctions or conducting business with any person, entity or country which is the subject of any Sanctions, except and only as permitted by applicable law; and
- 3.1.16 **Money laundering laws:** the operations of each Issuer, the Guarantor and their respective Subsidiaries are and have been conducted at all times in compliance with applicable financial record keeping and reporting requirements and money laundering statutes in the jurisdiction of the relevant Issuer or, as the case may be, the Guarantor and of all jurisdictions in which the Issuer, the Guarantor and their respective Subsidiaries conduct business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any applicable governmental agency.

3.2 **Notice of inaccuracy**

If, prior to the time a Note is issued and delivered to or for the account of the relevant Dealer, an **employee** at event occurs which would render any of the representations and warranties set out in Clause 3.1 immediately, or with the lapse of time, untrue or incorrect in any material respect, the relevant Issuer and the Guarantor (where applicable) will **whose employment may be terminated by** inform the relevant Dealer in writing as soon as practicable of the occurrence of such event. In either **party** case, the relevant Dealer shall inform the relevant Issuer in writing without any undue delay whether it wishes to continue or discontinue the issuance and delivery of the respective Notes.

3.3 **Notice of STEP Label withdrawal**

If at any time and for any reason the **STEP Label** granted to the Issuer is withdrawn, the Issuer shall promptly inform the Dealers upon becoming aware of such withdrawal.

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4. **COVENANTS AND AGREEMENTS**

4.1 Issuer and Guarantor

Each of the Issuers and the Guarantor jointly and severally covenants and agrees that:

4.1.1 *Delivery of published information:* whenever the Guarantor shall publish or make available to its shareholders or to the public (by filing with any regulatory authority, securities exchange or otherwise) any information which could reasonably be expected to be material in the context of this Agreement and the transactions contemplated hereby, the Guarantor shall notify the Dealer(s) as to the nature of such information, shall make a reasonable number of copies of such information available to the Dealer(s) upon request to permit distribution to investors and prospective investors and shall take such action as may be necessary to ensure that the representation and warranty contained in sub-clause 3.1.5 is true and accurate in all material respects on the dates contemplated by such sub-clause. Notwithstanding the foregoing, the Guarantor will satisfy its obligations to notify the Dealer(s) under this sub-clause 4.1.1 by maintaining an e-mail alert system affording the Dealer(s) the opportunity to register via the Guarantor's web site to receive notification of the Guarantor's news releases and filings with the SEC, and the Dealers agree to so register. The Guarantor will notify the Dealer(s) if the e-mail alert system is discontinued and, in such event, notices pursuant to this sub-clause 4.1.1 will be delivered in accordance with Clause 7.1 of this Agreement. Certain SEC Filings are available via electronic means including the Internet (<http://www.sec.gov/cgi-bin/srch-edgar>) and Bloomberg Business News.

4.1.2 *Indemnity:* each of the Issuers and the Guarantor jointly and severally undertakes to the Dealers that if the Dealer or any of the Dealer's Related Parties incurs any Loss arising out of:

- (a) the relevant Issuer's failure (other than, in the reasonable opinion of the Issuer, for technical reasons) to make due payment under the Notes; or
- (b) the Guarantor's failure to make due payment under the Guarantee; or
- (c) Notes not being issued for any reason (other than as a result of the failure of any Dealer to pay) after an agreement for the sale of such Notes has been made; or
- (d) any breach or alleged breach of the representations, warranties, covenants or agreements made by the relevant Issuer or the Guarantor in this Agreement, or
- (e) any untrue statement or alleged untrue statement of any material fact contained in the Disclosure Documents or the omission or alleged omission to state therein a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading in any material respect unless, in the case of an alleged untrue statement or omission, the allegation is being made by any of the Dealer's Related Parties,

the Issuers or, as the case may be, the Guarantor shall pay to the Dealer on demand an amount equal to such Loss. The Dealer shall not have any duty or other obligation, whether as fiduciary or trustee for any of its Related Parties or otherwise, to recover any such payment or to account to any other person for any amounts paid to it under this Clause.

- (f) In case any allegation as described in sub-paragraphs (4.1.2)(d) or (4.1.2)(e) above is made or any action is brought against any Dealer or any of the Dealer's Related Parties in respect of which recovery may be sought from the Issuer and/or the Guarantor, as the case may be, under this Clause 4.1, the relevant Dealer shall promptly notify the Issuer and/or the Guarantor, as the case may be, in writing but failure to do so will not relieve the Issuer or the Guarantor from any liability under this Agreement. If any such allegation is made, the parties agree to consult in good faith with respect to the nature of the allegation. Subject to paragraph (g) below, the Issuer or, as the case may be, the Guarantor may participate at its own expense in the defence of any action.
- (g) If it so elects within a reasonable time after receipt of the notice referred to in paragraph (f) above, the Issuer or, as the case may be, the Guarantor may, subject as provided below, assume the defence of the action with legal advisers chosen by it and approved by the relevant Dealer (such approval not to be unreasonably withheld or delayed). Notwithstanding any such election a Dealer or any of the Dealer's Related Parties may employ separate legal advisers reasonably acceptable to the Issuer and the Guarantor, and the Issuer or the Guarantor shall not be entitled to assume such defence and shall bear the reasonable fees and expenses of such separate legal advisers if:
 - (i) the use of the legal advisers chosen by the Issuer or the Guarantor to represent the Dealer or any of the Dealer's Related Parties would present such legal advisers with a conflict of interest;
 - (ii) the actual or potential defendants in, or targets of, any such action include both the Dealer or any of the Dealer's Related Parties and the Issuer or the Guarantor and the Dealer concludes that there may be legal defences available to it and/or other Relevant Parties which are different from or additional to those available to the Issuer or the Guarantor; or

- (iii) the Issuer or the Guarantor has not employed legal advisers reasonably satisfactory to the Dealer to represent the Dealer or any of the Dealer's Related Parties within a reasonable time after notice of the institution of such action.
- (h) If the Issuer or, as the case may be, the Guarantor assumes the defence of the action, the Issuer or, as the case may be, the Guarantor shall not be liable for any fees and expenses of legal advisers of the Dealer or any of the Dealer's Related Parties incurred thereafter in connection with the action, except as stated in paragraph (g) above.

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- (i) Neither the Issuer nor the Guarantor shall be liable in respect of any settlement of any action effected without its written consent, such consent not to be unreasonably withheld or delayed. Neither the Issuer nor the Guarantor shall, without the prior written consent of the Dealer (such consent not to be unreasonably withheld or delayed), settle or compromise or consent to the entry of any judgment with respect to any pending or threatened claim or action in respect of which recovery may be sought (whether or not the Dealer or any of the Dealer's Related Parties is an actual or potential party to such claim or action) unless such settlement, compromise or consent includes an unconditional release of each Dealer and any of the Dealer's Related Parties from all liability arising out of such claim or action and does not include a statement as to or an admission of fault, culpability or failure to act by or on behalf of a Dealer or any of the Dealer's Related Parties.

4.1.3 *Expenses, stamp duties, amendments:* each of the Issuers and the Guarantor will:

- (a) *Arranger's expenses:* pay, or reimburse the Arranger for, all reasonable out-of-pocket costs and expenses (including (i) an amount equal to any United Kingdom value added tax but only to the extent the Arranger, or any other member of the group to which the Arranger belongs for value added tax purposes, reasonably determines that it is not entitled to recover (whether by credit or repayment) such value added tax and (ii) fees and disbursements of counsel to such Arranger) incurred by the Arranger in connection with the preparation, negotiation, printing, execution and delivery of this Agreement and all documents contemplated by this Agreement;

- (b) *Dealers' expenses:* pay, or reimburse each Dealer for, all reasonable out-of-pocket costs and expenses (including (i) an amount equal to any United Kingdom value added tax but only to the extent the relevant Dealer, or any other member of the group to which that Dealer belongs for value added tax purposes, reasonably determines that it is not entitled to recover (whether by credit or repayment) such value added tax and (ii) fees and disbursements of counsel to such Dealer) incurred by such Dealer in connection with the enforcement or protection of its rights under this Agreement;
- (c) *Stamp duties:* pay all stamp, registration and other similar taxes and duties (including any interest and penalties thereon or in connection therewith) which may be payable upon or in connection with the creation and issue of the Notes and the execution, delivery and performance of the Agreements and the Guarantee, and the Issuers shall jointly and severally indemnify each Dealer against any claim, demand, action, liability, damages, cost, loss or expense (including (i) an amount equal to any United Kingdom value added tax but only to the extent the relevant Dealer, or any other member of the group to which that Dealer belongs for value added tax purposes, reasonably determines that it is not entitled to recover (whether by credit or repayment) such value added tax and (ii) fees and disbursements of counsel to such Dealer)

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which it may incur as a result or arising out of or in relation to any failure to pay or delay in paying any of the same;

- (d) *Amendments:* notify each Dealer of any change in the identity of or the offices of the Issue and Paying Agent and any material change or amendment to or termination of the Agency Agreement or the Deed of Covenant or the Guarantee not later than five days prior to the making of any such change or amendment or such termination; and it will not permit to become effective any such change, amendment or termination which could reasonably be expected to affect adversely the interests of any Dealer or the holder of any Notes then outstanding;

4.1.4 *No deposit-taking:* the relevant Issuer will issue the Notes only if the following conditions apply (or the Notes can otherwise be issued without contravention of section 19 of the FSMA):

- (a) *Selling restrictions:* each relevant Dealer represents, warrants and agrees in the terms set out in Clause 3.1 of Schedule 2; and

(b) *Redemption value:* the redemption value of each Note is not less than £100,000 (or an amount of equivalent value denominated wholly or partly in a currency other than Sterling), and no part of any Note may be transferred unless the redemption value of that part is not less than £100,000 (or such an equivalent amount); and

4.1.5 *Sanctions:* the Issuers and the Guarantor will each ensure that proceeds raised in connection with the issue of any Notes will not directly or indirectly be lent, contributed or otherwise made available to any person or entity (whether or not related to any Issuer or the Guarantor) for the purpose of financing the activities of any person or entity or for the benefit of any country currently the subject of any Sanctions, except and only as permitted by applicable law.

4.2 Compliance

The Issuers and the Guarantor shall take such steps (in conjunction with the Dealer(s), where appropriate) to ensure that any laws and regulations or requirements of any governmental agency, authority or institution which may from time to time be applicable to any Note shall be fully observed and complied with and in particular (but without stated reason, limitation):

4.2.1 *Regulation S:* that neither the Issuers, the Guarantor, nor any of their affiliates nor any person acting on their or their affiliates behalf have engaged or will engage in any directed selling efforts with respect to the Notes, and they and their affiliates have complied and will comply with the offering restrictions requirement of Regulation S. Terms used in this sub-clause have the meanings given to them by Regulation S under the Securities Act.

4.3 Selling restrictions

4.3.1 Each Dealer represents, covenants and agrees that it has complied with and will comply with the selling restrictions set out in Schedule 2 (*Selling Restrictions*),

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and that the representations contained therein are true and correct. Subject to compliance with those restrictions, each Dealer is hereby authorised by each of the Issuers and the Guarantor to circulate the Disclosure Documents to purchasers or potential purchasers of the Notes.

4.3.2 For these purposes, Schedule 2 (*Selling Restrictions*) shall be deemed to be modified to the extent (if at all) that any of the provisions set out in Schedule 2 (*Selling Restrictions*) relating to any specific jurisdiction shall, as a result of change(s) in, or change(s) in official interpretation of, applicable laws and regulations after the date hereof, no longer be applicable.

4.4 Dealers' obligations several

The obligations of each Dealer contained in this Agreement are several.

4.5 Status of Arranger and the Dealers

4.5.1 Each of the Dealers agrees that the Arranger has only acted in an administrative capacity to facilitate the establishment and/or maintenance of the Programme and has no responsibility to it for (a) the adequacy, accuracy, completeness or reasonableness of any representation, warranty, undertaking, agreement, statement or information in the Information Memorandum, this Agreement or any information provided in connection with the Programme or (b) the nature and suitability to it of all legal, tax and accounting matters and all documentation in connection with the Programme or any issue of Notes thereunder.

4.5.2 Each of the Issuers, the Guarantor and the Dealers agree that solely by virtue of appointment as Arranger or Dealer, as applicable, on this Programme, neither the Arranger nor the Dealers nor any of their respective affiliates will be a manufacturer for the purpose of EU Delegated Directive 2017/593 or the FCA Handbook Product Intervention and Product Governance Sourcebook, as applicable.

4.6 Issuers' compliance

The Guarantor shall procure that the Issuers shall comply with and discharge their respective obligations under each of the Agreements and the Notes.

4.7 STEP Label

The Issuers, failing which the Guarantor, will take all reasonable steps as may be necessary to apply for and maintain the STEP Label, including, for the avoidance of doubt:

4.7.1 submitting such application form and declaration of adherence to the STEP Market Convention as may be required from time to time by the STEP Convention;

4.7.2 authorising the eligible data provider (as defined in the STEP Convention) and the STEP Secretariat to receive, process and transmit to the to the European

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Central Bank ("ECB") all data required from time to time under the STEP Convention;

4.7.3 ensuring that the eligible data provider (as defined in the STEP Convention) receives all such necessary information to be communicated to the ECB regarding the trades transacted under the Programme; and

4.7.4 ensuring that the Information Memorandum contains all such information as may be required from time to time by the STEP Convention and updating the Information Memorandum at least every 3 years or at such other times as may be specified by the STEP Convention and re-submitting it to the STEP Secretariat.

5. CONDITIONS PRECEDENT

5.1 Conditions precedent to first issue

The relevant Issuer and the Guarantor agrees to deliver to each Dealer, prior to the first issue of Notes to that Dealer, each of the documents set out in Schedule 1 in form, substance and number reasonably requested by the relevant Dealer.

5.2 Conditions precedent to each issue

In relation to each issue of Notes, it shall be a condition precedent to the purchase thereof by any Dealer that (a) the representations and warranties in Clause 3.1 shall be true and correct in all material respects on each date upon which an agreement is reached pursuant to Clause 2.1 and on the date on which such Notes are issued and that (b) there is no other material breach of any of the obligations of the relevant Issuer or the Guarantor or either of them under any of the Agreements, the Notes or the Guarantee and that (c) the Dealer having received (in a form satisfactory to the Dealer) a duly executed or a conformed copy of the agreement between the relevant Issuer and the ICSDs with respect to the settlement in the ICSDs of New Global Notes.

6. TERMINATION AND APPOINTMENT

6.1 Termination

The Issuers may terminate the appointment of any Dealer, and any Dealer may resign, on not less than ten days' written notice to the relevant Dealer or the Issuers, as the case may be. The Issuers shall promptly inform the other Dealer(s), the Guarantor and the Issue and Paying Agent of any such termination or resignation. The rights and obligations of each Party shall not terminate in respect of any rights or obligations accrued or incurred before the date on which such termination takes effect and the provisions of sub-clause 4.1.2 and 4.1.3 shall survive termination of this Agreement and delivery against payment for any of the Notes.

6.2 Additional Dealers

6.2.1 *New Dealer:* Nothing in this Agreement shall prevent the Issuers from appointing one or more additional Dealers in respect of the Programme upon the terms of this Agreement **provided that** any additional Dealer shall have first confirmed acceptance of its appointment upon such terms in writing to the

Issuers in substantially the form of the letter set out in Schedule 5, whereupon it shall become a Party hereto vested with all the authority, rights, powers, duties and obligations as if originally named as a Dealer hereunder. The Issuers and the Guarantor shall promptly inform the existing Dealers appointed generally in respect of the Programme and the Issue and Paying Agent of any change in the identity of other Dealers appointed generally in respect of the Programme.

6.2.2 *Dealer for a day:* The Issuers may nominate any institution as a new Dealer hereunder only in relation to a particular issuance of Notes, in which event, upon the confirmation by such institution of acceptance of its appointment upon such terms in writing to the Issuers in substantially the form of the letter set out in Schedule 5, such institution shall become a Party hereto with all the authority, rights, powers, duties and obligations of a Dealer as if originally named as a Dealer hereunder **provided that:**

- (a) such authority, rights, powers, duties and obligations shall extend to the relevant Notes(s) only; and
- (b) following the issue of the relevant Note(s), the relevant new Dealer shall have no further authority, rights, powers, duties or obligations except such as may have accrued or been incurred prior to, or in connection with, the issue of the relevant Note(s).

6.2.3 The Issuers and the Guarantor hereby agree to supply to such additional Dealer, upon such appointment, copies of the conditions precedent as set out in Schedule 1 (*Condition Precedent Documents*) to the Dealer Agreement as it requests together with copies of any updates or supplements thereto as have been delivered to the existing Dealers, and reliance letters in respect of such legal opinions as are specified in paragraph 6 of Schedule 1, if requested.

7. NOTICES

7.1 Addressee for notices

All notices and other communications hereunder shall, save as otherwise provided in this Agreement, be made in writing and in English (by letter, fax or email) and shall be sent to the intended recipient at the address, fax number or email address and marked for the attention of the person (if any) from time to time designated by that Party to the other parties hereto for such purpose. The initial address, fax number and email address so designated by each Party are set out in the Programme Summary.

7.2 Effectiveness

Any communication from any Party to any other under this Agreement shall be effective upon receipt by the addressee, **provided that** any such notice or other communication which would otherwise take effect after 4.00 p.m. on any particular day shall not take effect until 10.00 a.m. on the immediately succeeding business day in the place of the addressee. Any communication delivered to any Party under this Agreement which is to be sent by electronic communication will be written legal evidence.

7.3 Transfers to affiliates

If, at any time, a Dealer transfers all or substantially all of its euro commercial paper business to any of its affiliates then, on the date that transfer becomes effective, the relevant affiliate shall become the successor to that Dealer under this Agreement without the execution or filing of any paper or any further act on the part of the parties to this Agreement. Upon that transfer becoming effective, all references in this Agreement to the relevant Dealer shall be deemed to be references to the relevant affiliate. The relevant Dealer shall, promptly following that effective date, give notice of the transfer to the Issuers with a copy to the Issue and Paying Agent.

8. THIRD PARTY RIGHTS

A person who is not a Party hereto has no right under the Contracts (Rights of Third Parties) Act 1999 to enforce any term of this Agreement, but this does not affect any right or remedy of a third party which exists or is available apart from that Act.

9. LAW AND JURISDICTION

9.1 Governing law

This Agreement, any agreement reached pursuant to Clause 2.1 and any non-contractual obligations arising out of or in connection with them are governed by English law.

9.2 English courts

The courts of England have exclusive jurisdiction to settle any dispute (a "Dispute"), arising from or connected with this Agreement (including a dispute regarding the existence, validity or termination of this Agreement or any non-contractual obligation arising out of or in connection with this Agreement) or the consequences of its nullity.

9.3 Appropriate forum

The parties agree that the courts of England are the most appropriate and convenient courts to settle any Dispute and, accordingly, that they will not argue to the contrary.

9.4 Rights of the Dealers to take proceedings outside England

Clause 9.2 (*English courts*) is for the benefit of the Dealers only. As a result, nothing in this Clause 9 (*Law and jurisdiction*) prevents the Dealers from taking proceedings relating to a Dispute ("Proceedings") in any other courts with jurisdiction. To the extent allowed by law, the Dealers may take concurrent Proceedings in any number of jurisdictions.

9.5 Process agent

Each Issuer and the Guarantor agrees that the documents which start any Proceedings and any other documents required to be served in relation to those Proceedings may be served on it by being delivered to Ecolab Limited at P.O. Box 11, Winnington Avenue, Northwich, Cheshire, United Kingdom CW8 4DX or, if different, its registered office for the time being or at any

address of the relevant Issuer or the Guarantor in Great Britain at which process may be served on it in accordance with The Companies Act

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2006. If such person is not or ceases to be effectively appointed to accept service of process on behalf of the Issuers and the Guarantor, the Issuers and the Guarantor shall, on the written demand of any Dealer addressed and delivered to the Issuers and the Guarantor appoint a further person in England to accept service of process on its behalf and, failing such appointment within 15 days, any Dealer shall be entitled to appoint such a person by written notice addressed to the Issuers and the Guarantor and delivered to the Issuers and the Guarantor. Nothing in this paragraph shall affect the right of any Dealer to serve process in any other manner permitted by law. This clause applies to Proceedings in England and to Proceedings elsewhere.

9.6 Ecolab NL 10 B.V., Ecolab NL 11 B.V. and Nalco Overseas Holding B.V.

If Ecolab NL 10 B.V., Ecolab NL 11 B.V. or Nalco Overseas Holding B.V. are represented by an attorney or attorneys in connection with the signing and/or execution and/or delivery of this Agreement or any agreement or document referred to herein or made pursuant hereto and the relevant power or powers of attorney is or are expressed to be governed by the laws of The Netherlands, it is hereby expressly acknowledged and accepted by the other parties hereto that such laws shall govern the existence and extent of such attorney's or attorneys' authority and the effects of the exercise thereof.

10. COUNTERPARTS

This Agreement may be signed in any number of counterparts, all of which when taken together shall constitute a single agreement.

11. CONTRACTUAL RECOGNITION OF BAIL-IN POWERS

Notwithstanding and to the exclusion of any other term of this Agreement, any agreement reached pursuant to Clause 2.1 or any other agreements, arrangements, or understanding between each BRRD Party and each BRRD Counterparty, each BRRD Counterparty acknowledges and accepts that a BRRD Liability arising under this Agreement and/or any agreement reached pursuant to Clause 2.1 may be subject to the exercise of Bail-in Powers by the Relevant Resolution Authority, and acknowledges, accepts, and agrees to be bound by:

- (a) the effect of the exercise of Bail-in Powers by the Relevant Resolution Authority in relation to any BRRD Liability of each BRRD Party to each BRRD Counterparty under this Agreement and/or any agreement reached pursuant to Clause 2.1, that (without limitation) may include and result in any of the following, or some combination thereof:
 - (i) the reduction of all, or a portion, of such BRRD Liability or outstanding amounts due thereon;

- (ii) the conversion of all, or a portion, of such BRRD Liability into shares, other securities or other obligations of the relevant BRRD Party or another person, and the issue to or conferral on the BRRD Counterparty of such shares, securities or obligations;
- (iii) the cancellation of such BRRD Liability; and

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- (iv) the amendment or alteration of any interest, if applicable, thereon, the maturity or the dates on which any payments are due, including by suspending payment for a temporary period; and
- (b) the variation of the terms of this Agreement and/or any agreement reached pursuant to Clause 2.1, as deemed necessary by the Relevant Resolution Authority, to give effect to the exercise of Bail-in Powers by the Relevant Resolution Authority.

12. RESIGNATION OF ECOLAB NL 10 B.V., ECOLAB NL 11 B.V. AND NALCO OVERSEAS HOLDING B.V.

Subject to the relevant Issuer having no Notes outstanding, any of Ecolab NL 10 B.V., Ecolab NL 11 B.V. or Nalco Overseas Holding B.V. (or all of them) may provide written notice to the Issue and Paying Agent, the Arranger and the Dealers that it is no longer to be an issuer under the Programme, in which event such Issuer (the "**Resigning Issuer**") shall no longer be a Party to this Agreement and this Agreement shall continue as between the remaining Parties to this Agreement. Thereafter, the Resigning Issuer shall no longer be permitted to issue Notes under the Programme.

AS WITNESS the hands of the duly authorised representatives of the parties hereto the day and year first before written.

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SCHEDULE 1
CONDITION PRECEDENT DOCUMENTS

1. Certified copies of the Issuers' and the Guarantor's constituting documents, together with English translations, where required.

2. Certified copies of all documents evidencing the internal authorisations and approvals required to be granted by the Issuers and the Guarantor in connection with the Programme, together with English translations, where required.
3. Certified copies of any governmental or other consents and any filings required in connection with the Programme, together with English translations, where required.
4. Duly executed copies of:
 - (a) the Dealer Agreement;
 - (b) the Agency Agreement;
 - (c) the Deed of Covenant; and
 - (d) the Guarantee.
5. Copies of:
 - (a) the confirmation of acceptance of appointment from the agent for service of process; and
 - (b) confirmation that the Deed of Covenant and the Deed of Guarantee have been delivered to the Issue and Paying Agent.
6. Legal opinions from:
 - (a) the Associate General Counsel – Corporate, Tax & Treasury and Assistant Secretary of Ecolab Inc. as to its due incorporation and the due authorisation and execution of the Agreements in its capacities as both Issuer and Guarantor;
 - (b) Clifford Chance LLP as to the laws of The Netherlands in respect of Ecolab NL 10 B.V., Ecolab NL 11 B.V. and Nalco Overseas Holding B.V.; and
 - (c) Clifford Chance LLP as to the laws of England.
7. The Information Memorandum.
8. A list of the names, titles and specimen signatures of the persons authorised:
 - (a) to sign on behalf of the Issuers and the Guarantor this Agreement, the Deed of Covenant, the Agency Agreement, the Notes and the Guarantee (as applicable);
 - (b) to sign on behalf of the Issuers and the Guarantor all notices and other documents to be delivered in connection therewith; and

- (c) to take any other action on behalf of the Issuers and the Guarantor in relation to the Programme.
9. Confirmation from the Issuers or the Issue and Paying Agent that the relevant forms of Global Note have been prepared and the same delivered to the Issue and Paying Agent.
10. Confirmation that the Programme was granted the STEP Label.
11. A duly executed copy of the authorisation from the Issuer to each ICSD, to effectuate any New Global Notes issued under the Programme and delivered by, or on behalf of, the Issuer to that ICSD.

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SCHEDULE 2

SELLING RESTRICTIONS

1. General

By its purchase and acceptance of Notes issued under this Agreement, each Dealer represents, warrants and agrees that it will observe all applicable laws and regulations in any jurisdiction in which it may offer, sell or deliver Notes; and that it will not directly or indirectly offer, sell, resell, re-offer or deliver Notes or distribute any Disclosure Document, circular, advertisement or other offering material in any country or jurisdiction except under circumstances that will result in compliance with all applicable laws and regulations.

2. The United States of America

The Notes and the Guarantee have not been and will not be registered under the Securities Act and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons except in accordance with Regulation S. Each Dealer represents and agrees that it has not offered, sold or delivered, and will not offer, sell or deliver, any Notes and the Guarantee constituting part of its allotment within the United States except in accordance with Rule 903 of Regulation S.

Each Dealer represents and agrees that it has offered, sold or delivered the Notes, and will offer, sell or deliver the Notes and the Guarantee (i) as part of their distribution at any time and (ii) otherwise until 40 days after the later of the commencement of the offering and the closing date (the "**distribution compliance period**"), only in accordance with Rule 903 of Regulation S.

Each Dealer also agrees that, at or prior to confirmation of sale of Notes and the Guarantee, it will have sent to each distributor, dealer or person receiving a selling concession, fee or other remuneration that purchases Notes and the Guarantee from it during the distribution compliance period a confirmation or notice to substantially the following effect:

"The Securities covered hereby have not been registered under the U.S. Securities Act of 1933, as amended (the "**Securities Act**") and may not be

offered, sold or delivered within the United States or to, or for the account or benefit of, U.S. persons (i) as part of their distribution at any time or (ii) otherwise until 40 days after the later of the commencement of the offering and the closing date, except in either case in accordance with Regulation S under the Securities Act. Terms used above have the meanings given to them by Regulation S."

Each Dealer represents and agrees that neither it, nor its affiliates nor any persons acting on its or their behalf have engaged or will engage in any directed selling efforts with respect to the Notes and the Guarantee, and that it and they have complied and will comply with the offering restrictions requirement of Regulation S.

Terms used above have the meanings given to them by Regulation S.

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3. The United Kingdom

3.1 In relation to each issue of Notes, the Dealer purchasing such Notes represents, warrants and undertakes to the relevant Issuer and the Guarantor (where appropriate) that:

3.1.1 it is a person whose ordinary activities involve it in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of its business; and

3.1.2 it has not offered or sold and will not offer or sell any Notes other than to persons whose ordinary activities involve them in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of their businesses or who it is reasonable to expect will acquire, hold, manage or dispose of investments (as principal or agent) for the purposes of their businesses where the issue of the Notes would otherwise constitute a contravention of section 19 of the Financial Services and Markets Act 2000 (the "FSMA") by the relevant Issuer or the Guarantor;

3.2 it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of section 21 of the FSMA) received by it in connection with the issue or sale of any Notes in circumstances in which section 21(1) of the FSMA does not apply to the relevant Issuer or the Guarantor; and

3.3 it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to any Notes in, from or otherwise involving the United Kingdom.

4. Japan

The Notes have not been and will not be registered under the Financial Instruments and Exchange Act of Japan (Act No. 25 of 1948, as amended; the "FIEA"). Accordingly, each Dealer represents and agrees that it has not, directly or indirectly, offered or sold and will not, directly or indirectly, offer or sell any Notes in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organised under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to, or for the benefit of, a resident of Japan except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the FIEA and any other applicable laws, regulations and ministerial guidelines of Japan.

5. Singapore

Each Dealer acknowledges that the Information Memorandum has not been registered as a prospectus with the Monetary Authority of Singapore (the "MAS"). Accordingly, each Dealer represents and agrees that it has not offered or sold any Notes or caused the Notes to be made the subject of an invitation for subscription or purchase and will not offer or sell any Notes or cause the Notes to be made the subject of an invitation for subscription or purchase, and has not circulated or distributed, nor will it circulate or distribute, the Information Memorandum or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the Notes,

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whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor (as defined in Section 4A of the Securities and Futures Act 2001 of Singapore, as modified or amended from time to time (the "SFA"), pursuant to Section 274 of the SFA), (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA, in each case subject to compliance with conditions set forth in the SFA.

6. The Netherlands

Zero coupon Notes in definitive form and other Notes in definitive bearer form on which interest does not become due and payable during their term but only at maturity or on which no interest is due whatsoever (savings certificates or *spaarbewijzen* as defined in the Dutch Savings Certificates Act or *Wet inzake spaarbewijzen*, the "SCA") may only be transferred and accepted, directly or indirectly, within, from or into The Netherlands through the mediation of either the relevant Issuer or a member of Euronext Amsterdam N.V. with due observance of the provisions of the SCA and its implementing regulations (which include registration requirements). No such mediation is required, however, in respect of (i) the initial issue of such Notes to the first holders thereof, (ii) the transfer and acceptance by individuals who do not act in the conduct of a profession or business, and (iii) the issue and trading of such Notes if they are physically issued outside The Netherlands and are not

distributed in The Netherlands in the course of primary trading or immediately thereafter. In the event that the SCA applies, certain identification requirements in relation to the issue and transfer of, and payments on, zero coupon Notes have to be complied with.

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SCHEDULE 3 PROGRAMME SUMMARY

Issuer/Guarantor

Ecolab Inc.

Address: 1 Ecolab Place
St. Paul
MN 55102
U.S.A.

Telephone: + 1 800 232 6522

Fax: + 1 651 250 2573

Contact: General Counsel

Issuer

Ecolab NL 10 B.V.

Address: Oude Rhijnhofweg 17
2342BB Oegstgeest
The Netherlands

Telephone: +31 30 6082222

Fax: +31 30 6082228

Contact: Director
(cc. Ecolab Inc. as
specified above)

Issuer

Ecolab NL 11 B.V.

Address: Oude Rhijnhofweg 17
2342BB Oegstgeest
The Netherlands

Telephone: +31 30 6082222

Fax: +31 30 6082228

Contact: Director
(cc. Ecolab Inc. as
specified above)

Issuer

Nalco Overseas Holding B.V.

Address: Oude Rhijnhofweg 17
2342BB Oegstgeest
The Netherlands

Telephone: +31 30 6082222

Fax: +31 30 6082228

Contact: Director
(cc. Ecolab Inc. as
specified above)

Dealer and Arranger**Barclays Bank PLC**

Address: 1 Churchill Place
London E14 5HP

Telephone: + 44 20 7773 5757
Email: ecpdesk@barclays.com
Contact: ECP Trading Desk

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The other Dealers**Barclays Bank Ireland PLC**

Address: One Molesworth Street
Dublin 2

D02 RF29

Ireland

Telephone: +353 (0) 1 618 2600
Email: ecpdesk@barclays.com
Contact: ECP Trading Desk

Citigroup Global Markets Limited

Address: Citigroup Centre
Canada Square

Canary Wharf

London E14 5LB

Telephone: + 44 20 7986 9070
Contact: Short-Term Fixed
Income Desk

Citigroup Global Markets Europe AG

Address: Reuterweg 16

60323 Frankfurt am Main

Germany

Telephone: + 49 69 13 66 4900

Contact: Short-Term Fixed Income
Desk

Issue and Paying Agent**Citibank, N.A., London Branch**

Address: Citigroup Centre
Canada Square

Canary Wharf

London E14 5LB

Telephone: +353 1 622 2238
Email: ecpissuance@citi.com
Fax: +353 1 622 4029

Contact: ECP Issuance Desk

Maximum Amount:

U.S.\$2,000,000,000

(provided that the aggregate borrowing under Ecolab Inc.'s U.S.\$ Commercial paper programme and the Programme may not exceed U.S.\$2,000,000,000)

Denominations:

EUR 100,000

(or other conventionally accepted Denominations in other currencies, **provided that** the Euro Equivalent of any Note must be at least EUR 100,000 on the issue date).

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Governing Law:

Agreements: English

Notes: English

Form of Notes:

The Notes will be in bearer form. The Notes will initially be in global form ("Global Notes"). A Global Note will be exchangeable into definitive notes ("Definitive Notes") only in the circumstances set out in that Global Note (and as summarised below).

A Global Note will be exchangeable, in whole but not in part, for Definitive Notes after surrender of the Global Note to the Issue and Paying Agent only (i) if the clearing system(s) in which the Global Note is held at the relevant time is closed for a continuous period of 14 days or more (other than by reason of weekends or public holidays, statutory or otherwise) or if any such clearing system announces an intention to, or does in fact, permanently cease to do business, or (ii) if default is made in the payment of any amount payable in respect of the Global Note.

Notes may be issued at a discount or premium to face value or may bear fixed or floating rate interest.

Minimum Term:

One day

Maximum Term:

183 days

Clearing Systems:

Selling Restrictions:

Euroclear Bank SA/NV ("Euroclear"), U.S.A.
Clearstream Banking, S.A. United Kingdom
("Clearstream, Luxembourg") or any Japan
other clearing system as may be agreed Singapore
between the relevant Issuer and the The Netherlands
Issue and Paying Agent and in which
Notes may from time to time be held

Agent for Service of Process:

Ecolab Limited

Address: P.O. Box 11
Winnington Avenue
Northwich, Cheshire
United Kingdom CW8 4DX

Telephone: +44 1 606 744 88
Contact: Company Secretary

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**SCHEDULE 4
INCREASE OF MAXIMUM AMOUNT**

[Letterhead of Ecolab]

[Date]

To: [List Dealers]

Citibank, N.A., London Branch (as Issue and Paying Agent)]

U.S.\$2,000,000,000 Euro-commercial paper programme (the "Programme")

We refer to an amended and restated dealer agreement dated 30 October 2023 (the "Dealer Agreement") relating to the Programme. Terms used in the Dealer Agreement shall have the same meaning in this letter.

In accordance with clause 2.5 of the Dealer Agreement, we hereby notify each of the addressees listed above that the Maximum Amount of the Programme is to be increased from U.S.\$[],000,000 to U.S.\$[],000,000 with effect from [date], subject to delivery of the following documents:

- (a) an updated or supplemental Information Memorandum reflecting the increase in the Maximum Amount of the Programme;
- (b) certified copies of all documents evidencing the internal authorisations and approvals required to be granted by the Issuers and the Guarantor for such increase in the Maximum Amount;

- (c) certified copies of [specify any governmental or other consents required by the Issuers and the Guarantor] for such increase;
- (d) legal opinions from (i) the Senior SEC Counsel and Assistant Secretary (or an employee of similar standing) of Ecolab Inc. and (ii) Clifford Chance LLP as to the laws of The Netherlands and the United Kingdom relating to such increase; and
- (e) a list of names, titles and specimen signatures of the persons authorised to sign on behalf of the Issuers and the Guarantor all notices and other documents to be delivered in connection with such an increase in the Maximum Amount.

From the date on which such increase in the Maximum Amount becomes effective, all references in the Dealer Agreement to the Maximum Amount or the amount of the Programme shall be construed as references to the increased Maximum Amount as specified herein.

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.....
for and on behalf of
ECOLAB INC. (in its capacity as Issuer)

.....
for and on behalf of
ECOLAB NL 10 B.V.

.....
for and on behalf of
ECOLAB NL 11 B.V.

.....
for and on behalf of
NALCO OVERSEAS HOLDING B.V.

.....
for and on behalf of
ECOLAB INC. (in its capacity as Guarantor)

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SCHEDULE 5 APPOINTMENT OF NEW DEALER

[Letterhead of Ecolab]

[Date]

To: [Name of new Dealer]

U.S.\$[•]00,000,000 Euro-commercial paper programme (the "Programme")

We refer to an amended and restated dealer agreement dated 30 October 2023 (the "**Dealer Agreement**") relating to the Programme. Terms used in the Dealer Agreement shall have the same meaning in this letter.

In accordance with Clause 6.2 of the Dealer Agreement, we hereby appoint you as an additional dealer for the Programme upon the terms of the Dealer Agreement [with [immediate effect/effect from [date]] / but only in respect of [specify relevant Notes] (the "**Notes**")]^{*1}, a copy of which has been supplied to you by us.

We are enclosing such copies of the conditions precedent as set out in Schedule 1 (*Condition Precedent Documents*) to the Dealer Agreement as you have requested together with copies of any updates or supplements thereto as have been delivered to the existing Dealers. [In addition, we enclose letters from [•] entitling you to rely on the original letters referred to therein.]

Please confirm acceptance of your appointment upon such terms by signing and returning to us the enclosed copy of this letter, whereupon you will, in accordance with Clause 6.2 of the Dealer Agreement[, subject as hereinafter provided]*, become a party to the Dealer Agreement vested with all the authority, rights, powers, duties and obligations as if originally named as a Dealer thereunder [except that, following the issue of the Notes, you shall have no further authority, rights, powers, duties or obligations except such as may have accrued or been incurred prior to, or in connection with, the issue of the Notes]*.

This letter and any non-contractual obligations arising out of or in connection with it are governed by English law. The provisions of Clause 9 (*Law and Jurisdiction*) of the Dealer Agreement shall apply to this letter as if set out herein in full.

¹ Include options indicated by an asterisk (*) for appointment of dealer for a day.

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.....
for and on behalf of
ECOLAB INC. (in its capacity as Issuer)

.....
for and on behalf of
ECOLAB NL 10 B.V.

.....
for and on behalf of
ECOLAB NL 11 B.V.

.....
for and on behalf of
NALCO OVERSEAS HOLDING B.V.

.....
for and on behalf of
ECOLAB INC. (in its capacity as Guarantor)

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[On copy]

We hereby confirm acceptance of our appointment as a Dealer upon the terms of the Dealer Agreement referred to above [but only in respect of the Notes]*.

We confirm that we are in receipt of all the documents which we have requested and have found them to be satisfactory.

For the purposes of Clause 7 (*Notices*), our contact details are as follows:

[Name of Dealer]

Address: []

Telephone: []

Fax: []

Email: []

Contact: []

Dated:

Signed:

for [Name of new Dealer]

Cop[y/ies] to:

[(i) all existing Dealers who have been appointed in respect of the Programme generally; and

(ii)]² the Issue and Paying Agent.

² Other Dealers only need to be notified of the appointment of a new Dealer to the Programme generally. Issue and Paying Agent to be notified of all new Dealer appointments.

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SCHEDULE 6

FORM OF CALCULATION AGENCY AGREEMENT

THIS AGREEMENT is made on [date]

BETWEEN

- (8) [ECOLAB INC., a corporation organised and existing under the laws of the State of Delaware, having its registered office at 1209 Orange Street, City of Wilmington, Delaware, U.S.A., registered in the State of Delaware under number 0164814 / ECOLAB NL 10 B.V., a private limited liability company (*besloten vennootschap met beperkte aansprakelijkheid*) incorporated and existing under the laws of The Netherlands, having its registered office at Oude Rijnhofweg 17, 2342BB Oegstgeest, The Netherlands and registered in The Netherlands under number 56036094 / ECOLAB NL 11 B.V., a private limited liability company (*besloten vennootschap met beperkte aansprakelijkheid*) incorporated and existing under the laws of The Netherlands, having its registered office at Oude Rijnhofweg 17, 2342BB Oegstgeest, The Netherlands and registered in The Netherlands under number 56150547 / NALCO OVERSEAS HOLDING B.V., a private limited liability company (*besloten vennootschap met beperkte aansprakelijkheid*) incorporated and existing under the laws of The Netherlands, having its registered office at Oude Rijnhofweg 17, 2342BB Oegstgeest, The Netherlands and registered in The Netherlands under number 28084700] (delete as appropriate)(the "Issuer"); [and]
- (9) [ECOLAB INC., a corporation organised and existing under the laws of the State of Delaware, having its registered office at 1209 Orange Street, City of Wilmington, Delaware, U.S.A., registered in the State of Delaware under number 0164814 (the "Guarantor"); and] (delete where Ecolab Inc. is the Issuer)
- (10) [CALCULATION AGENT], as the calculation agent appointed pursuant to Clause 2 hereof (the "Calculation Agent", which expression shall include any successor thereto).

WHEREAS:

- (C) Under an amended and restated dealer agreement (as amended, supplemented and/or restated from time to time, the "Dealer Agreement") dated 30 October 2023 and made between the Issuers, the Guarantor, the Arranger and the Dealer(s) referred to therein, and an amended and restated note agency agreement (as amended, supplemented and/or restated from time to time, the "Agency Agreement") dated 30 October 2023 and made between the Issuers, the Guarantor and the agents referred to therein, the Issuers established a Euro-commercial paper programme (the "Programme").
- (D) The Dealer Agreement contemplates, among other things, the issue under the Programme of floating rate notes and provides for the appointment of calculation agents in relation thereto. Each such calculation agent's appointment shall be on substantially the terms and subject to the conditions of this Agreement.

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IT IS AGREED as follows:

1. INTERPRETATION

1.1 Definitions

Terms not expressly defined herein shall have the meanings given to them in the Dealer Agreement or the Agency Agreement.

1.2 Construction

- (a) In this Agreement, unless the contrary intention appears, a reference to:
 - (i) a provision of a law is a reference to that provision as amended, extended, applied or re-enacted and includes any subordinate legislation;
 - (ii) a Clause or a Schedule is a reference to a clause of or a schedule to this Agreement;
 - (iii) a person includes any individual, company, corporation, unincorporated association or body (including a partnership, trust, joint venture or consortium), government, state, agency, organisation or any other entity whether or not having separate legal personality, and references to any person shall include its successors in title, permitted assigns and permitted transferees;
 - (iv) assets includes present and future properties, revenues and rights of every description;
 - (v) an authorisation includes any authorisation, consent, approval, resolution, licence, exemption, filing, notarisation or registration;
 - (vi) a regulation includes any regulation, rule, official directive, request or guideline (whether or not having the force of law) of any governmental, inter-governmental or supranational body, agency, department or authority; and
 - (vii) any other document is a reference to that document as amended, novated, restated, superseded or supplemented.
- (b) The index to and the headings in this Agreement are for convenience only and are to be ignored in construing this Agreement.

1.3 Floating rate Notes

"Relevant Notes" means such floating rate Notes in respect of which the Calculation Agent is appointed.

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2. APPOINTMENT OF CALCULATION AGENT

The Issuer appoints the Calculation Agent as its agent for the purpose of calculating the redemption amount and/or, if applicable, the amount of interest

in respect of the Relevant Notes upon the terms and subject to the conditions of this Agreement. The Calculation Agent accepts such appointment.

3. DETERMINATION AND NOTIFICATION

3.1 Determination

The Calculation Agent shall determine the redemption amount of, and/or, if applicable, the amount of interest payable on, each Relevant Note in accordance with the redemption calculation applicable thereto.

3.2 Notification

The Calculation Agent shall as soon as it has made its determination as provided for in Clause 3.1 above (and, in any event, no later than the close of business on the date on which the determination is made) notify the Issuer and the Issue and Paying Agent (if other than the Calculation Agent) of the redemption amount and/or, if applicable, the amount of interest so payable.

4. STAMP DUTIES

The Issuer will pay all stamp, registration and other similar taxes and duties (including any interest and penalties thereon or in connection therewith) payable in connection with the execution, delivery and performance of this Agreement.

5. INDEMNITY AND LIABILITY

5.1 Indemnity

The Issuer shall indemnify and hold harmless on demand the Calculation Agent against any claim, demand, action, liability, damages, cost, loss or expense (including, without limitation, legal fees and any applicable value added tax) which it may incur arising out of the exercise of its powers and duties as Calculation Agent under this Agreement, except such as may result from its own negligence or bad faith or that of its officers, employees or agents.

5.2 Liability

The Calculation Agent may consult as to legal matters with lawyers selected by it, who may be employees of, or lawyers to, the Issuer. If such consultation is made, the Calculation Agent shall be protected and shall incur no liability for action taken or not taken by it as Calculation Agent or suffered to be taken with respect to such matters in good faith, without negligence and in accordance with the opinion of such lawyers.

6. CONDITIONS OF APPOINTMENT

The Calculation Agent and the Issuer agree that its appointment will be subject to the following conditions:

- (a) *No obligations:* in acting under this Agreement, the Calculation Agent shall act as an independent expert and shall not assume any obligations towards or relationship of agency or trust with the Issuer or the owner or holder of any of the Relevant Notes or any interest therein;
- (b) *Notices:* unless otherwise specifically provided in this Agreement, any order, certificate, notice, request, direction or other communication from the Issuer made or given under any provision of this Agreement shall be sufficient if signed or purported to be signed by a duly authorised employee of the Issuer;
- (c) *Duties:* the Calculation Agent shall be obliged to perform only those duties which are set out in this Agreement and in the redemption calculation relating to the Relevant Notes;
- (d) *Ownership, interest:* the Calculation Agent and its officers and employees, in its individual or any other capacity, may become the owner of, or acquire any interest in, any Relevant Notes with the same rights that the Calculation Agent would have if it were not the Calculation Agent hereunder; and
- (e) *Calculations and determinations:* all calculations and determinations made pursuant to this Agreement by the Calculation Agent shall (save in the case of manifest error) be binding on the Issuer, the Calculation Agent and (if other than the Calculation Agent) the holder(s) of the Relevant Notes and no liability to such holder(s) shall attach to the Calculation Agent in connection with the exercise by the Calculation Agent of its powers, duties or discretion under or in respect of the Relevant Notes in accordance with the provisions of this Agreement, except such as may result from its own gross negligence or bad faith or that of its officers, employees or agents.

7. **ALTERNATIVE APPOINTMENT**

If, for any reason, the Calculation Agent ceases to act as such or fails to comply with its obligations under Clause 3, the Issuer shall appoint [the Issue and Paying Agent] as calculation agent in respect of the Relevant Notes.

8. **THIRD PARTY RIGHTS**

A person who is not a party to this Agreement has no right under the Contracts (Rights of Third Parties) Act 1999 to enforce any term of this Agreement, but this does not affect any right or remedy of a third party which exists or is available apart from that Act.

9. **LAW AND JURISDICTION**

9.1 **Governing law**

This Agreement and any non-contractual obligations arising out of or in connection with it are governed by English law.

9.2 Jurisdiction

The Issuer agrees for the benefit of the Calculation Agent that the courts of England shall have jurisdiction to hear and determine any suit, action or proceedings, and to settle any disputes, which may arise out of or in connection with this Agreement (including a dispute regarding the existence, validity or termination of this Agreement or any non-contractual obligation arising out of or in connection with this Agreement) or the consequences of its nullity (respectively, "**Proceedings**" and "**Disputes**") and, for such purposes, irrevocably submits to the jurisdiction of such courts.

9.3 Appropriate forum

The Issuer irrevocably waives any objection which it might now or hereafter have to the courts of England being nominated as the forum to hear and determine any Proceedings and to settle any Disputes, and agrees not to claim that any such court is not a convenient or appropriate forum.

9.4 Process agent

The Issuer agrees that the process by which any Proceedings in England are begun may be served on it by being delivered to Ecolab Limited at P.O. Box 11, Winnington Avenue, Northwich, Cheshire, United Kingdom CW8 4DX or, if different, its registered office for the time being. If such person is not or ceases to be effectively appointed to accept service of process on behalf of the Issuer, the Issuer shall, on the written demand of the Calculation Agent addressed to the Issuer and delivered to the Issuer appoint a further person in England to accept service of process on its behalf and, failing such appointment within 15 days, the Calculation Agent shall be entitled to appoint such a person by written notice addressed to the Issuer and delivered to the Issuer. Nothing in this paragraph shall affect the right of the Calculation Agent to serve process in any other manner permitted by law.

9.5 Non exclusivity

The submission to the jurisdiction of the courts of England shall not (and shall not be construed so as to) limit the right of the Calculation Agent to take Proceedings in any other court of competent jurisdiction, nor shall the taking of Proceedings in any one or more jurisdictions preclude the taking of Proceedings in any other jurisdiction (whether concurrently or not) if and to the extent permitted by law.

10. COUNTERPARTS

This Agreement may be signed in any number of counterparts, all of which when taken together shall constitute a single agreement.

11. [RECOGNITION OF BAIL-IN POWERS]

Notwithstanding and to the exclusion of any other term of this Agreement or any other agreements, arrangements, or understanding between each BRRD Party and each BRRD Counterparty, each BRRD Counterparty acknowledges and accepts that a BRRD Liability arising under this Agreement may be subject to the exercise of Bail-in Powers by the Relevant Resolution Authority, and acknowledges, accepts, and agrees to be bound by:

-
- (a) the effect of the exercise of Bail-in Powers by the Relevant Resolution Authority in relation to any BRRD Liability of each BRRD Party to each BRRD Counterparty under this Agreement, that (without limitation) may include and result in any of the following, or some combination thereof:
- (i) the reduction of all, or a portion, of the BRRD Liability or outstanding amounts due thereon;
 - (ii) the conversion of all, or a portion, of the BRRD Liability into shares, other securities or other obligations of the relevant BRRD Party or another person, and the issue to or conferral on the BRRD Counterparty of such shares, securities or obligations;
 - (iii) the cancellation of the BRRD Liability;
 - (iv) the amendment or alteration of any interest, if applicable, thereon, the maturity or the dates on which any payments are due, including by suspending payment for a temporary period; and
- (b) the variation of the terms of this Agreement, as deemed necessary by the Relevant Resolution Authority, to give effect to the exercise of Bail-in Powers by the Relevant Resolution Authority.

In this Clause 11:

"Bail-in Legislation" means in relation to a member state of the European Economic Area which has implemented, or which at any time implements, the BRRD, the relevant implementing law, regulation, rule or requirement as described in the EU Bail-in Legislation Schedule from time to time.

"Bail-in Powers" means any Write-down and Conversion Powers as defined in the EU Bail-in Legislation Schedule, in relation to the relevant Bail-in Legislation.

"BRRD" means Directive 2014/59/EU establishing a framework for the recovery and resolution of credit institutions and investment firms.

"BRRD Counterparty" means the Issuer.

"BRRD Liability" means a liability in respect of which the relevant Write Down and Conversion Powers in the applicable Bail-in Legislation may be exercised.

"BRRD Party" means the Calculation Agent.

"EU Bail-in Legislation Schedule" means the document described as such, then in effect, and published by the Loan Market Association (or any successor person) from time to time under **EU Bail-in Legislation Schedule**.

"**Relevant Resolution Authority**" means the resolution authority with the ability to exercise any Bail-in Powers in relation to the BRRD Party.]

AS WITNESS the hands of the duly authorised representatives of the parties hereto the day and year first before written.

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SIGNATURE PAGE

The Issuers

ECOLAB INC.

By: /s/ Catherine Loh

ECOLAB NL 10 B.V.

By: /s/ Catherine Loh

ECOLAB NL 11 B.V.

By: /s/ Catherine Loh

NALCO OVERSEAS HOLDING B.V.

By: /s/ Catherine Loh

The Guarantor

ECOLAB INC.

By: /s/ Catherine Loh

The Arranger

BARCLAYS BANK PLC

By: /s/ Mirrette Grant
Mirette Grant

Authorised Signatory

The Dealers

BARCLAYS BANK IRELAND PLC

By: /s/ Mirrette Grant
Mirette Grant

Authorised Signatory

BARCLAYS BANK PLC

By: /s/ Mirrette Grant
Mirette Grant

Authorised Signatory

CITIGROUP GLOBAL MARKETS LIMITED

By: /s/ William Robertson
William Robertson
Delegated signatory

CITIGROUP GLOBAL MARKETS EUROPE AG

By: /s/ William Robertson
William Robertson
Delegated signatory

By: /s/ Tim Pätzold
Tim Pätzold
Delegated Signatory

EXHIBIT (10.2(i)(b))



CLIFFORD CHANCE LLP

EXECUTION VERSION

ECOLAB INC.
ECOLAB NL 10 B.V.
ECOLAB NL 11 B.V.
NALCO OVERSEAS HOLDING B.V.
as Issuers

ECOLAB INC.
(in respect of notes issued by Ecolab NL 10 B.V., Ecolab NL 11 B.V. and Nalco
Overseas Holding B.V.)
as Guarantor

and

CITIBANK, N.A., LONDON BRANCH
as Issue and Paying Agent

AMENDED AND RESTATED NOTE AGENCY
AGREEMENT
RELATING TO A U.S.\$2,000,000,000
EURO-COMMERCIAL PAPER PROGRAMME

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Compensation. THIS AGREEMENT As compensation is made on 30 October 2023

BETWEEN

- (1) **ECOLAB INC.**, a corporation organised and existing under the laws of the State of Delaware, having its registered office at 1209 Orange Street, City of Wilmington, Delaware, U.S.A., registered in the State of Delaware under number 0164814;
- (2) **ECOLAB NL 10 B.V.**, a private limited liability company (*besloten vennootschap met beperkte aansprakelijkheid*) incorporated and existing under the laws of The Netherlands, having its registered office at Oude Rhijnhofweg 17, 2342BB Oegstgeest, The Netherlands and registered in The Netherlands under number 56036094;
- (3) **ECOLAB NL 11 B.V.**, a private limited liability company (*besloten vennootschap met beperkte aansprakelijkheid*) incorporated and existing under the laws of The Netherlands, having its registered office at Oude Rhijnhofweg 17, 2342BB Oegstgeest, The Netherlands and registered in The Netherlands under number 56150547; and
- (4) **NALCO OVERSEAS HOLDING B.V.**, a private limited liability company (*besloten vennootschap met beperkte aansprakelijkheid*) incorporated and existing under the laws of The Netherlands, having its registered office at Oude Rhijnhofweg 17, 2342BB Oegstgeest, The Netherlands and registered in The Netherlands under number 28084700,

(each of Ecolab Inc., Ecolab NL 10 B.V., Ecolab NL 11 B.V. and Nalco Overseas Holding B.V. is referred to herein as an **"Issuer"** and together, the **"Issuers"**);
- (5) **ECOLAB INC.** (the **"Guarantor"**, in respect of Notes issued by Ecolab NL 10 B.V., Ecolab NL 11 B.V. and Nalco Overseas Holding B.V.); and
- (6) **CITIBANK, N.A., LONDON BRANCH** (the **"Agent"**).

WHEREAS

- (A) Ecolab Inc., as Issuer and Guarantor, with certain other issuers and the Agent named therein entered into an amended and restated note agency agreement dated 9 June 2017 (the **"Original Agreement"**) in relation to a euro-commercial paper programme pursuant to which the Issuers may from time to time issue Notes (as defined below).
- (B) In connection with such programme, the Issuers and the Guarantor have entered into a further amended and restated dealer agreement (as amended, supplemented and/or restated from time to time, the **"Dealer Agreement"**) dated the date hereof and made between the Issuers, the Arranger, the Guarantor and the dealers from time to time party thereto (together, the **"Dealers"** and each a **"Dealer"**).
- (C) The parties hereto wish to further amend and restate the terms of the Original Agreement as set out hereunder.

IT IS AGREED as follows:

1. INTERPRETATION

1.1 In this Agreement:

"Agents" means Citibank, N.A., London Branch acting as issue and paying agent and as calculation agent (if so appointed in relation to a series of Notes) and **"Agent"** shall be construed accordingly.

"Applicable Law" means any law or regulation including, but not limited to: (i) any statute or regulation; (ii) any rule or practice of any Authority by which any Party is bound or with which it is accustomed to comply; (iii) any agreement between any Authorities; and (iv) any customary agreement between any Authority and any Party.

"Authority" means any competent regulatory, prosecuting, Tax or governmental authority in any jurisdiction.

"Business Day", except to the extent that the context requires otherwise, means a day (other than a Saturday or Sunday):

- (a) on which deposits in the relevant currency are dealt in on the London Interbank Market;
- (b) on which commercial banks and foreign exchange markets settle payments and are open for business in London and, if a payment is to be made on that day under this Agreement or any of the Notes, in the place of payment and (other than for payments in euro) the principal financial centre of the country of the relevant currency in which the payment is to be made;
- (c) on which the Clearing Systems are in operation; and
- (d) in the case of Notes denominated in Euro, a day which is a TARGET Business Day (as defined below);

"Classic Global Note" means a Note in global form which specifies on its face that it is not a New Global Note, representing an issue of commercial paper of a like maturity which may be issued from time to time by an Issuer pursuant to this Agreement;

"Clearstream, Luxembourg" means Clearstream Banking S.A. or any successor thereto.

"Clearing System" means each or any of Clearstream, Luxembourg, Euroclear or such other recognised clearing system as may be agreed from time to time between the Issuers and the Agent which, for Executive's continuing employment so long as the Issuer maintains the STEP Label, shall be a securities settlement system complying with the requirement of the STEP Convention, or any successor thereto.

"Code" means the U.S. Internal Revenue Code of 1986, as amended.

"Common Depositary" means Citibank, N.A., London Branch acting as a depositary common to Euroclear and **Service** Clearstream, Luxembourg at such offices in London as shall be notified by both of them to the Agent from time to time.

"Common Safekeeper" means, in respect of any New Global Note, the common safekeeper which is appointed pursuant to Clause 3.13 in respect of such New Global Note or, if such New Global Note is intended to be held in a manner that would allow Eurosystem eligibility, the common safekeeper that is appointed for the relevant Issuer and eligible to hold such New Global Note for the purpose of the requirements relating to collateral for Eurosystem monetary and intra-day credit operations.

"Common Service Provider" has the meaning given to it in Schedule 1.

"Deed of Covenant" means the deed of covenant, dated the date hereof, executed by the Issuers in respect of Global Notes issued pursuant to this Agreement, as such deed may be amended or supplemented from time to time.

"Definitive Note" means a Note in definitive form.

"Dollars" and **"U.S.\$"** denote the lawful currency of the United States of America; and **"Dollar Note"** means a Note denominated in Dollars.

"Euro" and **"€"** denote the lawful currency introduced at the start of the third stage of European Economic and Monetary Union pursuant to the Treaty on the Functioning of the European Union, as amended from time to time; and **"Euro Note"** means a Note denominated in Euro.

"Euroclear" means Euroclear Bank SA/NV or any successor thereto.

"Eurosystem" means credit operations of the central banking system for the euro.

"FATCA Withholding" means any withholding or deduction required pursuant to an agreement described in section 1471(b) of the Code, or otherwise imposed pursuant to sections 1471 through 1474 of the Code, any regulations or agreements thereunder, any official interpretations thereof, or any law implementing an intergovernmental approach thereto.

"Global Note" means a New Global Note or a Classic Global Note.

"Guarantee" means the guarantee, dated the date hereof, issued by the Guarantor in respect of any Note issued hereunder.

"ICSD" means a Clearing System authorised to hold any New Global Notes as eligible collateral for Eurosystem monetary policy and intra-credit operations, as agreed between the Issuer and the **respective terms and conditions thereof**, Agent;

"Maximum Amount" means U.S.\$2,000,000,000 or the equivalent amount denominated in any currency other than Dollars, as such amount may be increased from time to time pursuant to the Dealer Agreement.

"New Global Note" means a Note in global form which specifies on its face that it is a New Global Note, representing an issue of commercial paper of a like maturity which may be issued from time to time by an Issuer pursuant to this Agreement.

"Note" means a commercial paper note of an Issuer subscribed or to be subscribed by a Dealer under the Dealer Agreement, in bearer definitive or global form, in such form(s) as may be agreed from time to time between the relevant Issuer and the Agent and, unless the context otherwise requires, includes the commercial paper notes represented by the Global Notes.

"Party" means a party to this Agreement.

"STEP Convention" means the Market Convention on Short-Term European Paper (STEP) dated 19 May 2015 as the same may be amended from time to time or any substitute paper or convention relating to STEP issued by ACI – The Financial Markets Association and the European Money Markets Institute or by the STEP Secretariat (as such terms are defined in the STEP Convention);

"STEP Label" has the meaning set out in the STEP Convention;

"Sterling" and **"£"** denote the lawful currency of the United Kingdom; and **"Sterling Note"** means a Note denominated in Sterling.

"Swiss Franc" denotes the lawful currency of Switzerland; and **"Swiss Franc Note"** means a Note denominated in Swiss Francs.

"TARGET Business Day" means a day on which the real time gross settlement system (T2) operated by the Eurosystem, or any successor thereto, is open.

"Tax" means any present or future taxes, duties, assessments or governmental charges of whatever nature imposed, levied, collected, withheld or assessed by or on behalf of any Authority having power to tax.

"Yen" and **"¥"** denote the lawful currency of Japan; and **"Yen Note"** means a note denominated in Yen.

1.2 Construction

1.2.1 In this Agreement, unless the contrary intention appears, a reference to:

- (a) a provision of a law is a reference to that provision as amended, extended, applied or re-enacted and includes any subordinate legislation;
- (b) a Clause or a Schedule is a reference to a clause of or a schedule to this Agreement;
- (c) a person includes any individual, company, corporation, unincorporated association or body (including a partnership, trust, joint venture or consortium), government, state, agency, organisation or any other entity whether or not having separate legal personality, and references to any

person shall include its successors in title, permitted assigns and permitted transferees;

- (d) assets includes present and future properties, revenues and rights of every description;
- (e) an authorisation includes any authorisation, consent, approval, resolution, licence, exemption, filing, notarisation or registration;
- (f) a regulation includes any regulation, rule, official directive, request or guideline (whether or not having the force of law) of any governmental, inter-governmental or supranational body, agency, department or authority;
- (g) any Programme Agreement or other document is a reference to that Programme Agreement or other document as amended, novated, restated, superseded or supplemented; and
- (h) the principal amount of any Note shall be deemed to include any additional amounts which may become payable in respect thereof pursuant to the terms of such Note.

1.2.2 The index to and the headings in this Agreement are for convenience only and are to be ignored in construing this Agreement.

1.3 Amendment and Restatement

The Original Agreement shall be amended and restated on the terms of this Agreement. Any Notes issued on or after the date of this Agreement shall be issued pursuant to this Agreement.

2. APPOINTMENTS

2.1 The Issuers and the Guarantor hereby appoint Citibank, N.A., London Branch at its specified office in London as issue agent and as paying agent for the Notes.

2.2 The Agent may act as calculation agent for floating rate Notes (the "Calculation Agent"), on the terms set out in this Agreement, subject in each case to its specific agreement to act as such for each relevant series of Notes.

2.3 Any reference herein to the "Agent" or its "specified office" shall be deemed to include such other agent or office of the Agent (as the case may be) as may be appointed or specified from time to time hereunder.

3. ISSUE OF NOTES

3.1 Each Note issued hereunder shall be in such form as may be agreed between the relevant Issuer and the Agent from time to time and shall be duly executed either manually or in facsimile on behalf of the relevant Issuer and authenticated by an authorised signatory or signatories of the Agent and in the case of a New Global Note, be effectuated manually by or on behalf of the Common Safekeeper. Each relevant Issuer

shall procure that a sufficient quantity of executed but unauthenticated blank Global Notes is at all times available to the Agent for the purpose of issue under this Agreement.

- 3.2 The relevant Issuer shall give to the Agent by fax or email or through the CitiDirect for Securities IPA system details of any Notes to be issued by it under this Agreement and all such other information as the Agent may require for it to carry out its functions as contemplated by this Clause, by not later than 4.00 p.m. (London time) two Business Days prior to the proposed issue date (or such later time or date as may be agreed between the relevant Issuer and the Agent) in respect thereof and the Agent shall thereupon be authorised to complete Notes of the appropriate aggregate amount and/or (as the case may be) a Global Note by inserting in the appropriate place on the face of each Note *inter alia* the dates on which such Note shall be issued and shall mature and otherwise completing the same.
- 3.3 If any such Notes as are mentioned in Clause 3.2 are not to be issued on any issue date, the relevant Issuer shall notify the Agent immediately, and in any event no later than 4.00 p.m. (London time) one Business Day prior to the proposed issue date. Upon receipt of such notice the Agent shall not thereafter issue or release the relevant Notes, but shall cancel and destroy them.
- 3.4 The Agent shall, upon notification by telephone, fax or email from the Dealer who has arranged to purchase Notes from the relevant Issuer, such notification to be received in sufficient time to enable delivery to be made as contemplated herein and in any event no later than 10.00 a.m. (London time) one Business Day prior to the proposed issue date or such later time or date as may be agreed between the Agent and the relevant Dealer, that payment by it to the relevant Issuer of the purchase price of any Note has been or will be duly made against delivery of such Notes and (if applicable) of details of the securities account hereinafter referred to deliver such Note on the Business Day immediately preceding its issue date (unless specified otherwise) to (A) save in the case of a Global Note which is a Classic Global Note, a common depositary for Euroclear and Clearstream, Luxembourg and/or such other recognised clearing system as may be agreed from time to time between the relevant Issuer and the Agent or (B) in the case of a Global Note which is a New Global Note, as the case may be, to the Common Safekeeper, together with instructions to effectuate the same, for credit on the issue date of such Note to such securities account as shall have been notified to it or if no such details are given make the same available on its issue date for collection at its specified office in London.

- 3.5 The Agent shall (if applicable) give instructions to the relevant Clearing System to credit the Notes to the Agent's distribution account and, in the case of a New Global Note, the Agent shall instruct the Common Safekeeper to effectuate the New Global Note (provided that, if the Agent is the Common Safekeeper, the Agent shall effectuate the Global Note). Each Note credited to the Agent's distribution account with the relevant Clearing System following the delivery of the Notes in accordance with Clause 3.4 above shall be held to the order of the relevant Issuer pending delivery to the relevant Dealer on a delivery against payment basis in accordance with the normal procedures of the relevant Clearing System. The Agent shall on the issue date and against receipt of funds from the relevant Dealer transfer the proceeds of issue to the relevant Issuer to the relevant account notified by the relevant Issuer to the Agent in accordance with Clause 3.2 above.

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- 3.6 If on the issue date the relevant Dealer does not pay the subscription price due from it in respect of any Note (the "**Defaulted Note**") and as a result the Defaulted Note remains in the Agent's distribution account with the relevant Clearing System after the issue date (rather than being credited to the Dealer's Account against payment), the Agent will, subject to the following, continue to hold the Defaulted Note to the order of the relevant Issuer. If by the close of business on the second Business Day following the issue date of such Notes either (i) the Dealer has not paid the subscription price due from it in respect of the Defaulted Note; or (ii) the relevant Issuer has not instructed the Agent to deliver the Defaulted Note to another account, the Agent may cancel such Defaulted Note.
- 3.7 If the Agent pays an amount (the "**Advance**") to the relevant Issuer on the basis that a payment (the "**Payment**") has been, or will be, received from the relevant Dealer and if the Payment has not been or is not received by the Agent on the date the Agent pays the relevant Issuer, the Agent shall promptly inform the relevant Dealer and request that Dealer to make good the Payment, failing which the relevant Issuer shall, upon being requested to do so, repay to the Agent the Advance and pay interest (on the basis of the aggregate of 1 per cent. per annum and the Agent's cost of funding, as determined by the Agent in its sole discretion) on the Advance until the earlier of repayment in full of the Advance and receipt in full by the Agent of the Payment.
- 3.8 As soon as practicable after the date of issue of any Notes, the Agent shall deliver to the relevant Issuer particulars of (a) the number and aggregate principal amount of the Notes completed, authenticated and delivered by it, or made available by it for collection, on such date, (b) the issue date and the maturity date of such Notes and (c) the series and serial numbers of all such Notes if requested.

- 3.9 Each Issuer hereby authorises and instructs the Agent to make all necessary notifications to and filings with the Bank of England, the Japanese Ministry of Finance (in respect of Yen Notes) and the relevant Swiss authorities (in respect of Swiss Franc Notes).
- 3.10 Each Issuer hereby authorises and instructs the Agent to complete, authenticate and deliver on its behalf Definitive Notes in accordance with the terms of any Global Note presented to the Agent for exchange in whole (but not in part only) and in the case of exchange in whole of a New Global Note for Definitive Notes instruct the ICSDs to make appropriate entries in their records to reflect the aggregate principal amount thereof so exchanged, cancel or procure the cancellation of the Global Note and instruct the Common Safekeeper to destroy the Global Note.
- 3.11 The Issuers will give at least 10 days prior written notice to the Agent of a change in the Maximum Amount of Notes which may be issued under the Dealer Agreement.
- 3.12 The Issuers will promptly notify the Agent in writing of the appointment, resignation or termination of the appointment of any Dealer. If the notification is in respect of a new dealer appointment, the Issuers will notify the Agent two business days prior to the new issue.

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- 3.13 Each Issuer hereby authorises and instructs the Agent to elect an ICSD to be Common Safekeeper for each issue of a New Global Note in relation to which one of the ICSDs must be Common Safekeeper. From time to time, the Issuers and the Agent may agree to vary this election. Each Issuer acknowledges that in connection with the election of either of the ICSDs as Common Safekeeper any such election is subject to the right of the ICSDs to jointly determine that the other shall act as Common Safekeeper in relation to any such issue and agrees that no liability shall attach to the Agent in respect of any such election made by it.

4. **PAYMENT**

- 4.1 Each Issuer (failing whom, the Guarantor) severally undertakes in respect of each Note issued by such Issuer to pay, in the currency in which such Note is denominated, no later than 10.00 a.m. (London time) (in the case of a Note denominated in Sterling or Euros) and no later than 12.00 pm (London time) (in the case of a Note denominated in Dollars) on the maturity date or any relevant interest payment date of each Note (or for Notes denominated in any other currency, such other time as the Agent shall determine in its absolute discretion), an amount sufficient to pay the full amount payable on such date by way of principal interest or otherwise in respect thereof by transfer of immediately available and freely transferable funds in the relevant currency to such account of the Agent at such bank in the principal financial centre for such other currency as the Agent may from time to time designate for the purpose or, in each case, by such other form of transfer as may be agreed between the relevant Issuer and the Agent. If the Agent determines in its absolute discretion that the payment in accordance with this Clause 4.1 is required to be made earlier, it will provide to the relevant Issuer not less than 21 days prior notice in writing of such requirement.
- 4.2 The relevant Issuer shall, prior to 12 noon (London time) on the second Business Day immediately preceding the maturity date or any relevant interest payment date of any Note (or such later time or date as may subsequently be agreed between the relevant Issuer and the Agent), send to the Agent irrevocable confirmation that payment will be made and the details of the bank through which the relevant Issuer is to make the payment due pursuant to this Clause 4.2.
- 4.3 Each Issuer hereby authorises and directs the Agent from funds so paid to the Agent to make payment of all amounts due on the Notes as set forth herein and in the Notes.
- 4.4 If the Agent has not received on the maturity date or any relevant interest payment date of any Notes the full amount payable in respect thereof on such date and confirmation satisfactory to itself that such payment has been received, the Agent shall not be required to make payment of any amount due on any Note. Nevertheless, subject to the foregoing, if the Agent is satisfied that it will receive such full amount later, it shall be entitled to pay maturing Notes due in accordance with their terms.
- 4.5 If the Agent makes such payment on behalf of an Issuer under Clause 4.4, the relevant Issuer shall be liable on demand by the Agent to pay to the Agent the amount so paid out, together with interest thereon at such a rate as the Agent may certify as the aggregate of 1 per cent. per annum and the Agent's cost of funding any such payment made by it (as determined by the Agent in its sole discretion).

- 4.6 If at any time the Agent makes a partial payment in respect of any Note presented to it, it shall in the case of a Classic Global Note or Definitive Note, procure that a statement indicating the date and amount of such payment is written or stamped on the face of such Note and in the case of a New Global Note, instruct the ICSDs (in accordance with the provisions of Schedule 1 (*Duties under the Issuer-ICSDs Agreement*)) to make appropriate entries in their respective records to reflect such partial payments.
- 4.7 Payments to holders of the Notes shall not be made to an address or a bank account maintained within the United States; the Notes may not be presented for payment within the United States; and demand for payments under the Notes may not be made within the United States.
5. **CANCELLATION, DESTRUCTION, RECORDS AND CUSTODY**
- 5.1 All Notes which mature and are paid in full shall be cancelled forthwith by the Agent. The Agent shall, unless the relevant Issuer otherwise directs, destroy the cancelled Notes, and as soon as reasonably practicable after each maturity date, furnish at the request of the relevant Issuer with particulars of the aggregate principal amount of the Notes maturing on such maturity date which have been destroyed since the last certification so furnished and the series and serial numbers of all such Notes.
- 5.2 In respect of New Global Notes which mature and are paid in full, the Agent shall cancel such aggregate principal amount outstanding of Notes represented by such New Global Note. The Agent shall instruct the ICSDs (in accordance with the provisions of Schedule 1 (*Duties under the Issuer-ICSDs Agreement*)) to make appropriate entries in their respective records to reflect such cancellation and shall instruct the Common Safekeeper to destroy the New Global Note.
- 5.3 In the case of a New Global Note which has been destroyed by the Common Safekeeper, the Agent shall, upon receipt of confirmation of destruction from the Common Safekeeper, furnish the relevant Issuer with a copy of the confirmation of destruction received by it from the Common Safekeeper (provided that, if the Agent is the Common Safekeeper, the Agent shall destroy the New Global Note, as the case may be, in accordance with Clause 3.10, Clause 5.2 and/or Clause 5.4).
- 5.4 The Agent shall keep and make available at all reasonable times to the relevant Issuer a full and complete record of all Notes and of their issue, payment, cancellation and destruction and, in the case of Global Notes, their exchange for Definitive Notes.
- 5.5 The Agent shall maintain in safe custody all forms of Notes delivered to and held by it hereunder and shall ensure that the same are only completed, authenticated and delivered or made available in accordance with the terms hereof.

- 5.6 An Issuer may from time to time with the approval, where appropriate, of the Agent make arrangements as to the replacement of Notes which shall have been lost, stolen, mutilated, defaced or destroyed, including (without limitation) arrangements as to evidence of title, costs, delivery and indemnity. No New Global Note shall be delivered as a replacement for any of the same lost, stolen, mutilated, defaced or destroyed otherwise than against confirmation of such loss, stolen form, mutilation, defacement or destruction from the Common Safekeeper and any replacement New Global Note shall be delivered to the Common Safekeeper together with instructions to effectuate it.

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- 5.7 The Agent shall make available for inspection during its office hours at its specified office copies of this Agreement, the Deed of Covenant and the Guarantee.

6. DUTIES OF THE CALCULATION AGENT

The Calculation Agent shall in respect of each series of Notes in relation to which it is appointed as such:

- (a) obtain such quotes and rates and/or make such determinations, calculations, adjustments, notifications and publications as may be required to be made by it by the terms and conditions of such Notes at the times and otherwise in accordance with the terms and conditions of such Notes; and
- (b) maintain a record of all quotations obtained by it and of all amounts, rates and other items determined or calculated by it and make such records available for inspection at all reasonable times by the Issuers, the Guarantor and the Agents.

7. FEES AND EXPENSES

- 7.1 Each Issuer (failing whom, the Guarantor) severally undertakes to pay such fees and expenses in respect of the Agent's services under this Agreement as are set out in a letter of even date herewith from the Agent to each Issuer, at the time and in accordance with the manner stated therein.
- 7.2 Each Issuer (failing whom, the Guarantor) severally undertakes to pay all stamp, registration and other taxes and duties (including any interest and penalties thereon or in connection therewith) to which this Agreement or the issue of any Notes may be subject.

7.3 Each Issuer (failing whom, the Guarantor) severally undertakes to pay on demand all out-of-pocket expenses (including legal, advertising, telex and postage expenses) properly incurred by the Agent in connection with its services under this Agreement. The expenses referred to in this Clause 7.3 shall include (but are not limited to) any costs or charges incurred by the Agent in carrying out instructions to clear and/or settle transfers of securities under this Agreement (including cash penalty charges that may be incurred under Article 7 of the Central Securities Depositories Regulation (EU) No 909/2014 if a settlement fail occurs due to any Issuer's failure to deliver any required securities or cash or other action or omission).

8. INDEMNITY

8.1 Each Issuer (failing whom, the Guarantor) severally undertakes to indemnify and hold harmless the Agent on demand by the Agent against any losses, liabilities, costs, expenses, claims, actions or demands which the Agent may incur or which may be made against the Agent, directly related to the appointment or the exercise of the powers, discretions, authorities and duties of the Agent under this Agreement except such as may result from its own gross negligence or bad faith or that of its officers, employees or agents under this Agreement. The indemnities contained in this Agreement shall survive the termination or expiry of this Agreement.

8.2 The Agent undertakes to indemnify and hold harmless each Issuer on demand by that Issuer against any losses, liabilities, costs, expenses, claims, actions or demands which

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such Issuer incurs or which may be made against that Issuer as a result of the Agent's own gross negligence or bad faith or that of its officers, employees or agents under this Agreement.

9. NO LIABILITY FOR CONSEQUENTIAL LOSS

Except in the case of gross negligence or wilful default, the Agent shall not be liable either for any act or omission under this Agreement, or if any Note shall be lost, stolen, destroyed or damaged. Notwithstanding the foregoing, under no circumstances will the Agent be liable to an Issuer or the Guarantor, nor an Issuer or the Guarantor liable to the Agent, for any consequential loss (being loss of business, goodwill, opportunity or profit) or any special or punitive damages of any kind whatsoever; in each case however caused or arising and whether or not foreseeable, even if advised of the possibility of such loss or damage.

10. AGENTS OF THE ISSUERS

- 10.1 In acting hereunder and in connection with the Notes, the Agent shall act solely as agent of the Issuers and the Guarantor and will not thereby assume any obligations towards or relationship of agency or trust for any holders of Notes, including as a custodian, nominee or otherwise. Any funds held by the Agent in respect of the Notes need not be segregated from other funds except as required by law. The Agent shall not be under any liability for interest on any moneys at any time received by it pursuant to any of the provisions of this Agreement or of the Notes. Any funds held are held as banker and are not subject to the UK FCA Client Money Rules.
- 10.2 The Agent may generally engage in any kind of banking or other business with the Issuers notwithstanding its appointments as issue agent and paying agent hereunder.

11. GENERAL

- 11.1 Prior to the first issue of the Notes, each Issuer shall supply to the Agent copies of all condition precedent documents required to be delivered pursuant to the Dealer Agreement.
- 11.2 The Agent shall be obliged to perform such duties and only such duties as are herein specifically set forth, and no implied duties or obligations shall be read into this Agreement against the Agent. The Agent shall not be under any obligation to take any action hereunder which it expects will result in any expense or liability of the Agent, the payment of which within a reasonable time is not, in its opinion, assured to it.
- 11.3 Except as ordered by a court of competent jurisdiction or as required by law, and notwithstanding any notice to the contrary, the Issuers and the Agent shall be entitled to treat the bearer or holder of any Note as the absolute owner thereof for all purposes and shall not be required to obtain any proof thereof or as to the identity of the bearer or holder.
- 11.4 The Agent may consult with legal and other professional advisers selected in good faith and satisfactory to it and the opinion of such advisers shall be full and complete protection in respect of any action taken, omitted or suffered hereunder in good faith and without negligence and in accordance with the opinion of such advisers.

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- 11.5 The Agent shall be protected and shall incur no liability for or in respect of any action taken or thing suffered by it in relation to any issue of Notes in reliance upon any Note, notice, direction, consent, certificate, affidavit, statement, email, fax or other paper or document (electronic or otherwise) reasonably believed by it in good faith to be genuine and to have been passed or signed by the proper parties.

12. CHANGES IN AGENT

12.1 The Agent may resign its appointment hereunder at any time by giving to the Issuers, and the Issuers may terminate the appointment of the Agent by giving to the Agent, at least 30 days' written notice to that effect, **provided that** no such resignation or termination of the appointment of the Agent shall take effect until a successor has been appointed by the Issuers or the Guarantor.

12.2 The Issuers agree with the Agent that if, by the day falling 10 days before the expiry of any notice under Clause 12.1, the Issuers or the Guarantor have not appointed a replacement Agent, then the Agent shall be entitled, on behalf of the Issuers and the Guarantor, to appoint in its place any reputable financial institution of good standing (subject to the proviso in Clause 13 below) and the Issuers shall not unreasonably object to such appointment.

13. AGENT AS HOLDERS OF NOTES

The Agent and its officers and employees, in their individual or any other **promises** capacity, may become the owner of, **Executive** or acquire any interest in, any Notes with the same rights that the Agent would have if it were not the Agent hereunder.

14. NOTICES

14.1 All notices and other communications hereunder shall, save as otherwise provided in this Agreement, be made in writing and in English (by letter, fax or email) and shall be sent to the intended recipient at the address, fax number or email address and marked for the attention of the person (if any) from time to time designated by that Party to the other Parties for such purpose. The initial address, email address and fax number so designated by each Party are set out on the signature page of this Agreement.

14.2 Any communication from any Party to any other under this Agreement shall be effective if sent by letter, upon receipt by the addressee; if sent by fax, when that fax communication has been received by the intended recipient in legible form; and if sent by email, when the email communication has been received by the intended recipient in legible form at the correct email address; **provided that** any such notice or other communication which would otherwise take effect after 4.00 p.m. on any particular day shall not take effect until 10.00 a.m. on the immediately succeeding business day in the place of the addressee. Any communication delivered to any Party under this Agreement which is to be sent by electronic communication will be written legal evidence.

14.3 Whilst the Notes are held through the Clearing Systems, a notice will be deemed to have been given to the holder if such notice is sent to the Clearing Systems for publication to holders.

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15. TAX

15.1 Mutual Undertaking Regarding Information Reporting and Collection Obligations

Each Party shall, within ten business days of a written request by another Party, supply to that other Party such forms, documentation and other information relating to it, its operations, or the Notes as that other Party reasonably requests for the purposes of that other Party's compliance with Applicable Law and shall notify the relevant other Party reasonably promptly in the event that it becomes aware that any of the forms, documentation or other information provided by such Party is (or becomes) inaccurate in any material respect; provided, however, that no Party shall be required to provide any forms, documentation or other information pursuant to this Clause 15 (Tax) to the extent that: (i) any such form, documentation or other information (or the information required to be provided on such form or documentation) is not reasonably available to such Party and cannot be obtained by such Party using reasonable efforts; or (ii) doing so would or might in the reasonable opinion of such Party constitute a breach of any: (a) Applicable Law; (b) fiduciary duty; or (c) duty of confidentiality.

15.2 Notice of Possible Withholding Under FATCA

The relevant Issuer shall notify each Agent in the event that it determines that any payment to be made by an Agent under the Notes is a payment which could be subject to FATCA Withholding if such payment were made to a recipient that is generally unable to receive payments free from FATCA Withholding, and the extent to which the relevant payment is so treated, provided, however, that such Issuer's and the Guarantor's respective obligations under this Clause 15 (Tax) shall apply only to the extent that such payments are so treated by virtue of characteristics of the relevant Issuer, the Guarantor, the Notes, or any of these characteristics.

15.3 Agent Right to Withhold

Notwithstanding any other provision of this Agreement, each Paying Agent shall be entitled to make a deduction or withholding from any payment which it makes under the Notes for or on account of any Tax, if and only to the extent so required by Applicable Law, in which event the Paying Agent shall make such payment after such deduction or withholding has been made and shall account to the relevant Authority within the time allowed for the amount so deducted or withheld or, at its option, shall reasonably promptly after making such payment return to the relevant Issuer or, as the case may be, the Guarantor the amount so deducted or withheld, in which case, the relevant Issuer or, as the case may be, the Guarantor shall so account to the relevant Authority for such amount. For the avoidance of doubt, FATCA Withholding is a deduction or withholding which is deemed to be required by Applicable Law for the purposes of this Clause 15.3 (*Agent Right to Withhold*). If such a withholding or deduction is required, the Agent will not pay an additional amount in respect of that withholding or deduction.

15.4 Issuer and Guarantor Right to Redirect

In the event that any Issuer or the Guarantor, as the case may be, determines in its sole discretion that any deduction or withholding for or on account of any Tax will be

required by Applicable Law in connection with any payment due to any of the Agents on any Notes, then such Issuer or the Guarantor, as the case may be, will be entitled to redirect or reorganise any such payment in any way that it sees fit in order that the payment may be made without such deductions or withholding provided that, any such redirected or reorganised payment is made through a recognised institution of international standing and otherwise made in accordance with this Agreement. Such Issuer will promptly notify the Agents of any such redirection or reorganisation. For the avoidance of doubt, FATCA Withholding is a deduction or withholding which is deemed to be required by Applicable Law for the purposes of this Clause 15.4 (*Issuer and Guarantor Right to Redirect*).

16. ILLEGALITY

Notwithstanding anything else contained in this Agreement, which shall each Agent may refrain without liability from doing anything that would or might in its reasonable opinion be deemed contrary to include Executive's agreement to (A) remain in the employ any law of the Company as described above through the Separation Date, (B) comply with the Company's Code of Conduct and other policies relating to conduct, as in effect from time to time and applicable to its executive officers, (C) comply with all covenants regarding arbitration, non-competition, non-solicitation, confidential information and any other restrictive covenants to which Executive has agreed as part of his employment with the Company (the covenants described in the immediately preceding clauses (A) through (C) of this Section 2 are collectively referred to as the "Covenants"); and provided, that Executive timely signs and returns, and does not revoke, this Agreement, complies with his obligations under this Agreement, including state or jurisdiction (including but not limited to the Covenants, executes United States of America or any jurisdiction forming a part of it and England & Wales) or any directive or regulation of any agency of any such state or jurisdiction and may without liability do anything which is, in its reasonable opinion, necessary to comply with any such law, directive or regulation.

17. LAW AND JURISDICTION

- 17.1 This Agreement, the Notes and any non-contractual obligations arising out of or in connection with them are governed by English law.
- 17.2 Each of the Issuers agrees for the benefit of the Agent that the courts of England shall have exclusive jurisdiction to hear and determine any suit, action or proceedings, and to settle any disputes, which may arise out of or in connection with this Agreement or any non-contractual obligation arising out of or in connection with this Agreement (respectively, "Proceedings" and "Disputes") and, for such purposes, irrevocably submits to the jurisdiction of such courts.
- 17.3 Each of the Issuers and the Guarantor irrevocably waive any objection which it might now or hereafter have to the courts of England being nominated as the forum to hear and determine any Proceedings and to settle any Disputes, and agrees not to claim that any such court is not a convenient or appropriate forum.

17.4 Each of the Issuers and the Guarantor agree that the process by which any Proceedings in England are begun may be served on it by being delivered to Ecolab Limited at P.O. Box 11, Winnington Avenue, Northwich, Cheshire, United Kingdom CW8 4DX or at its registered office for the time being or any other address for the time being at which process may be served on it in accordance with the Companies Act 2006 (as modified or re-enacted from time to time). If such person is not or ceases to be effectively appointed to accept service of process on the Issuers' and the Guarantor's behalf, the Issuers and the Guarantor (acting together) shall, on the written demand of the Agent, appoint a further person in England to accept service of process on their behalf and, failing such appointment within 15 days, the Agent shall be entitled to appoint such a person by written notice to the Issuers and the Guarantor. Nothing in this sub-clause shall affect the right of the Agent to serve process in any other manner permitted by law.

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17.5 The submission to the jurisdiction of the courts of England shall not (and shall not be construed so as to) limit the right of the Agent to take Proceedings in any other court of competent jurisdiction, nor shall the taking of Proceedings in any one or more jurisdictions preclude the taking of Proceedings in any other jurisdiction (whether concurrently or not) if and to the extent permitted by law.

17.6 If Ecolab NL 10 B.V., Ecolab NL 11 B.V. or Nalco Overseas Holding B.V. are represented by an attorney or attorneys in connection with the signing and/or execution and/or delivery of this Agreement or any agreement or document referred to herein or made pursuant hereto and the relevant power or powers of attorney is or are expressed to be governed by the laws of The Netherlands, it is hereby expressly acknowledged and accepted by the other Parties that such laws shall govern the existence and extent of such attorney's or attorneys' authority and the effects of the exercise thereof.

18. RIGHTS OF THIRD PARTIES

A person who is not a party to this Agreement has no right under the Contracts (Rights of Third Parties) Act 1999 to enforce any term of this Agreement, but this does not revoke the Second Release, Executive's compensation and benefits shall be as follows:

a. Base Salary and Compensation and Benefit Plan Participation. From the Effective Date through the Separation Date, Executive will (i) receive his base salary as in effect on the Effective Date, affect any right or remedy of a third party which exists or is available apart from that Act.

19. MODIFICATION

This Agreement may be adjusted upwards (but not downwards) amended by further agreement among the Parties and without the consent of holders of the Notes.

20. COUNTERPARTS

This Agreement may be signed in any number of counterparts, all of which when taken together shall constitute a single agreement.

21. ENTIRE AGREEMENT

- 21.1 This Agreement constitutes the entire agreement between the Parties relating to the subject matter of this Agreement as at the date of this Agreement to the exclusion of any terms implied by law which may be excluded by contract. This Agreement supersedes any previous written or oral agreements between the Parties relating to the subject matter of this Agreement which shall cease to have any further force or effect notwithstanding the existence of any provision of any such prior agreement (including without limitation the Original Agreement) that any such rights or provisions shall survive its termination.
- 21.2 Each Party acknowledges that it has not been induced to enter into this Agreement by any representation, warranty or undertaking not expressly incorporated into it.
- 21.3 Each Party agrees and acknowledges that, without prejudice to any liability for fraudulent misrepresentation or fraudulent misstatement, its only rights and remedies in relation to any representation, warranty or undertaking made or given in connection with this Agreement are those rights and remedies set out in this Agreement.
- 21.4 For the purposes of sub-clauses 21.1 to 21.3, reference to "this Agreement" includes all documents entered into pursuant to this Agreement.

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22. RESIGNATION OF ECOLAB NL 10 B.V., ECOLAB NL 11 B.V. AND NALCO OVERSEAS HOLDING B.V.

Subject to Clause 8 above and the relevant Issuer having no Notes outstanding, any of Ecolab NL 10 B.V., Ecolab NL 11 B.V. or Nalco Overseas Holding B.V. (or all of them) may provide written notice to the Issue and Paying Agent, the Arranger and the Dealers that it is no longer to be an issuer under the Programme, in which event such Issuer (the "**Resigning Issuer**") shall no longer be a Party to this Agreement and this Agreement shall continue as between the remaining Parties to this Agreement. Thereafter, the Resigning Issuer shall no longer be permitted to issue Notes under the Programme.

AS WITNESS the hands of the duly authorised representatives of the Parties the day and year first before written.

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SCHEDULE 1

DUTIES UNDER THE ISSUER-ICSDS AGREEMENT

In relation to each tranche of Notes that are, or are to be, represented by a New Global Note the Agent will comply with the following provisions:

- *Initial issue outstanding amount:* The Agent will inform each of the ICSDs, through the common service provider appointed by the ICSDs to service the Notes (the "**Common Service Provider**"), of the initial issue outstanding amount (the "**IOA**") for such tranche on or prior to the relevant issue date.
- *Mark up or mark down:* If any event occurs that requires a mark up or mark down of the records which an ICSD holds for its customers to reflect such customers' interest in the Notes, the Agent will (to the extent known to it) promptly provide details of the amount of such mark up or mark down, together with a description of the event that requires it, to the ICSDs (through the Common Service Provider) to ensure that the IOA of the Notes remains at all times accurate.
- *Reconciliation of records:* The Agent will at least once every month reconcile its record of the IOA of the Notes with information received from the ICSDs (through the Common Service Provider) with respect to the IOA maintained by the ICSDs for the Notes and will promptly inform the ICSDs (through the Common Service Provider) of any discrepancies.
- *Resolution of discrepancies:* The Agent will promptly assist the ICSDs (through the Common Service Provider) in resolving any discrepancy identified in the IOA of the Notes.
- *Details of payments:* The Agent will promptly provide the ICSDs (through the Common Service Provider) details of all amounts paid by it under the Notes (or, where the Notes provide for delivery of assets other than cash, of the assets so delivered).
- *Change of amount:* The Agent will (to the extent known to it) promptly provide to the ICSDs (through the Common Service Provider) notice of any changes to the Notes that will affect the amount of, or date for, any payment due under the Notes.
- *Notices to holders:* The Agent will (to the extent known to it) promptly provide to the ICSDs (through the Common Service Provider) copies of all information that is given to the holders of the Notes.
- *Communications from ICSDs:* The Agent will promptly pass on to the relevant Issuer all communications it receives from the ICSDs directly or through the Common Service Provider relating to the Notes.
- *Default:* The Agent will (to the extent known to it) promptly notify the ICSDs (through the Common Service Provider) of any failure by the relevant Issuer to make any payment or delivery due under the Notes when due.

SIGNATURE PAGES

The Issuers

ECOLAB INC.

By: /s/ Catherine Loh

Address: 1 Ecolab Place
St. Paul
MN 55102
U.S.A.

Telephone: +1 800 232 6522
Facsimile: +1 651 250 2573
Email: allison.rakitin@ecolab.com / treasury@ecolab.com
Attention: General Counsel

ECOLAB NL 10 B.V.

By: /s/ Catherine Loh

Address: Oude Rhijnhofweg 17
2342BB Oegstgeest
The Netherlands

Telephone: +31 30 608 2222
Facsimile: +31 30 608 2228
Email: allison.rakitin@ecolab.com / treasury@ecolab.com
Attention: Director

(cc. Ecolab Inc. as specified above)

ECOLAB NL 11 B.V.

By: /s/ Catherine Loh

Address: Oude Rhijnhofweg 17
2342BB Oegstgeest
The Netherlands

Telephone: +31 30 608 2222
Facsimile: +31 30 608 2228
Email: allison.rakitin@ecolab.com / treasury@ecolab.com
Attention: Director

(cc. Ecolab Inc. as specified above)

NALCO OVERSEAS HOLDING B.V.

By: /s/ Catherine Loh

Address: Oude Rhijnhofweg 17
2342BB Oegstgeest
The Netherlands

Telephone: +31 30 608 2222

Facsimile: +31 30 608 2228

Email: allison.rakitin@ecolab.com / treasury@ecolab.com

Attention: Director

(cc. Ecolab Inc. as specified above)

The Guarantor

ECOLAB INC.

By: /s/ Catherine Loh

Address: 1 Ecolab Place
St. Paul
MN 55102
U.S.A.

Telephone: +1 800 232 6522

Facsimile: +1 651 250 2573

Email: allison.rakitin@ecolab.com / treasury@ecolab.com

Attention: General Counsel

The Agent

CITIBANK, N.A., LONDON BRANCH

By: /s/ Stuart Sullivan

Stuart Sullivan

Vice President

Address: Citigroup Centre

Canada Square
Canary Wharf
London E14 5LB
United Kingdom

Telephone: +353 1 622 2238
Email: ecpissuance@citi.com
Attention: ECP Issuance Desk

EXHIBIT (10.2(i)(c))



CLIFFORD CHANCE LLP

EXECUTION VERSION

ECOLAB INC.
ECOLAB NL 10 B.V.
ECOLAB NL 11 B.V.
NALCO OVERSEAS HOLDING B.V.
as Issuers
U.S.\$2,000,000,000
EURO-COMMERCIAL PAPER PROGRAMME

DEED OF COVENANT

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THIS DEED OF COVENANT is made on 30 October 2023

BY

- (1) **ECOLAB INC.**, a corporation organised and existing under the laws of the State of Delaware, having its registered office at 1209 Orange Street, City of Wilmington, Delaware, U.S.A., registered in the State of Delaware under number 0164814;
- (2) **ECOLAB NL 10 B.V.**, a private limited liability company (*besloten vennootschap met beperkte aansprakelijkheid*) incorporated and existing under the laws of The Netherlands, having its registered office at Oude Rhijnhofweg 17, 2342BB Oegstgeest, The Netherlands and registered in The Netherlands under number 56036094;
- (3) **ECOLAB NL 11 B.V.**, a private limited liability company (*besloten vennootschap met beperkte aansprakelijkheid*) incorporated and existing under the laws of The Netherlands, having its registered office Oude Rhijnhofweg 17, 2342BB Oegstgeest, The Netherlands and registered in The Netherlands under number 56150547; and
- (4) **NALCO OVERSEAS HOLDING B.V.**, a private limited liability company (*besloten vennootschap met beperkte aansprakelijkheid*) incorporated and existing under the laws of The Netherlands, having its registered office at Oude Rhijnhofweg 17, 2342BB Oegstgeest, The Netherlands and registered in The Netherlands under number 28084700,

(each of Ecolab Inc., Ecolab NL 10 B.V., Ecolab NL 11 B.V. and Nalco Overseas Holding B.V. is referred to herein as an "**Issuer**" and together, the "**Issuers**");

IN FAVOUR OF

- (5) **THE ACCOUNTHOLDERS** (as defined below).

WHEREAS

- (A) The Issuers and Ecolab Inc., in its capacity as guarantor, have entered into an amended and restated dealer agreement dated the date of this Deed of Covenant (the "**Dealer Agreement**") and an amended and restated note agency agreement dated the date of this Deed of Covenant (the "**Agency Agreement**") in connection with a Euro Commercial Paper Programme (the "**Programme**") for the issuance of notes (the "**Notes**").
- (B) The Issuers wish to make certain arrangements for the Accountholders in the event that any Global Note (as defined in the Dealer Agreement) becomes void in accordance with its terms.

NOW THIS DEED OF COVENANT witnesses as follows:

1. INTERPRETATION

1.1 Definitions

All terms and expressions which have defined meanings in the Dealer Agreement or the Agency Agreement shall have the same meanings in this Deed of Covenant except

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where the context requires otherwise or unless otherwise stated. In addition, in this Deed of Covenant the following expressions have the following meanings:

"Accountholder" means any accountholder with a Clearing System which at the Determination Date has credited to its securities account with such Clearing System one or more Entries in respect of a Global Note, except for any Clearing System in its capacity as an accountholder of another Clearing System.

"Clearing System" means each or any of Clearstream Banking S.A. Euroclear Bank SA/NV or such other clearing system as may be agreed from time to time between the Issuers and the Agent and in which Notes may from time to time be held, or any successor to such entities.

"Determination Date" means, in relation to any Global Note, the date on which such Global Note becomes void in accordance with its terms.

"Direct Rights" means the rights referred to in Clause 2.1 (*Direct Rights - Creation*).

"Entry" means, in relation to a Global Note, any entry which is made in the discretion securities account of any Accountholder with a Clearing System in respect of Notes represented by such Global Note.

"Principal Amount" means, in respect of any Entry, the aggregate principal amount of the Company, (ii) continue Notes to participate which such Entry relates.

1.2 Clauses

Any reference in this Deed of Covenant to a Clause is, unless otherwise stated, to a clause hereof.

1.3 Other agreements

All references in this Deed of Covenant to an agreement, instrument or other document (including the Company's Management Incentive Plan ("Dealer Agreement and the Agency Agreement) shall be construed as a reference to that agreement, instrument or other document as the same may be amended, supplemented, replaced or novated from time to time.

1.4 Legislation

Any reference in this Agreement to any legislation (whether primary legislation or regulations or other subsidiary legislation made pursuant to primary

legislation) shall be construed as a reference to such legislation as the same may have been, or may from time to time be, amended or re-enacted.

1.5 Headings

Headings and sub-headings are for ease of reference only and shall not affect the construction of this Deed of Covenant.

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1.6 Benefit of Deed of Covenant

Any Notes issued under the Programme on or after the date of this Deed of Covenant shall have the benefit of this Deed of Covenant but shall not have the benefit of any subsequent deed of covenant relating to the Programme (unless expressly so provided in any such subsequent deed).

2. DIRECT RIGHTS

2.1 Creation

If any Global Note becomes void in accordance with its terms, each Accountholder shall have against the relevant Issuer all rights ("MIP Direct Rights") for which such Accountholder would have had in respect of the 2022 fiscal year subject Notes if, immediately before the Determination Date in relation to that Global Note, it had been the holder of Definitive Notes, duly executed, authenticated and issued, in an aggregate principal amount equal to the Principal Amount of such Accountholder's Entries relating to such Global Note including (without limitation) the right to receive all payments due at any time in respect of such Definitive Notes as if such Definitive Notes had been duly presented and (in the case of final redemption of a Definitive Note) surrendered on the due date in accordance with the terms and conditions of such Note.

2.2 No Further Action

No further action shall be required on the MIP, including part of the requirement relevant Issuer or any other person:

2.2.1 *Direct Rights:* for the Accountholders to enjoy the Direct Rights; or

2.2.2 *Benefit of terms and conditions:* for each Accountholder to have the benefit of the terms and conditions of the Notes represented by the Global Note as if they had been incorporated *mutatis mutandis* into this Deed of Covenant,

provided, however, that nothing herein shall entitle any Accountholder to receive any payment in respect of any Global Note which has already been made.

3. EVIDENCE

3.1 Records

The records of the Clearing Systems shall be conclusive as to the identity of the Accountholders and the respective amounts of Notes credited to their securities accounts and a statement issued by a Clearing System setting out:

3.1.1 **Name:** the name of the Accountholder in respect of which it is issued; and

3.1.2 **Principal Amount:** the Principal Amount of any Entry credited to the securities account of such Accountholder with such Clearing System on any date,

shall be conclusive evidence for all purposes of this Deed of Covenant.

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3.2 **Determination Date**

If a Clearing System determines the Determination Date, such determination shall be binding on all Accountholders with such Clearing System.

4. **DEPOSIT OF DEED OF COVENANT**

A copy of this Deed of Covenant shall be deposited with and held by the Issue and Paying Agent for so long as the Programme remains in effect and thereafter until the date on which all the obligations of the Issuers under or in respect of the Notes (including, without limitation, its obligations under this Deed of Covenant) have been discharged in full. The Issuers hereby acknowledge the right of every Accountholder to the production of a copy of this Deed of Covenant.

5. **STAMP DUTIES**

The Issuers shall pay all stamp, registration and other similar taxes and duties (including any interest and penalties thereon or in connection therewith) which may be payable upon or in connection with the execution and delivery of this Deed of Covenant and shall indemnify each Accountholder against any claim, demand, action, liability, damages, cost, loss or expense (including (i) an amount equal to any United Kingdom value added tax but only to the extent such Accountholder, or any member of the group to which that Executive remain employed through December 31, 2022 Accountholder belongs for value added tax purposes, reasonably determines that it is not entitled to recover (whether by credit or repayment) such value added tax and (ii) fees and disbursements of counsel to such Accountholder) which it may incur or which may be made against it as a result or arising out of or in relation to any failure to pay or delay in paying any of the same.

6. **BENEFIT OF DEED OF COVENANT**

6.1 **Deed Poll**

This Deed of Covenant shall take effect as a deed poll for the benefit of the Accountholders from time to time.

6.2 **Benefit**

This Deed of Covenant shall enure to the benefit of each Accountholder and its (and any subsequent) successors and assigns, each of which shall be entitled severally to enforce this Deed of Covenant against the relevant Issuer.

6.3 Assignment

The Issuers shall not be entitled to assign or transfer all or any of their rights, benefits and obligations hereunder. Each Accountholder shall be entitled to assign all or any of its rights and benefits hereunder.

7. PARTIAL INVALIDITY

If at any time any provision hereof is or becomes illegal, invalid or unenforceable in any respect under the laws of any jurisdiction, neither the legality, validity or enforceability of the remaining provisions hereof nor the legality, validity or

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enforceability of such provision under the laws of any other jurisdiction shall in any way be affected or impaired thereby.

8. NOTICES

8.1 Address for notices

All notices and other communications to the Issuers hereunder shall be made in writing (by letter or fax) and shall be sent to the relevant Issuer at:

For Ecolab Inc.:

1 Ecolab Place
St. Paul
MN 55102
U.S.A.

Fax: +1 651 250 2573
Attention: General Counsel

For Ecolab NL 10 B.V.:

Oude Rhijnhofweg 17
2342BB Oegstgeest
The Netherlands

Fax: +31 30 6082228
Attention: Director

For Ecolab NL 11 B.V.:

Oude Rhijnhofweg 17
2342BB Oegstgeest
The Netherlands

Fax: +31 30 6082228
Attention: Director

For Nalco Overseas Holding B.V.:

Oude Rhijnhofweg 17
2342BB Oegstgeest
The Netherlands

Fax: +31 30 6082228

Attention: Director

(cc. Ecolab Inc. as specified above)

or to such other address, telex number or fax number or for the attention of such other person or department as the relevant Issuer has notified to the Accountholders.

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8.2 Effectiveness

Every notice or other communication sent in accordance with Clause 8.1 (*Address for notices*) shall be effective upon receipt by the relevant Issuer **provided, die, however, that** any such notice or **become disabled**, other communication which would otherwise take effect after 4.00 p.m. on any particular day shall not take effect until 10.00 a.m. on the immediately succeeding business day in the place of the relevant Issuer.

9. LAW AND JURISDICTION

9.1 Governing law

This Deed of Covenant and any non-contractual obligations arising out of or in connection with it are governed by English law.

9.2 English courts

The courts of England have exclusive jurisdiction to settle any dispute (a "**Dispute**"), arising from or connected with this Deed of Covenant (including a dispute regarding the existence, validity or termination of this Deed of Covenant or any non-contractual obligation arising out of or in connection with this Deed of Covenant) or the consequences of its nullity.

9.3 Appropriate forum

The Issuers agree that the courts of England are the most appropriate and convenient courts to settle any Dispute and, accordingly, that they will not argue to the contrary.

9.4 Rights of the Accountholders to take proceedings outside England

Clause 9.2 (*English courts*) is for the benefit of the Accountholders only. As a result, nothing in this Clause 9 (*Law and jurisdiction*) prevents the Accountholders from taking proceedings relating to a Dispute ("**Proceedings**") in any other courts with jurisdiction. To the extent allowed by law, the Accountholders may take concurrent Proceedings in any number of jurisdictions.

9.5 Process agent

The Issuers agree that the documents which start any Proceedings and any other documents required to be eligible served in relation to those Proceedings may be served on them by being delivered to Ecolab Limited at P.O. Box 11, Winnington Avenue, Northwich, Cheshire, United Kingdom CW8 4DX or, if different, its registered office for the 2022 MIP bonus, time being or at any address of the relevant Issuer in Great Britain at which process may be served on it in accordance with the Companies Act 2006. If such person is not or ceases to be effectively appointed to accept service of process on behalf of the Issuers, the Issuers shall, on the written demand of any Accountholder addressed to the relevant Issuer and delivered to the relevant Issuer appoint a minimum 2022 MIP bonus payment further person in England to accept service of \$793,800, (iii) participate process on its behalf and, failing such appointment within 15 days, any Accountholder shall be entitled to appoint such a person by written notice addressed to the relevant Issuer and delivered to the relevant Issuer. Nothing in this paragraph shall affect the right of any Accountholder to serve process in any other manner permitted by law. This clause applies to Proceedings in England and to Proceedings elsewhere.

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9.6 Ecolab NL 10 B.V., Ecolab NL 11 B.V. and Nalco Overseas Holding B.V.

If Ecolab NL 10 B.V., Ecolab NL 11 B.V. or Nalco Overseas Holding B.V. are represented by an attorney or attorneys in connection with the signing and/or execution and/or delivery of this Deed of Covenant or any agreement or document referred to herein or made pursuant hereto and the relevant power or powers of attorney is or are expressed to be governed by the laws of The Netherlands, it is hereby expressly acknowledged and accepted by the other parties hereto that such laws shall govern the existence and extent of such attorney's or attorneys' authority and the effects of the exercise thereof.

10. RESIGNATION OF ECOLAB NL 10 B.V., ECOLAB NL 11 B.V. AND NALCO OVERSEAS HOLDING B.V.

Subject to the relevant Issuer having no Notes outstanding, any of Ecolab NL 10 B.V., Ecolab NL 11 B.V. or Nalco Overseas Holding B.V. (or all of them) may provide written notice to the Issue and Paying Agent, the Arranger and the Dealers that it is no longer to be an issuer under the Programme, in which event such Issuer (the "Resigning Issuer") shall no longer be a party to this Deed of Covenant and this Deed of Covenant shall continue as between the remaining parties to this Deed of Covenant. Thereafter, the Resigning Issuer shall no longer be permitted to issue Notes under the Programme.

- 8 -

IN WITNESS WHEREOF this Deed of Covenant has been executed by the Issuers on the date stated at the beginning of this Deed of Covenant.

EXECUTED as a)
DEED
by ECOLAB INC.)

acting under the) /s/
authority of) Catherine
Loh

that company)

acting by)

EXECUTED as a)
DEED
by ECOLAB NL 10)
B.V.
acting under the) /s/
authority of) Catherine
Loh

that company)

acting by)

EXECUTED as a)
DEED
by ECOLAB NL 11)
B.V.
acting under the) /s/
authority of) Catherine
Loh

that company)

acting by)

EXECUTED as a)
DEED
by NALCO)
OVERSEAS
HOLDING B.V.
acting under the) /s/
authority of) Catherine
Loh

that company)

acting by)

EXHIBIT (10.2(i)(d))

 Graphic

CLIFFORD CHANCE LLP

EXECUTION VERSION

ECOLAB INC.
ECOLAB NL 10 B.V.
ECOLAB NL 11 B.V.
NALCO OVERSEAS HOLDING B.V.

U.S.\$2,000,000,000
EURO COMMERCIAL PAPER PROGRAMME

Guaranteed by
ECOLAB INC.

DEED OF GUARANTEE
(IN RESPECT OF NOTES ISSUED BY ECOLAB NL
10 B.V., ECOLAB NL 11 B.V. AND NALCO
OVERSEAS HOLDING B.V.)

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THIS DEED OF GUARANTEE is made on 30 October 2023

BY

(1) **ECOLAB INC.** (the "**Guarantor**")

IN FAVOUR OF

- (2) **THE HOLDERS** for the time being and from time to time of the Notes referred to below (each a "**Noteholder**" or the "**holder**" of a Note); and
- (3) **THE ACCOUNTHOLDERS** (as defined in the Deed of Covenant described below) (together with the Noteholders, the "**Beneficiaries**").

WHEREAS

- (A) In connection with a Euro-Commercial Paper Programme (the "**Programme**") for the issuance of notes (the "**Notes**"), **ECOLAB INC.**, **ECOLAB NL 10 B.V.**, **ECOLAB NL 11 B.V.** and **NALCO OVERSEAS HOLDING B.V.** (each an "**Issuer**" and together, the "**Issuers**") and the Guarantor have entered into an amended and restated dealer agreement dated the date of this Deed of Guarantee (the "**Dealer Agreement**") and an amended and restated note agency agreement dated the date of this Deed of Guarantee (the "**Agency Agreement**") and the Issuers have executed a deed of covenant dated the date of this Deed of Guarantee (the "**Deed of Covenant**").

- (B) The Guarantor has agreed to guarantee the payment of all sums expressed to be payable from time to time by the Issuers to Noteholders in respect of the Notes and to Accountholders in respect of the Deed of Covenant.

NOW THIS DEED OF GUARANTEE witnesses as follows:

1. INTERPRETATION

1.1 Definitions

All terms and expressions which have defined meanings in the Company's applicable pension Dealer Agreement, the Agency Agreement or retirement plans the Deed of Covenant shall have the same meanings in which Executive participates this Deed of Guarantee except where the context requires otherwise or unless otherwise stated.

1.2 Clauses

Any reference in this Deed of Guarantee to a Clause is, unless otherwise stated, to a clause hereof.

1.3 Other agreements

All references in this Deed of Guarantee to an agreement, instrument or other document (including the Dealer Agreement, the Agency Agreement and the Deed of Covenant) shall be construed as of a reference to that agreement, instrument or other document as the Effective Date, (iv) continue to participate in all health and welfare benefit plans in which Executive is enrolled as of the Effective Date, and (v) continue to participate in other perquisite programs, and expense reimbursement and vacation policies, as all such foregoing plans, programs and policies same may be amended, supplemented, replaced or novated from time to time.

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1.4 Legislation

Any reference in effect this Agreement to any legislation (whether primary legislation or regulations or other subsidiary legislation made pursuant to primary legislation) shall be construed as a reference to such legislation as the same may have been, or may from time to time (each be, amended or re-enacted).

1.5 Headings

Headings and sub-headings are for ease of reference only and shall not affect the construction of this Deed of Guarantee.

1.6 Benefit of Deed of Guarantee

Any Notes issued under the Programme on or after the date of this Deed of Guarantee shall have the benefit of this Deed of Guarantee but shall not have the benefit of any subsequent guarantee relating to the Programme (unless expressly so provided in any such subsequent guarantee).

2. **GUARANTEE AND INDEMNITY**

2.1 **Guarantee**

The Guarantor hereby unconditionally and irrevocably guarantees:

2.1.1 *The Notes:* to each Noteholder the due and punctual payment of all sums from time to time payable by the relevant Issuer in respect of the relevant Note as and when the same become due and payable and accordingly undertakes to pay to such Noteholder, in the manner and currency prescribed by such Note for payments by the relevant Issuer in respect of such Note, any and every sum or sums which the relevant Issuer is at any time liable to pay in respect of such Note and which the relevant Issuer has failed to pay; and

2.1.2 *The Direct Rights:* to each Accountholder the due and punctual payment of all sums from time to time payable by the relevant Issuer to such Accountholder in respect of the Direct Rights as and when the same become due and payable and accordingly undertakes to pay to such Accountholder, in the manner and currency prescribed by the Notes for payments by the relevant Issuer in respect of the Notes, any and every sum or sums which the relevant Issuer is at any time liable to pay to such Accountholder in respect of the Notes and which the relevant Issuer has failed to pay.

2.2 **Indemnity**

The Guarantor irrevocably and unconditionally agrees as a "Plan" primary obligation to indemnify each Beneficiary from time to time from and collectively, against any loss, liability or cost incurred by such Beneficiary as a result of any of the "obligations of the relevant Issuer under or pursuant to any Note, the Deed of Covenant or any provision thereof being or becoming void, voidable, unenforceable or ineffective for any reason whatsoever, whether or not known to such Beneficiary or any other person, the amount of such loss being the amount which such Beneficiary would otherwise have been entitled to recover from the relevant Issuer. Any amount payable pursuant to this

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indemnity shall be payable in the manner and currency prescribed by the Notes for payments by the relevant Issuer in respect of the Notes. This indemnity constitutes a separate and independent obligation from the other obligations under this Deed of Guarantee and shall give rise to a separate and independent cause of action.

3. **TAXES AND WITHHOLDINGS**

All payments in respect of the Notes and Direct Rights under this Deed of Guarantee shall be made without set-off, counterclaim, fees, liabilities or similar deductions and free and clear of, and without deduction or withholding for, taxes, levies, duties or charges of any nature now or hereafter imposed, levied, collected, withheld or assessed in any jurisdiction through or from which such payments are made or any political subdivision or taxing authority

thereof or therein ("**Plans Taxes**"). For clarity, If the Guarantor or any agent thereof is required by law or regulation to make any deduction or withholding for or on account of Taxes, the Guarantor shall, to the extent permitted by applicable law or regulation, pay such additional amounts as shall be necessary in order that the net amounts received by any Beneficiary after such deduction or withholding shall equal the amount which would have been receivable hereunder in the absence of such deduction or withholding, except that no such additional amounts shall be payable:

3.1.1 to a Beneficiary which is liable to such Taxes by reason of its having some connection with the jurisdiction imposing the Taxes other than the mere holding of the Note or the Direct Rights; or

3.1.2 in respect of any Note presented for payment more than 15 days after the Maturity Date or the date on which payment thereof is duly provided for, whichever occurs later, except to the extent that the Beneficiary would have been entitled to such additional amounts if it had presented the Note on the last day of such period of 15 days.

4. **PRESERVATION OF RIGHTS**

4.1 **Principal obligor**

The obligations of the Guarantor hereunder shall be deemed to be undertaken as principal obligor and not merely as surety.

4.2 **Continuing obligations**

The obligations of the Guarantor herein contained shall constitute and be continuing obligations notwithstanding any settlement of account or other matter or thing whatsoever and shall not be considered satisfied by any intermediate payment or satisfaction of all or any of the Issuers' obligations under or in respect of any Note or the Deed of Covenant and shall continue in full force and effect for so long as the Programme remains in effect and thereafter until all sums due from the Issuers in respect of the Notes and under the Deed of Covenant have been paid, and all other actual or contingent obligations of the Issuers thereunder or in respect thereof have been satisfied, in full.

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4.3 **Obligations not discharged**

Neither the obligations of the Guarantor herein contained nor the rights, powers and remedies conferred upon the Beneficiaries by this Deed of Guarantee or by law shall be discharged, impaired or otherwise affected by:

4.3.1 *Winding up:* the winding up, dissolution, administration, re-organisation or moratorium of an Issuer or any change in its status, function, control or ownership;

- 4.3.2 *Illegality*: any of the obligations of an Issuer under or in respect of any Note or the Deed of Covenant being or becoming illegal, invalid, unenforceable or ineffective in any respect;
- 4.3.3 *Indulgence*: time or other indulgence (including for the avoidance of doubt, any composition) being granted or agreed to be granted to an Issuer in respect of any of its obligations under or in respect of any Note or the Deed of Covenant;
- 4.3.4 *Amendment*: any amendment to, or any variation, waiver or release of, any obligation of an Issuer under or in respect of any Note or the Deed of Covenant or any security or other guarantee or indemnity in respect thereof, however fundamental; or
- 4.3.5 *Analogous events*: any other act, event or omission which, but for this sub-clause, might operate to discharge, impair or otherwise affect the obligations expressed to be assumed by the Guarantor herein or any of the rights, powers or remedies conferred upon the Beneficiaries or any of them by this Deed of Guarantee or by law.

4.4 Settlement conditional

Any settlement or discharge between the Guarantor and the Beneficiaries or any of them shall be conditional upon no payment to the Beneficiaries or any of them by the Issuers or any other person on the Issuers' behalf being avoided or reduced by virtue of any laws relating to bankruptcy, insolvency, liquidation or similar laws of general application for the time being in force and, in the event of any such payment being so avoided or reduced, the Beneficiaries shall be entitled to recover the amount by which such payment is so avoided or reduced from the Guarantor subsequently as if such settlement or discharge had not occurred.

4.5 Exercise of Rights

No Beneficiary shall be obliged before exercising any of the rights, powers or remedies conferred upon it by this Deed of Guarantee or by law:

- 4.5.1 *Demand*: to make any demand of the relevant Issuer, save for the presentation of the relevant Note;
- 4.5.2 *Take action*: to take any action or obtain judgment in any court against the relevant Issuer; or

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- 4.5.3 *Claim or proof*: to make or file any claim or proof in a winding up or dissolution of the relevant Issuer,

and (save as aforesaid) the Guarantor hereby expressly waives presentment, demand, protest and notice of dishonour in respect of any Note.

4.6 Deferral of Guarantor's rights

The Guarantor agrees that, so long as any sums are or may be owed by the Issuers in respect of any Note or under the Deed of Covenant or the Issuers are under any other actual or contingent obligation thereunder or in respect thereof, the Guarantor will not exercise any rights which the Guarantor may at any time have by reason of the performance by the Guarantor of its obligations hereunder:

4.6.1 *Indemnity*: to be indemnified by the relevant Issuer;

4.6.2 *Contribution*: to claim any contribution from any other guarantor of the relevant Issuer's obligations under or in respect of any Note or the Deed of Covenant; or

4.6.3 *Subrogation*: to take the benefit (in whole or in part and whether by way of subrogation or otherwise) of any rights of any Beneficiary against the relevant Issuer in respect of amounts paid by the Guarantor under this Deed of Guarantee or any security enjoyed in connection with any Note or the Deed of Covenant by any Beneficiary.

4.7 **Pari passu**

The Guarantor undertakes that its obligations hereunder will at all times rank at least *pari passu* with all other present and future unsecured obligations of the Guarantor, save for such obligations as may be preferred by provisions of law that are both mandatory and of general application.

5. **DEPOSIT OF DEED OF GUARANTEE**

A copy of this Deed of Guarantee shall be deposited with and held by the Issue and Paying Agent for so long as the Programme remains in effect and thereafter until all the obligations of the Issuers under or in respect of the Notes (including, without limitation, its obligations under the Deed of Covenant) have been discharged in full. The Guarantor hereby acknowledges the right of every Beneficiary to the production of a copy of this Deed of Guarantee.

6. **STAMP DUTIES**

The Guarantor shall pay all stamp, registration and other similar taxes and duties (including any interest and penalties thereon or in connection therewith) which are payable upon or in connection with the execution and delivery of this Deed of Guarantee, and shall indemnify each Beneficiary against any claim, demand, action, liability, damages, cost, loss or expense (including, (i) an amount equal to any United Kingdom value added tax but only to the extent such Beneficiary, or any member of the group to which that Beneficiary belongs for value added tax purposes, reasonably determines that it is not entitled to recover (whether by credit or repayment) such value added tax and (ii) fees and disbursements of counsel to such Beneficiary) which it

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incurs as a result or arising out of or in relation to any failure to pay or delay in paying any of the same.

7. BENEFIT OF DEED OF GUARANTEE

7.1 Deed poll

This Deed of Guarantee shall take effect as a deed poll for the benefit of the Beneficiaries from time to time.

7.2 Benefit

This Deed of Guarantee shall enure to the benefit of each Beneficiary and its (and any subsequent) successors and assigns, each of which shall be entitled severally to enforce this Deed of Guarantee against the Guarantor.

7.3 Assignment

The Guarantor shall not be entitled to assign or transfer all or any of its rights, benefits and obligations hereunder. Each Beneficiary shall be entitled to assign all or any of its rights and benefits hereunder.

8. PARTIAL INVALIDITY

If at any time any provision hereof is or becomes illegal, invalid or unenforceable in any respect under the laws of any jurisdiction, neither the legality, validity or enforceability of the remaining provisions hereof nor the legality, validity or enforceability of such provision under the laws of any other jurisdiction shall in any way be affected or impaired thereby.

9. NOTICES

9.1 Address for notices

All notices and other communications to the Guarantor hereunder shall be made in writing (by letter or fax) and shall be sent to the Guarantor at:

1 Ecolab Place
St. Paul
MN 55102
U.S.A.

Fax: +1 651 250 2573
Attention: General Counsel

or to such other address or fax number or for the attention of such other person or department as the Guarantor has notified to the Beneficiaries.

9.2 Effectiveness

Every notice or other communication sent in accordance with Clause 9.1 (*Address for notices*) shall be effective upon receipt by the Guarantor; **provided that** any such notice

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or other communication which would otherwise take effect after 4.00 p.m. on any particular day shall not take effect until 10.00 a.m. on the immediately

succeeding business day in the place of the Guarantor.

10. LAW AND JURISDICTION

10.1 Governing law

This Deed of Guarantee and any non-contractual obligations arising out of or in connection with it are governed by English law.

10.2 English courts

The courts of England have exclusive jurisdiction to settle any dispute (a "Dispute"), arising from or connected with this Deed of Guarantee (including a dispute regarding the existence, validity or termination of this Deed of Guarantee or any non-contractual obligation arising out of or in connection with this Deed of Guarantee) or the consequences of its nullity.

10.3 Appropriate forum

The Guarantor agrees that the courts of England are the most appropriate and convenient courts to settle any Dispute and, accordingly, that it will not argue to the contrary.

10.4 Rights of the Beneficiaries to take proceedings outside England

Clause 10.2 (*English courts*) is for the benefit of the Beneficiaries only. As a result, nothing in this Agreement Clause 10 (*Law and jurisdiction*) prevents the Beneficiaries from taking proceedings relating to a Dispute ("Proceedings") in any other courts with jurisdiction. To the extent allowed by law, the Beneficiaries may take concurrent Proceedings in any number of jurisdictions.

10.5 Service of process

The Guarantor agrees that the process by which any Proceedings in England and any other documents required to be served in relation to those Proceedings may be served on it by being delivered to Ecolab Limited at P.O. Box 11, Winnington Avenue, Northwich, Cheshire, United Kingdom CW8 4DX or, if different, its registered office for the time being or at any other address of the Guarantor in Great Britain at which process may be served on it in accordance with the Companies Act 2006. If such person is not or ceases to be effectively appointed to accept service of process on behalf of the Guarantor, the Guarantor shall, on the written demand of any Beneficiary addressed and delivered to the Guarantor, appoint a further person in England to accept service of process on its behalf and, failing such appointment within 15 days, any Beneficiary shall be entitled to appoint such a person by written notice addressed to the Guarantor and delivered to the Guarantor. Nothing in this paragraph shall affect the right of any Beneficiary to serve process in any other manner permitted by law. This clause applies to Proceedings in England and to Proceedings elsewhere.

11. **RESIGNATION OF ECOLAB NL 10 B.V., ECOLAB NL 11 B.V. AND NALCO OVERSEAS HOLDING B.V.**

Subject to the relevant Issuer having no Notes outstanding, any of Ecolab NL 10 B.V., Ecolab NL 11 B.V. or Nalco Overseas Holding B.V. (or all of them) may provide written notice to the Issue and Paying Agent, the Arranger and the Dealers that it is no longer to be an issuer under the Programme. Thereafter, such Issuer shall no longer be permitted to issue Notes under the Programme.

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IN WITNESS WHEREOF this Deed of Guarantee has been executed by the Guarantor on the date stated at the beginning of this Deed of Guarantee.

EXECUTED as a)
DEED
by ECOLAB INC.)

acting under the) /s/
authority of Catherine
Loh
that company)
acting by)

EXHIBIT (10.4)

INDEMNIFICATION
AGREEMENT

This Indemnification Agreement ("Agreement") is made as of _____, _____ 2023 by and between Ecolab Inc., a Delaware corporation, and _____ ("Indemnatee"). This Agreement supersedes and replaces any and all previous Agreements between the Company and Indemnatee covering the subject matter of this Agreement.

RECITALS

WHEREAS, the Board of Directors (the "Board") of Ecolab Inc. (the "Company") believes that offering indemnification agreements will support its efforts to attract and retain highly qualified directors and officers;

WHEREAS, the Bylaws of the Company and the General Corporation Law of the State of Delaware (“the DGCL”) permit such agreements;

WHEREAS, it is reasonable, prudent and necessary for the Company contractually to obligate itself to indemnify, and to advance expenses on behalf of, such persons to the fullest extent permitted by applicable law so that they will serve or continue to serve the Company free from amending undue concern that they will not be so indemnified;

WHEREAS, this Agreement is a supplement to and in furtherance of the Bylaws and any resolutions adopted pursuant thereto, as well as any rights of Indemnitees under any directors’ and officers’ liability insurance policy, and this Agreement shall not be deemed a substitute therefor, nor to diminish or terminating abrogate any Plan rights of Indemnatee thereunder.

NOW, THEREFORE, in consideration of the premises and the covenants contained herein, the Company and Indemnatee do hereby covenant and agree as follows:

Section 1. Services to the Company. Indemnatee agrees to serve as a director or officer of the Company. Indemnatee may at any time and for any reason resign from such position (subject to any other contractual obligation or any obligation imposed by operation of law), in which event the Company shall have no obligation under this Agreement to continue Indemnatee in such position. This Agreement shall not be deemed an employment contract between the Company (or any of its subsidiaries or any Enterprise) and Indemnatee. Indemnatee specifically acknowledges that Indemnatee’s employment with the Company (or any of its subsidiaries or any Enterprise), if any, is at will, and the Indemnatee may be discharged at any time for any reason, with or without cause, except as may be otherwise provided in any written employment contract between Indemnatee and the Company (or any of its subsidiaries or any Enterprise), other applicable formal severance policies duly adopted by the Board, or, with respect to service as a director or officer of the Company, by the Certificate of Incorporation of the Company (the “Certificate of Incorporation”), the Bylaws, and the DGCL. The foregoing notwithstanding, this Agreement shall continue in force after Indemnatee has ceased to serve as an officer or director of the Company, as provided in Section 16 hereof.

Section 2. Definitions. As used in this Agreement:

(a) References to “agent” shall mean any person who is or was a director, officer, or employee of the Company or a subsidiary of the Company or other person authorized by the Company to act for the Company, to include such person serving in such capacity as a director, officer, employee, fiduciary or other official of another corporation, partnership, limited liability company, joint venture, trust or other enterprise at the request of, for the convenience of, or to represent the interests of the Company or a subsidiary of the Company.

(b) A “Change in Control” shall be deemed to occur upon the earliest to occur after the date of this Agreement of any of the following events:

i. Acquisition of Stock by Third Party. Any Person (as defined below) is or becomes the Beneficial Owner (as defined below), directly or indirectly, of securities of the Company representing twenty-five percent (25%) or more of the combined voting power of the Company's then outstanding securities unless the change in relative Beneficial Ownership of the Company's securities by any Person results solely from a reduction in the aggregate number of outstanding shares of securities entitled to vote generally in the election of directors;

ii. Change in Board of Directors. During any period of two (2) consecutive years (not including any period prior to the execution of this Agreement), individuals who at the beginning of such period constitute the Board, and any new director (other than a director designated by a person who has entered into an agreement with the Company to effect a transaction described in Sections 2(b)(i), 2(b)(iii) or 2(b)(iv)) whose election by the Board or nomination for election by the Company's stockholders was approved by a vote of at least two-thirds of the directors then still in office who either were directors at the beginning of the period or whose election or nomination for election was previously so approved, cease for any reason to constitute at least a majority of the members of the Board;

iii. Corporate Transactions. The effective date of a merger or consolidation of the Company with any other entity, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior to such merger or consolidation continuing to represent (either by remaining outstanding or by being converted into voting securities of the Surviving Entity) more than 50% of the combined voting power of the voting securities of the Surviving Entity outstanding immediately after such merger or consolidation and with the power to elect at least a majority of the board of directors or other governing body of such Surviving Entity;

iv. Liquidation. The approval by the stockholders of the Company of a complete liquidation of the Company or an agreement for the sale or disposition by the Company of all or substantially all of the Company's assets; and

v. Other Events. There occurs any other event of a nature that would be required to be reported in response to Item 6(e) of Schedule 14A of Regulation 14A (or a response to any similar item on any similar schedule or form) promulgated under the Exchange Act (as defined below), whether or not the Company is then subject to such reporting requirement.

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For purposes of this Section 2(b), the following terms shall have the following meanings:

(A) "Exchange Act" shall mean the Securities Exchange Act of 1934, as amended from time to time.

(B) "Person" shall have the meaning as set forth in Sections 13(d) and 14(d) of the Exchange Act; provided, however, that Person shall exclude (i) the Company, (ii)

any trustee or other fiduciary holding securities under an employee benefit plan of the Company, and (iii) any entity owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their ownership of stock of the Company.

(C) "Beneficial Owner" shall have the meaning given to such term in Rule 13d-3 under the Exchange Act; provided, however, that Beneficial Owner shall exclude any Person otherwise becoming a Beneficial Owner by reason of the stockholders of the Company approving a merger of the Company with another entity.

(D) "Surviving Entity" shall mean the surviving entity in a merger or consolidation or any entity that controls, directly or indirectly, such surviving entity.

(c) "Corporate Status" describes the status of a person who is or was a director, trustee, partner, managing member, officer, employee, agent or fiduciary of the Company or of any other corporation, limited liability company, partnership or joint venture, trust or other enterprise which such person is or was serving at the request of the Company.

(d) "Disinterested Director" shall mean a director of the Company who is not and was not a party to the Proceeding in respect of which indemnification is sought by Indemnitee.

(e) "Enterprise" shall mean the Company and any other corporation, limited liability company, partnership, joint venture, trust or other enterprise of which Indemnitee is or was serving at the request of the Company as a director, officer, trustee, partner, managing member, employee, agent or fiduciary.

(f) "Expenses" shall include all reasonable attorneys' fees, retainers, court costs, transcript costs, fees and other costs of experts and other professionals, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees, any federal, state, local or foreign taxes imposed on Indemnitee as a result of the actual or deemed receipt of any payments under this Agreement, ERISA excise taxes and penalties, and all other disbursements, obligations or expenses of the types customarily incurred in connection with, or as a result of, prosecuting, defending, preparing to prosecute or defend, investigating, being or preparing to be a deponent or witness in, or otherwise participating in, a Proceeding. Expenses also shall include (i) Expenses incurred in connection with any appeal resulting from any Proceeding, including without limitation the premium, security for, and other costs relating to any cost bond, supersedeas bond, or other appeal bond or its equivalent, (ii) Expenses incurred in connection with

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recovery under any directors' and officers' liability insurance policies maintained by the Company, regardless of whether Indemnitee is ultimately determined to be entitled to such indemnification, advancement or Expenses or insurance recovery, as the case

may be, and (iii) for purposes of Section 14(d) only, Expenses incurred by Indemnitee in connection with the interpretation, enforcement or defense of Indemnitee's rights under this Agreement, the Certificate of Incorporation, the Bylaws or under any directors' and officers' liability insurance policies maintained by the Company, by litigation or otherwise. The parties agree that for the purposes of any advancement of Expenses for which Indemnitee has made written demand to the Company in accordance with this Agreement, all Expenses included in such demand that are certified by affidavit of Indemnitee's counsel as being reasonable in the good faith judgment of such counsel shall be presumed conclusively to be reasonable. Expenses, however, shall not include amounts paid in settlement by Indemnitee or the amount of judgments or fines against Indemnitee.

(g) "Independent Counsel" shall mean a law firm, or a member of a law firm, that is experienced in matters of corporation law and neither presently is, nor in the past five years has been, retained to represent: (i) the Company or Indemnitee in any matter material to either such party (other than with respect to matters concerning the Indemnitee under this Agreement, or of other indemnitees under similar indemnification agreements), or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term "Independent Counsel" shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Company or Indemnitee in an action to determine Indemnitee's rights under this Agreement. The Company agrees to pay the reasonable fees and expenses of the Independent Counsel referred to above and to fully indemnify such counsel against any and all Expenses, claims, liabilities and damages arising out of or relating to this Agreement or its engagement pursuant hereto.

(h) The term "Proceeding" shall include any threatened, pending or completed action, suit, claim, counterclaim, cross claim, arbitration, mediation, alternate dispute resolution mechanism, investigation, inquiry, administrative hearing or any other actual, threatened or completed proceeding, whether brought in the right of the Company or otherwise and whether of a civil, criminal, administrative, legislative, regulatory or investigative (formal or informal) nature, including any appeal therefrom, in which Indemnitee was, is or will be involved as a party, potential party, non-party witness or otherwise by reason of Indemnitee's Corporate Status, by reason of any action taken by Indemnitee (or a failure to take action by Indemnitee) or of any action (or failure to act) on Indemnitee's part while acting pursuant to Indemnitee's Corporate Status, in each case whether or not serving in such capacity at the time any liability or Expense is incurred for which indemnification, reimbursement, or advancement of Expenses can be provided under this Agreement. If the Indemnitee believes in good faith that a given situation may lead to or culminate in the institution of a Proceeding, this shall be considered a Proceeding under this paragraph.

(i) Reference to "other enterprise" shall include employee benefit plans; references to "fines" shall include any excise tax assessed with respect to any employee benefit plan; references to "serving at the request of the Company" shall include any service as a director, officer, employee or agent of the Company which imposes duties on, or involves services by, such director, officer, employee or agent with respect to an employee benefit plan, its participants or beneficiaries; and a person who acted in good faith and in a manner that affects all eligible employees Indemnitee reasonably believed to be in the best interests of the participants and beneficiaries of an employee benefit plan shall be deemed to

have acted in a manner “not opposed to the best interests of the Company” as referred to in this Agreement.

Section 3. Indemnity in Third-Party Proceedings. The Company shall indemnify Indemnitee in accordance with the provisions of this Section 3 if Indemnitee is, or senior executives is threatened to be made, a party to or a participant in any Proceeding, other than a Proceeding by or in the right of the Company including Executive, to procure a judgment in its favor. Pursuant to this Section 3, Indemnitee shall be indemnified to the fullest extent permitted by applicable law against all Expenses, judgments, fines and amounts paid in settlement (including all interest, assessments and other charges paid or payable in connection with or in respect of such Expenses, judgments, fines and amounts paid in settlement) actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with such Proceeding or any claim, issue or matter therein, if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Company and, in the same case of a criminal Proceeding had no reasonable cause to believe that Indemnitee's conduct was unlawful. The parties hereto intend that this Agreement shall provide to the fullest extent permitted by law for indemnification in excess of that expressly permitted by statute, including, without limitation, any indemnification provided by the Certificate of Incorporation, the Bylaws, vote of the Company's stockholders or substantially similar manner.

disinterested directors or applicable law.

b. Section 4. Additional Stock Plan Grants. Executive shall not be eligible for any grants Indemnity in Proceedings by or awards under the Ecolab Inc. 2010 Stock Incentive Plan (“Stock Plan”) after the Effective Date.

c. 2023 MIP. Executive shall not be eligible to earn a MIP bonus in the 2023 fiscal year.

Right of the Company. The Company shall indemnify Indemnitee in accordance with the provisions of this Section 4 if Indemnitee is, or is threatened to be made, a party to or a participant in any Proceeding by or in the right of the Company to procure a judgment in its favor. Pursuant to this Section 4, Indemnitee shall be indemnified to the fullest extent permitted by applicable law against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with such Proceeding or any claim, issue or matter therein, if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Company. No indemnification for Expenses shall be made under this Section 4 in respect of any claim, issue or matter as to which Indemnitee shall have been finally adjudged by a court to be liable to the Company, unless and only to the extent that the Delaware Court (as hereinafter defined) or any court in which the Proceeding was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, Indemnitee is fairly and reasonably entitled to indemnification.

Section 5. Indemnification for Expenses of a Party Who is Wholly or Partly Successful. Notwithstanding any other provisions of this Agreement, to the fullest extent permitted by applicable law and to the extent that Indemnitee is a party to (or a participant in) and is successful, on the merits or otherwise, in any Proceeding or in defense of any claim, issue or matter therein, in whole or in part, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by or on behalf of Indemnitee in connection therewith. If Indemnitee is not wholly successful in such Proceeding but is successful, on the merits or otherwise, as to one or more but

less than all claims, issues or matters in such Proceeding, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with or related to each successfully resolved claim, issue or matter to the fullest extent permitted by law. For purposes of this Section and without limitation, the termination of any claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

d. Section 6. Severance Indemnification For Expenses of a Witness. Provided Notwithstanding any other provision of this Agreement, to the fullest extent permitted by applicable law and to the extent that Executive continues Indemnitee is, by reason of Indemnitee's Corporate Status, a witness, is or was made (or asked) to respond to discovery requests in any Proceeding, or otherwise asked to participate in any Proceeding to which Indemnitee is not a party, Indemnitee shall be indemnified against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection therewith.

Section 7. Partial Indemnification. If Indemnitee is entitled under any provision of this Agreement to indemnification by the Company for some or a portion of Expenses, but not, however, for the total amount thereof, the Company shall nevertheless indemnify Indemnitee for the portion thereof to which Indemnitee is entitled.

Section 8. Additional Indemnification.

(a) Notwithstanding any limitation in Sections 3, 4, or 5, the Company shall indemnify Indemnitee to the fullest extent permitted by applicable law if Indemnitee is, or is threatened to be employed made, a party to or a participant in any Proceeding (including a Proceeding by or in the right of the Company to procure a judgment in its favor) by reason of Indemnitee's Corporate Status.

(b) For purposes of Section 8(a), the meaning of the phrase "to the fullest extent permitted by applicable law" shall include, but not be limited to:

i. to the fullest extent permitted by the provision of the DGCL that authorizes or contemplates additional indemnification by agreement, or the corresponding provision of any amendment to or replacement of the DGCL, and

ii. to the fullest extent authorized or permitted by any amendments to or replacements of the DGCL adopted after the date of this Agreement that increase the extent to which a corporation may indemnify its officers and directors.

Section 9. Exclusions. Notwithstanding any provision in this Agreement, the Company shall not be obligated under this Agreement to make any indemnification payment in connection with any claim involving Indemnitee:

(a) for which payment has actually been made to or on behalf of Indemnitee under any insurance policy or other indemnity provision, except with respect to any excess beyond the amount paid under any insurance policy or other indemnity provision; or

(b) for (i) an accounting of profits made from the purchase and sale (or sale and purchase) by Indemnitee of securities of the Company within the meaning of Section 16(b) of the Exchange Act (as defined in Section 2(b) hereof) or similar provisions of state statutory law or common law, (ii) any reimbursement of the

Company by the Indemnitee of any bonus or other incentive-based or equity-based compensation or of any profits realized by the Indemnitee from the sale of securities of the Company, as required in each case under the Exchange Act (including any such reimbursements that arise from an accounting restatement of the Company pursuant to Section 304 of the Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act"), or the payment to the Company

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of profits arising from the purchase and sale by Indemnitee of securities in violation of Section 306 of the Sarbanes-Oxley Act) or (iii) any reimbursement of the Company by Indemnitee of any compensation pursuant to any compensation recoupment or clawback policy adopted by the Board or the compensation committee of the Board, including but not limited to any such policy adopted to comply with stock exchange listing requirements implementing Section 10D of the Exchange Act; or

(c) except as provided in Section 14(d) of this Agreement, in connection with any Proceeding (or any part of any Proceeding) initiated by Indemnitee, including any Proceeding (or any part of any Proceeding) initiated by Indemnitee against the Company or its directors, officers, employees or other indemnitees, unless (i) the Board authorized the Proceeding (or any part of any Proceeding) prior to its initiation, (ii) such payment arises in connection with any mandatory counterclaim or cross claim brought or raised by Indemnitee in any Proceeding (or any part of any Proceeding), or (iii) the Company provides the indemnification, in its sole discretion, pursuant to the powers vested in the Company under applicable law.

Section 10. Advances of Expenses. Notwithstanding any provision of this Agreement to the contrary (other than Section 14(d)), the Company shall advance, to the extent not prohibited by law, the Expenses incurred by or on behalf of Indemnitee in connection with any Proceeding (or any part of any Proceeding) not initiated by Indemnitee or any Proceeding initiated by Indemnitee with the prior approval of the Board as provided in Section 9(c), and such advancement shall be made within thirty (30) days after the receipt by the Company of a statement or statements requesting such advances from time to time, whether prior to or after final disposition of any Proceeding. Advances shall be unsecured and interest free. Advances shall be made without regard to Indemnitee's ability to repay the Expenses and without regard to Indemnitee's ultimate entitlement to indemnification under the other provisions of this Agreement. In accordance with Section 14(d), advances shall include any and all reasonable Expenses incurred pursuing an action to enforce this right of advancement, including Expenses incurred preparing and forwarding statements to the Company to support the advances claimed. The Indemnitee shall qualify for advances upon the execution and delivery to the Company of this Agreement, which shall constitute an undertaking providing that the Indemnitee undertakes to repay the amounts advanced (without interest) by the Company pursuant to this Section 10, if and only to the extent that it is ultimately determined that Indemnitee is not entitled to be indemnified by the Company. No other form of undertaking shall be required other than the execution of this Agreement. This Section 10 shall not apply to any claim made by Indemnitee for which indemnity is excluded pursuant to Section 9.

Section 11. Procedure for Notification and Defense of Claim.

(a) Indemnitee shall notify the Company in writing of any matter with respect to which Indemnitee intends to seek indemnification or advancement of Expenses hereunder as soon as reasonably practicable following the receipt by Indemnitee of written notice thereof. The written notification to the Company shall include a description of the nature of the Proceeding and the facts underlying the Proceeding. To obtain indemnification under this Agreement, Indemnitee shall submit to the Company a written request, including therein or therewith such documentation and information as is reasonably available to Indemnitee and is reasonably necessary to determine whether and to what extent Indemnitee is entitled to indemnification following the final disposition of such Proceeding. The omission by Indemnitee to notify the Company hereunder will not relieve

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the Company from any liability which it may have to Indemnitee hereunder or otherwise than under this Agreement, and any delay in so notifying the Company shall not constitute a waiver by Indemnitee of any rights under this Agreement. The Secretary of the Company shall, promptly upon receipt of such a request for indemnification, advise the Board in writing that Indemnitee has requested indemnification.

(b) The Company will be entitled to participate in the Proceeding at its own expense.

(c) The Company shall not settle any Proceeding (in whole or in part) if such settlement would impose any Expense, judgment, liability, fine, penalty or limitation on Indemnitee in respect of which Indemnitee is not entitled to be indemnified hereunder without Indemnitee's prior written consent, which shall not be unreasonably withheld.

Section 12. Procedure Upon Application for Indemnification.

(a) Upon written request by Indemnitee for indemnification pursuant to Section 11(a), a determination, if required by applicable law, with respect to Indemnitee's entitlement thereto shall be made in the specific case: (i) if a Change in Control shall have occurred, by Independent Counsel in a written opinion to the Board, a copy of which shall be delivered to Indemnitee; or (ii) if a Change in Control shall not have occurred, (A) by a majority vote of the Disinterested Directors, even though less than a quorum of the Board, (B) by a committee of Disinterested Directors designated by a majority vote of the Disinterested Directors, even though less than a quorum of the Board, (C) if there are no such Disinterested Directors or, if such Disinterested Directors so direct, by Independent Counsel in a written opinion to the Board, a copy of which shall be delivered to Indemnitee or (D) if so directed by the Board, by the stockholders of the Company; and, if it is so determined that Indemnitee is entitled to indemnification, payment to Indemnitee shall be made within ten (10) days after such determination. Indemnitee shall cooperate with the person, persons or entity making such determination with respect to Indemnitee's entitlement to indemnification, including providing to such person, persons or entity upon reasonable advance request any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. Any costs or Expenses (including attorneys' fees and disbursements) incurred by or on behalf of Indemnitee in so cooperating with the person, persons or entity making such determination shall be borne by the Company (irrespective of the determination as to Indemnitee's entitlement to indemnification) and the Company hereby indemnifies and agrees to hold Indemnitee harmless therefrom. The Company promptly will advise Indemnitee in writing with respect to any determination that Indemnitee is or is not entitled to indemnification, including a description of any reason or basis for which indemnification has been denied.

(b) In the event the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 12(a) hereof, the Independent Counsel shall be selected as provided in this Section 12(b). If a Change in Control shall not have occurred, the Independent Counsel shall be selected by the Board, and the Company shall give written notice to Indemnitee advising Indemnitee of the identity of the Independent Counsel so selected. If a Change in Control shall have occurred, the Independent Counsel shall be selected by Indemnitee (unless Indemnitee shall request that such selection be made by the Board, in which event the preceding

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sentence shall apply), and Indemnitee shall give written notice to the Company advising it of the identity of the Independent Counsel so selected. In either event, Indemnitee or the Company, as the case may be, may, within ten (10) days after such written notice of selection shall have been given, deliver to the Company or to Indemnitee, as the case may be, a written objection to such selection; provided, however, that such objection may be asserted

only on the ground that the Independent Counsel so selected does not meet the requirements of "Independent Counsel" as defined in Section 2 of this Agreement, and the objection shall set forth with particularity the factual basis of such assertion. Absent a proper and timely objection, the person so selected shall act as Independent Counsel. If such written objection is so made and substantiated, the Independent Counsel so selected may not serve as Independent Counsel unless and until such objection is withdrawn or the Delaware Court has determined that such objection is without merit. If, within twenty (20) days after the later of submission by Indemnitee of a written request for indemnification pursuant to Section 11(a) hereof and the final disposition of the Proceeding, no Independent Counsel shall have been selected and not objected to, either the Company or Indemnitee may petition the Delaware Court for resolution of any objection which shall have been made by the Company or Indemnitee to the other's selection of Independent Counsel and/or for the appointment as Independent Counsel of a person selected by such court or by such other person as such court shall designate, and the person with respect to whom all objections are so resolved or the person so appointed shall act as Independent Counsel under Section 12(a) hereof. Upon the due commencement of any judicial proceeding or arbitration pursuant to Section 14(a) of this Agreement, Independent Counsel shall be discharged and relieved of any further responsibility in such capacity (subject to the applicable standards of professional conduct then prevailing).

(c) If the Company disputes a portion of the amounts for which indemnification is requested, the undisputed portion shall be paid and only the disputed portion withheld pending resolution of any such dispute.

Section 13. Presumptions and Effect of Certain Proceedings.

(a) In making a determination with respect to entitlement to indemnification hereunder, the person or persons or entity making such determination shall, to the fullest extent not prohibited by law, presume that Indemnitee is entitled to indemnification under this Agreement if Indemnitee has submitted a request for indemnification in accordance with Section 11(a) of this Agreement, and the Company shall, to the fullest extent not prohibited by law, have the burden of proof to overcome that presumption in connection with the making by any person, persons or entity of any determination contrary to that presumption. Neither the failure of the Company (including by its directors or Independent Counsel) to have made a determination prior to the commencement of any action pursuant to this Agreement that indemnification is proper in the circumstances because Indemnitee has met the applicable standard of conduct, nor an actual determination by the Company (including by its directors or Independent Counsel) that Indemnitee has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that Indemnitee has not met the applicable standard of conduct.

(b) Subject to Section 14(e), if the person, persons or entity empowered or selected under Section 12 of this Agreement to determine whether Indemnitee is entitled to indemnification shall not have made a determination within sixty (60) days after receipt by the Company of the request therefor, the requisite determination of entitlement to indemnification shall,

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to the fullest extent not prohibited by law, be deemed to have been made and Indemnitee shall be entitled to such indemnification, absent (i) a misstatement by Indemnitee of a material fact, or an omission of a material fact necessary to make Indemnitee's statement not materially misleading, in connection with the request for indemnification, or (ii) a prohibition of such indemnification under applicable law; provided, however, that such 60-day period may be extended for a reasonable time, not to exceed an additional thirty (30) days, if the person, persons or entity making the determination with respect to entitlement to indemnification in good standing through December 31, 2022, Executive faith requires such additional time for the obtaining or evaluating of documentation and/or information relating thereto; and provided, further, that the foregoing provisions of this Section 13(b) shall not apply (i) if the determination of entitlement to indemnification is to be made by the stockholders pursuant to Section 12(a) of this Agreement and if (A) within fifteen (15) days after receipt by the Company of the request for

such determination the Board has resolved to submit such determination to the stockholders for their consideration at an annual meeting thereof to be held within seventy-five (75) days after such receipt and such determination is made thereat, or (B) a special meeting of stockholders is called within fifteen (15) days after such receipt for the purpose of making such determination, such meeting is held for such purpose within sixty (60) days after having been so called and such determination is made thereat, or (ii) if the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 12(a) of this Agreement.

(c) The termination of any Proceeding or of any claim, issue or matter therein, by judgment, order, settlement or conviction, or upon a plea of nolo contendere or its equivalent, shall not (except as otherwise expressly provided in this Agreement) of itself adversely affect the right of Indemnatee to indemnification or create a presumption that Indemnatee did not act in good faith and in a manner which Indemnatee reasonably believed to be in or not opposed to the best interests of the Company or, with respect to any criminal Proceeding, that Indemnatee had reasonable cause to believe that Indemnatee's conduct was unlawful.

(d) For purposes of any determination of good faith, Indemnatee shall be eligible deemed to have acted in good faith if Indemnatee's action is based on the records or books of account of the Enterprise, including financial statements, or on information supplied to Indemnatee by the directors or officers of the Enterprise in the course of their duties, or on the advice of legal counsel for the compensation and benefits described in Attachment A, subject Enterprise or on information or records given or reports made to the additional conditions Enterprise by an independent certified public accountant or by an appraiser, financial advisor or other expert selected with reasonable care by or on behalf of the Enterprise. The provisions of this Section 13(d) shall not be deemed to be exclusive or to limit in any way the other circumstances in which the Indemnatee may be deemed to have met the applicable standard of conduct set forth in that Attachment A, this Agreement.

(e) The knowledge and/or actions, or failure to act, of any director, officer, trustee, partner, managing member, fiduciary, agent or employee of the Enterprise shall not be imputed to Indemnatee for purposes of determining the right to indemnification under this Agreement.

e. Section 14. Termination Prior Remedies of Indemnatee.

(a) Subject to December 31, 2022. If Executive's employment Section 14(e), in the event that (i) a determination is terminated made pursuant to Section 12 of this Agreement that Indemnatee is not entitled to indemnification under this Agreement, (ii) advancement of Expenses is not timely made pursuant to Section 10 of this

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Agreement, (iii) no determination of entitlement to indemnification shall have been made pursuant to Section 12(a) of this Agreement within ninety (90) days after receipt by the Company other than for Cause, as defined in the Stock Plan, prior to December 31, 2022, then (i) Executive shall receive the severance described in Section 2(d), and (ii) if such termination occurs prior to December 31, 2022, Executive shall be treated as having been employed on December 31, 2022, for purposes of the 2022 MIP bonus, provided that Executive executes and does request for indemnification, (iv) payment of indemnification is not revoke made pursuant to Section 5, 6 or 7 or the Second Release and otherwise complies with the requirements second to last sentence of Section 12(a) of this Agreement within ten (10) days after receipt by the Company of a written request therefor, (v) payment of indemnification pursuant to Section 3, 4 or 8 of this Agreement is not made within ten (10) days after a determination has been made that Indemnatee is entitled to indemnification, or (vi) the Company or any other person takes or threatens to take any action to declare this Agreement void or unenforceable, or institutes any litigation or other action or Proceeding designed to deny, or to recover from, the Indemnatee the benefits provided or intended to be provided to the Indemnatee hereunder, Indemnatee shall be entitled to an adjudication by a court of Indemnatee's entitlement to such indemnification or advancement of Expenses. Alternatively, Indemnatee, at

Indemnatee's option, may seek an award in arbitration to be conducted by a single arbitrator pursuant to the Commercial Arbitration Rules of the American Arbitration Association. Indemnatee shall commence such proceeding seeking an adjudication or an award in arbitration within 180 days following the date on which Indemnatee first has the right to commence such proceeding pursuant to this Section 14(a). The Company shall not oppose Indemnatee's right to seek any such adjudication or award in arbitration.

(b) In the event that a determination shall have been made pursuant to Section 12(a) of this Agreement that Indemnatee is not entitled to indemnification, any judicial proceeding or arbitration commenced pursuant to this Section 14 shall be conducted in all respects as a de novo trial, or arbitration, on the merits and Indemnatee shall not be prejudiced by reason of that adverse determination. In any judicial proceeding or arbitration commenced pursuant to this Section 14 the Company shall have the burden of proving Indemnatee is not entitled to indemnification or advancement of Expenses, as the case may be.

(c) If a determination shall have been made pursuant to Section 12(a) of this Agreement that Indemnatee is entitled to indemnification, the Company shall be bound by such determination in any judicial proceeding or arbitration commenced pursuant to this Section 14, absent (i) a misstatement by Indemnatee of a material fact, or an omission of a material fact necessary to make Indemnatee's statement not materially misleading, in connection with the request for indemnification, or (ii) a prohibition of such indemnification under applicable law.

(d) The Company shall, to the fullest extent not prohibited by law, be precluded from asserting in any judicial proceeding or arbitration commenced pursuant to this Section 14 that the procedures and presumptions of this Agreement are not valid, binding and enforceable and shall stipulate in any such court or before any such arbitrator that the Company is bound by all the provisions of this Agreement. It is the intent of the Company that, to the fullest extent permitted by law, the Indemnatee not be required to incur legal fees or other Expenses associated with the interpretation, enforcement or defense of Indemnatee's rights under this Agreement by litigation or otherwise because the cost and expense thereof would substantially detract from the benefits intended to be extended to the Indemnatee hereunder. The Company shall, to the fullest extent permitted by law, indemnify Indemnatee against any and all Expenses and, if requested by Indemnatee, shall (within ten (10) days after receipt by the Company of a written request therefor) advance, to the extent not prohibited by law, such Expenses to Indemnatee, which are incurred by or on behalf of Indemnatee in connection with any action brought by Indemnatee for indemnification or advancement of Expenses from the Company under this Agreement or under any directors' and

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officers' liability insurance policies maintained by the Company if, in the case of indemnification, Indemnatee is wholly successful on the underlying claims; if Indemnatee is not wholly successful on the underlying claims, then such indemnification shall be only to the extent Indemnatee is successful on such underlying claims or otherwise as permitted by law, whichever is greater.

(e) Notwithstanding anything in this Agreement to the contrary, no determination as to entitlement of Indemnatee to indemnification under this Agreement shall be required to be made prior to the final disposition of the Proceeding.

Section 15. Non-exclusivity; Survival of Rights; Insurance; Subrogation.

(a) The rights of indemnification and to receive advancement of Expenses as provided by this Agreement (i) shall not be deemed exclusive of any other rights to which Indemnatee may at any time be entitled under applicable law, the Certificate of Incorporation, the Bylaws, any agreement, a vote of stockholders or a resolution of directors, or otherwise and (ii) shall be interpreted independently of, and without reference to, any

other such rights to which Indemnitee may at any time be entitled. No amendment, alteration or repeal of this Agreement or of any provision hereof shall limit or restrict any right of Indemnitee under this Agreement in respect of any action taken or omitted by Indemnitee in Indemnitee's Corporate Status prior to such amendment, alteration or repeal. To the extent that a change in Delaware law, whether by statute or judicial decision, permits greater indemnification or advancement of Expenses than would be afforded currently under the Bylaws and this Agreement, it is the intent of the parties hereto that Indemnitee shall enjoy by this Agreement the greater benefits so afforded by such change. No right or remedy herein conferred is intended to be exclusive of any other right or remedy, and every other right and remedy shall be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other right or remedy.

(b) To the extent that the Company maintains an insurance policy or policies providing liability insurance for directors, officers, employees, or agents of the Enterprise, Indemnitee shall be covered by such policy or policies in accordance with its or their terms to the maximum extent of the coverage available for any such director, officer, employee or agent under such policy or policies. If, at the time of the receipt of a notice of a claim pursuant to the terms hereof, the Company has director and officer liability insurance in effect, the Company shall give prompt notice of such **severance. For avoidance claim or of doubt**, the commencement of a Proceeding, as the case may be, to the insurers in accordance with the procedures set forth in the respective policies. The Company shall thereafter take all necessary or desirable action to cause such insurers to pay, on behalf of the Indemnitee, all amounts payable as a result of such Proceeding in accordance with the terms of such policies.

(c) In the event of any payment made by the Company under this Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee, who shall execute all papers required and take all action necessary to secure such rights, including execution of such documents as are necessary to enable the Company to bring suit to enforce such rights.

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(d) The Company shall not be liable under this Agreement to make any payment of amounts otherwise indemnifiable hereunder (or for which advancement is provided hereunder) if and to the **Executive's employment** extent that Indemnitee has otherwise actually received such payment under any insurance policy, contract, agreement or otherwise.

(e) The Company's obligation to indemnify or advance Expenses hereunder to Indemnitee who is **terminated** or was serving at the request of the Company as a director, officer, trustee, partner, managing member, fiduciary, employee or agent of any other corporation, limited liability company, partnership, joint venture, trust, employee benefit plan or other enterprise shall be reduced by any amount Indemnitee has actually received as indemnification or advancement of Expenses from such other corporation, limited liability company, partnership, joint venture, trust or other enterprise.

Section 16. Duration of Agreement. This Agreement shall continue until and terminate upon the later of: (a) ten (10) years after the date that Indemnitee shall have ceased to serve as a director or officer of the Company or (b) one (1) year after the final termination of any Proceeding then pending in respect of which Indemnitee is granted rights of indemnification or advancement of Expenses hereunder and of any proceeding (including any appeal thereof) commenced by Indemnitee pursuant to Section 14 of this Agreement relating thereto. The indemnification and advancement of expenses rights provided by or granted pursuant to this Agreement shall be binding upon and be enforceable by the parties hereto and their respective successors and assigns (including any direct or indirect successor by purchase, merger, consolidation or otherwise to all or substantially all of the business or assets of the Company), shall continue as to an Indemnitee who has ceased to be a director, officer,

employee or agent of the Company or of any other Enterprise, and shall inure to the benefit of Indemnitee and Indemnitee's spouse, assigns, heirs, devisees, executors and administrators and other legal representatives. The Company shall require and shall cause any successor (whether direct or indirect by purchase, merger, consolidation or otherwise) to all or substantially all of the business or assets of the Company to, by written agreement, expressly assume and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform if no such succession had taken place.

Section 17. **Severability.** Nothing in this Agreement is intended to require or shall be construed as requiring the Company to do or fail to do any act in violation of applicable law. If any provision or provisions of this Agreement shall be held to be invalid, illegal or unenforceable for any reason other than termination by whatsoever: (a) the Company other than for Cause, including termination for Cause, voluntary resignation for any reason, death or disability, Executive shall not be entitled to the severance described in Section 2(d) validity, legality and shall be entitled only to such benefits as may be provided upon termination of employment under the Plans, but all enforceability of the remaining provisions of this Agreement (including without limitation, each portion of any Section of this Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby and shall remain in full force enforceable to the fullest extent permitted by law; (b) such provision or provisions shall be deemed reformed to the extent necessary to conform to applicable law and effect.

3. **Administration to give the maximum effect to the intent of Compensation the parties hereto; and Benefits Plans.** Executive understands and agrees that, except as expressly provided for in (c) to the fullest extent possible, the provisions of this Agreement all compensation and benefit plans, policies and programs in which Executive participates because (including, without limitation, each portion of employment with the Company any Section of this Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall be administered pursuant construed so as to their standard terms, provisions and administrative practices and policies that are then in give effect as interpreted and applied by the Company or the plan administrator(s) as applicable.

4. **No Additional Entitlements.** Executive understands and acknowledges that he will have no further entitlements, other than (a) those specifically recited in this Agreement and (b) accrued rights and entitlements that have vested as of the Separation Date under the Plans. Executive hereby acknowledges that he has no interest in or claim of right to any severance or separation pay benefits, reinstatement, reemployment or employment with the Company (except employment during the Transition Period), and Executive forever waives any interest in or claim of right to any severance or separation pay benefits or future employment by the Company.

5. **Withholding.** All payments required to be made by the Company under this Agreement to Executive shall be subject to withholding of such amounts relating to taxes as the Company may reasonably determine it should withhold pursuant to any applicable law or regulation.

6. **Execution of Agreement; Release of Claims.** Executive's eligibility for the payments and benefits provided pursuant to this Agreement are contingent upon (a) Executive executing and delivering to the Company this Agreement, including the general release of claims under Section 8 below, by 8:00 p.m. (CST) on November 16, 2022, (b) Executive executing and delivering to the Company within twenty-one (21) calendar days following the Separation Date, but not earlier than the Separation Date, a release of claims in substantially the same form as Attachment A to this Agreement, effective as of that date (the "Second Release") and (c) the Executive not revoking either this Agreement or the Second Release.

7. **Consideration.** intent manifested thereby. In consideration for the Agreement (but not the Second Release, which has additional and different consideration as provided in Section 3 of the Second Release), and the

Section 18. Enforcement.

mutual covenants contained herein.(a) The Company expressly confirms and agrees that it has entered into this Agreement and assumed the Company is providing Executive good and valuable consideration, the receipt and sufficiency of which are obligations imposed on it hereby acknowledged, including continued employment and continued access in order to trade secrets and confidential information induce Indemnitee to serve as a director or officer of the Company, and the Company acknowledges that Indemnitee is relying upon this Agreement in serving or continuing to which Employee would not have access nor been supplied but for Employee's relationship with serve as a director or officer of the Company.

8. (b) **General Release.** Except as expressly This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior agreements and understandings, oral, written and implied, between the parties hereto with respect to the subject matter hereof; provided, in however, that this Agreement Executive releases is a supplement to and in furtherance of the Company (and its present Certificate of Incorporation, the Bylaws, any directors' and former affiliates, assigns, fiduciaries, insurers, owners, parents, predecessors, subsidiaries, successors and other entities related to it), and its and their past and present directors, employees, officers, benefit plans, and other entities or individuals acting for any of them, from any known or unknown claims of any type to date regarding his employment officers' insurance maintained by the Company and applicable law, and shall not be deemed a substitute therefor, nor to diminish or abrogate any rights of Indemnitee thereunder.

Section 19. Modification and Waiver. No supplement, modification or amendment of this Agreement shall be binding unless executed in writing by the termination parties hereto. No waiver of such employment, including without limitation any such claims of the provisions of this Agreement shall be deemed or shall constitute a waiver of any other provisions of this Agreement nor shall any waiver constitute a continuing waiver.

Section 20. Notice by Indemnitee. Indemnitee agrees promptly to notify the Company in writing upon being served with any summons, citation, subpoena, complaint, indictment, information or other document relating to any Proceeding or matter which may be subject to indemnification or advancement of Expenses covered hereunder. The failure of Indemnitee to so notify the change in Executive's title, status, duties and authority described in this Agreement.. This means Executive waives ("gives up") these claims, Company shall not relieve the Company of any obligation which it may have to the fullest extent allowed Indemnitee under this Agreement or otherwise.

Section 21. Notices. All notices, requests, demands and other communications under this Agreement shall be in writing and shall be deemed to have been duly given if (a) delivered by law, hand and receipted for by the party to whom said notice or other communication shall have been directed, (b) mailed by certified or registered mail with postage prepaid, on the third business day after the date on which it is so mailed, (c) mailed by reputable overnight courier and receipted for by the party to whom said notice or other communication shall have been directed or (d) sent by electronic transmission, with receipt of oral confirmation that such transmission has been received:

(a) If to Indemnitee, at the address indicated on the signature page of this Agreement, or such other address as claims for: Indemnitee shall provide to the Company.

- (b) unlawful discrimination, harassment or retaliation, such as under If to the Age Discrimination in Employment Act ("ADEA"), and that any such unlawful activity affected any payment in this Agreement; Company to:
- violation of any other federal, state, local, common law or foreign legal requirements, such as any regarding accommodations, background checks, consortium loss, constructive discharge, fiduciary duty, health/safety, indemnification, information/records requirements, leaves of absence, negligence, notice obligations, public policy, torts, and whistleblowing;

- violation of any express or implied contract/covenant/duty/promise, and any intellectual property/proprietary right;
- compensation, severance, benefits, insurance, damages, equitable relief, attorney fees, costs, interest and penalties; and
- participation in any class or collective action.

Ecolab Inc.
1 Ecolab Place
St. Paul, Minnesota 55102

9. Exclusions from Attn: General Release. Excluded from the General Release in Section 8 above are (a) any claims arising after Executive signs this Agreement; (b) claims for breach of this Agreement; (c) claims Counsel Ecolab Inc. Email: generalcounsel@ecolab.com

or rights which cannot be waived by law, including Executive's right to receive vested benefits under the terms of the Company's benefit plans, and (d) claims relating to Executive's right to receive indemnification from the Company as provided in the Company's governing documents or in any agreement between Executive and the Company. Also excluded from the General Release is Executive's right to file a charge with an administrative agency or participate in any agency investigation. Executive is, however, waiving his right to recover any money in connection with such a charge or investigation. Executive is also waiving his right to recover money in connection with a charge filed by any other individual or address as may have been furnished to Indemnatee by the Equal Employment Opportunity Commission or any other federal or state agency, except that he may receive money properly awarded by the U.S. Securities and Exchange Commission as a securities whistleblower incentive. Further, the Company is committed to compliance with applicable federal, state and local laws. As such, nothing in the General Release in Section 8 prohibits Executive from reporting possible violations of law to any government agency if such report is made in confidence and good faith to a federal, state or local government official, either directly or

Company.

indirectly, solely

Section 22. **Contribution.** To the fullest extent permissible under applicable law, if the indemnification provided for the purpose of reporting or investigating a suspected violation of law or in this Agreement is unavailable to Indemnatee for pursuing an anti-retaliation lawsuit relating to such report.

10. **Covenant Not to Sue.** A "covenant not to sue" is a legal term that means Executive promises not to file a lawsuit in court. It is different from the General Release of claims contained in Section 8 above. Besides waiving and releasing the claims covered by Section 8 above, Executive further agrees never to sue the Company or join any lawsuit against reason whatsoever, the Company, in lieu of indemnifying Indemnatee, shall contribute to the amount incurred by Indemnatee, whether for judgments, fines, penalties, excise taxes, amounts paid or to be paid in settlement and/or for Expenses, in connection with any forum for any reason, with respect claim relating to claims, laws or theories covered an indemnifiable event under this Agreement, in such proportion as is deemed fair and reasonable in light of all of the circumstances of such Proceeding in order to reflect (i) the relative benefits received by the General Release language in Section 8 above, but excluding claims excluded from the General Release language in Section 9 Company and provided further that Executive may bring Indemnatee as a claim against the

Company to enforce this Agreement or to challenge the validity of this Agreement under the ADEA. If Executive sues the Company in violation of this Agreement, he shall be liable to the Company for its reasonable attorneys' fees and other litigation costs incurred in defending against such a suit. Alternatively, if Executive sues the Company in violation of this Agreement, the Company can require Executive to return all but \$500 result of the money paid event(s) and/or transaction(s) giving cause to him pursuant to this Agreement. In that event, such Proceeding; and/or (ii) the Company shall be excused from making any further payments or continuing any other benefits otherwise owed to Executive under Section 2 of this Agreement or under Section 3 of the Second Release, it being acknowledged, that it would not violate any part of this Agreement for Executive to sue Company to enforce this Agreement, or to challenge the validity of this Agreement under the ADEA.

11. Non-disparagement. Executive agrees not to make statements that criticize or otherwise disparage the Company which, viewed objectively, materially disrupt or impair the Company's normal, ongoing business operations, or materially harm the Company's reputation with other employees, customers, suppliers, regulators or the general public, and Company agrees not to make statements (and agrees to instruct its officers and directors not to make statements) that criticize or otherwise disparage Executive which, viewed objectively, materially harm the Executive's reputation with the general public. This provision does not apply on occasions when Executive or Company (or any Company director, employee, officer, benefit plan or other entity or individual acting for any of them) is subpoenaed or ordered by a court or other governmental authority to testify or give evidence and must respond truthfully. This provision also does not apply on occasions when Executive is speaking with representatives relative fault of the Company as part of a Company investigation. The Company is committed (and its directors, officers, employees and agents) and Indemnatee in connection with such event(s) and/or transaction(s).

Section 23. Applicable Law and Consent to compliance with applicable federal, state Jurisdiction. This Agreement and local laws. As such, nothing in this Agreement prohibits Executive from reporting possible violations of law to any government agency if such report is made in confidence and good faith to a federal, state or local government official, either directly or indirectly, solely for the purpose of reporting or investigating a suspected violation of law or for pursuing an anti-retaliation lawsuit relating to such report.

12. Severability. If any provision of this Agreement is determined to be unenforceable, legal relations among the parties agree that such provision should be modified so that it is enforceable or, if modification is not possible, that it should be severed, and the enforceability of the remaining provisions will not be affected by such modification or severance.

13. Non-Admissions. The fact and terms of this Agreement are not an admission by the Company of liability or other wrongdoing under any law.

14. Code Section 409A Compliance. This Agreement is intended to comply with Internal Revenue Code Section 409A ("Code Section 409") or an exemption thereunder and shall be construed

governed by, and administered in accordance with Code Section 409A. Notwithstanding any other provision of this Agreement, payments provided under the Agreement may only be made upon an event and in a manner that complies with Code Section 409A or an applicable exemption. Any payments under the Agreement that may be excluded from Code Section 409A either as separation pay due to an involuntary separation from service or as a short-term deferral shall be excluded from Code Section 409A to the maximum extent possible. Any payments to be made under the Agreement upon a termination of employment shall only be made upon a "separation from service" under Code Section 409A. In no event shall the timing of the Executive's execution of a Waiver and Release Agreement, directly or indirectly, result in the Executive designating the calendar year of any severance payment, and if a payment that is subject to execution of the Waiver and Release Agreement could be made in more than one taxable year, payment shall be made in the later taxable year. For purposes of Code Section 409A, the right to installment payments of severance shall be treated as the right to a

series of separate payments. To the extent required by Code Section 409A, any reimbursement or in-kind benefit provided under the Agreement shall be provided in accordance with the following: (a) the amount of expenses eligible for reimbursement, or in-kind benefits provided, during a calendar year cannot affect the expenses eligible for reimbursement, or in-kind benefits to be provided, in any other calendar year; and (b) any right to reimbursements or in-kind benefits under the Agreement shall not be subject to liquidation or exchange for another benefit. Notwithstanding the foregoing, the Company makes no representations that the payments and benefits provided under the Agreement comply with Code Section 409A and in no event shall the Company be liable for all or any portion of any taxes, penalties, interest or other expenses that may be incurred by the Executive on account of non-compliance with Code Section 409A.

15. Governing Law. This Agreement shall be interpreted construed and enforced in accordance with, the laws of the State of Minnesota, except insofar as an interpretation Delaware, without regard to its conflict of laws rules. Except with respect to any arbitration commenced by Indemnitee pursuant to Section 14(a) of this Agreement, the Company and Indemnitee hereby irrevocably and unconditionally (i) agree that any action or enforcement issue proceeding arising out of or in connection with this Agreement shall be brought only in the Court of Chancery of the State of Delaware (the "Delaware Court"), and not in any other state or federal court in the United States of America or any court in any other country, (ii) consent to submit to the exclusive jurisdiction of the Delaware Court for purposes of any action or proceeding arising out of or in connection with this Agreement, (iii) appoint, to the extent such party is governed by federal law. Executive agrees that a court not otherwise subject to service of competent jurisdiction process in the State of Minnesota will adjudicate Delaware, irrevocably the Company's registered agent as set forth in the Certificate of Incorporation as it may be amended and/or restated from time to time as its agent in the State of Delaware as such party's agent for acceptance of legal process in connection with any dispute under such action or proceeding against such party with the same legal force and validity as if served upon such party personally within the State of Delaware, (iv) waive any objection to the laying of venue of any such action or proceeding in the Delaware Court, and (v) waive, and agree not to plead or to make, any claim that any such action or proceeding brought in the Delaware Court has been brought in an improper or inconvenient forum.

Section 24. Identical Counterparts. This Agreement may be executed in one or more counterparts, each of which shall for all purposes be deemed to be an original but all of which together shall constitute one and the same Agreement. Only one such counterpart signed by the party against whom enforceability is sought needs to be produced to evidence the existence of this Agreement.

16. Section

25. Revocation. Miscellaneous. After Executive signs Use of the masculine pronoun shall be deemed to include usage of the feminine pronoun where appropriate. The headings of this Agreement he will have fifteen days are inserted for convenience only and shall not be deemed to revoke it if he changes his mind. If Executive wants to revoke the Agreement, he should deliver a written revocation to the Company's General Counsel within fifteen (15) days after he signs it.

17. Additional Executive Acknowledgments. Executive also agrees that:

- * He is entering constitute part of this Agreement knowingly and voluntarily;
- * He has been advised by this Agreement or to consult with an attorney before signing this Agreement;
- * He is not otherwise entitled to affect the consideration provided in Section 7;
- * construction thereof. He is not entitled to any type of severance or separation pay, other than as provided in Section 7; and
- * This Agreement and the Second Release are the entire agreement Executive and the Company regarding the transition of his duties through the Transition Period, and the terms of his continued employment through the Separation Date.

[Signature Page Follows]

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IN WITNESS WHEREOF, the undersigned parties have executed caused this Agreement to be signed as of the date day and year first written above. above written.

ECOLAB INC.

EXECUTIVE INDEMNITEE

/s/Timothy P. Mulhere

Timothy
Mulhere

ECOLAB
INC.

November 16,
2022 Signature

/s/ Laurie
M. Marsh

Date By: Laurie M. Marsh

Signature

Name: Lanesha Minnix
Title: EVP Human Resources
Executive Vice President,

Name:

General Counsel & Secretary

Address: 1 Ecolab Place, St. Paul, MN 55102

Address:

EXHIBIT (10.12)

DESCRIPTION OF ECOLAB INC.
MANAGEMENT INCENTIVE PLAN

Ecolab Inc. ("Ecolab", the "Company", "we" and "our") maintains an annual cash incentive plan for executives that is designed to motivate executives to achieve annual business and individual goals. This plan is referred to as the Management Incentive Plan ("MIP"). The MIP is not set forth in a formal plan document. Set forth below is a summary of the MIP as it applies to the executive officers of the Company.

Target Award Opportunities – Under the MIP, the Compensation & Human Capital Management Committee (the "Committee") of the Company's Board of Directors establishes the annual target award opportunities expressed as a percentage of base salary paid during the fiscal year for each executive officer.

Performance Measures – Under the MIP, the Company uses a mix of overall corporate performance, business unit performance, individual performance and impact measures to foster cross-divisional cooperation and to assure that executives have a reasonable measure of control over the factors that affect their awards. This performance measure mix varies by executive position. Payout opportunities range from 0% to 200% of each executive officer's target award opportunity. Except as noted for the enterprise performance measure below, the minimum target award opportunity for the performance measures is established at 40%, with additional opportunities established at 100%, 140% and 200%. Payout for results between performance levels are interpolated on a straight-line basis.

- **AdjustedEPS:** The primary measure of overall corporate performance under the MIP is adjusted EPS. This measure ranges from 30% to 100% of the total performance measure mix of the executive officers depending upon the nature of their responsibilities.
- **Enterprise Goal:** For executive officers, whose roles have a significant impact on the performance of all the Company's businesses, and a direct impact on the Company's ability to meet business sales and operating income targets, 30% to 35% of the MIP payout also is based on an enterprise goal. 60% of the enterprise goal is comprised of a commercial average payout, which is the aggregate of the payouts for the achievement of business unit sales and/or operating income goals to all employees in the commercial organization over the aggregate of the business unit payouts at target. The remaining 40% is based on the Company-wide adjusted EPS, which reflects Ecolab's overall business performance. There is no threshold payout level for this measure; however, the maximum payout of 200% of target continues to apply.
- **Business Unit:** For executive officers who lead our global business groups and have a direct impact on the ability of the group to meet business sales and operating income targets, 70% of the MIP payout also is based on a business unit goal. Business unit MIP payouts generally are determined based on the achievement of specific sales and operating income targets (each weighted 50%) as compared to the business unit's performance plan.
- **Individual Goals:** For executive officers who hold staff positions, 30% of the MIP payout also is based on the achievement of strategic corporate initiatives and goals, with funding of the payout of this goal generally subject to achievement of the business unit goals.

[Signature Page to Employment Transition Agreement]

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- **Growth & Impact Modifier:** The growth & impact modifier is based on reducing water intensity across our operations and demonstrating progress toward our aspirations for a more diverse, equitable and inclusive workplace. This modifier recognizes that delivering a net positive impact for our associates, in our operations and for our customers drives performance and innovation, and enables fast growth. The MIP payout is increased by 3%, 6%, or 10% (subject to the 200% payout cap under the MIP), or reduced by 10% based on achievement of year-over-year progress in these areas. The assessment of performance for the growth & impact modifier is made for all officers in the aggregate, and is not measured on an individual basis.

Attachment A Payout Approval –As soon as practicable after the end of the plan year and after the Committee has received the appropriate financial and other data, the Committee will, for each executive officer, approve the achievement of performance goals and the corresponding amount of the award earned. The Committee reviews and approves all adjustments to the Company's overall corporate performance results.

SECOND RELEASE Discretionary Adjustments – To recognize individual performance, the Committee also may increase or decrease an executive officer's MIP award, with input from the principal executive officer, based on the individual performance of the executive officer. This is done to recognize either inferior or superior individual performance in cases where this performance is not fully represented by the performance measures.

Administrative Rules – The administrative rules applying to the MIP include the following:

- An executive officer's actual base salary earnings for the plan year (in the U.S.) or year-end base salary (outside the U.S.) will be used in the calculation of incentive funding.
- No payment is earned unless an executive officer is actively employed on the last business day of the fiscal year. An executive officer who leaves the active employ of the company for reasons of retirement (defined as at least 55 years of age with at least 5 years of service) disability, or death, ceases to be a participant in the plan on the date the separation occurs. The executive officer may be entitled to receive a prorated award accrued during the eligible period when awards are paid following year-end, if warranted by performance.
- If an executive officer becomes eligible for participation in the MIP as a new hire, or through a promotion during the year, such officer will participate on a pro-rata basis, with payments calculated in full month increments.
- If an executive officer transfers from one division to another during the year, a determination of the specific handling of such officer's incentive will be made at the time of transfer by the division executives involved and the Executive Vice President Human Resources.

EXHIBIT (10.14(iv))

**ECOLAB INC. (the "Company")
PERFORMANCE-BASED
RESTRICTED STOCK UNIT AWARD AGREEMENT**

ARTICLE 1. GRANT OF AWARD

The Company has adopted the Ecolab Inc. 2023 Stock Incentive Plan (the "Plan") to grant a performance-based restricted Stock Unit Awards to certain employees of the Company and its Subsidiaries. The Company hereby grants to you (the "Grantee") on the date set forth in your grant notice (the "Date of Grant") a performance-based restricted Stock Unit Award (the "Award") consisting of the number of units set forth in the Grantee's grant notice (the "Award Units"), each of which is made a bookkeeping entry representing the right to receive one share of the Company's common stock, par value \$1.00 per share (the "Common Stock"). The Award and entered into between Timothy Mulhere ("Executive") Award Units are subject to the terms, conditions, restrictions and risk of forfeiture set forth in this agreement (the "Agreement") and Ecolab Inc., a Delaware corporation (together with in the Plan.

ARTICLE 2. VESTING OF AWARD UNITS

- 2.1 **Vesting Date and Conditions.** Subject to Article 5 below, some or all present and former parents, subsidiaries, successors, assigns and affiliated corporations the "Company"). In consideration of the mutual promises made Award Units will vest and become non-forfeitable ("Vested") on the date(s) set forth in the Grantee's grant notice (the "Vesting Date"), provided that (a) the Committee has certified that the Company has achieved a level of Organic Return on Invested Capital (as defined below) of at least the threshold amount set forth in the grant notice for the three (3) year period set forth in the grant notice (the "Performance Period"), and (b) the Grantee remains in the

continuous employ of or service with the Company or any Subsidiary until the Vesting Date. The number of Award Units that will be Vested on the Vesting Date will be determined in accordance with Section 2.2 below.

- 2.2 **Determining Number of Vested Units.** The percentage of the Award Units (or of a portion of the Award Units as provided in Section 5.1 of this Agreement) that will vest on the Vesting Date based upon the Company's level of achievement of Organic Return on Invested Capital for the Performance Period, prior to the application of Section 2.5, will be as indicated in the grant notice. The level of achievement will be measured against the four performance levels set forth in the grant notice: (threshold (40%), target (100%), 140% and maximum (200%)). The actual percentage of Award Units that will Vest based upon the Company's achievement of Organic Return on Invested Capital will be interpolated on a straight line basis between each of the four performance levels, with the corresponding number of Vested Award Units resulting from such determination rounded up to the next whole Award Unit and subject to Section 2.5, if applicable (the "initial determination of Vested Award Units"). If the Organic Return on Invested Capital for the Performance Period is below Company the Threshold Level, no Award Units will Vest. Any Award Units that do not Vest on the Vesting Date will be forfeited.
- 2.3 **Committee Certification.** The Committee shall certify the level of Organic Return on Invested Capital for the Performance Period, the Relative Total Shareholder Return Modifier, and Executive agree the percentage of Award Units that are Vested as provided in Section 2.2 above no later than March 1 of the year following the end of the Performance Period.
- 2.4 **Definitions and Calculations.** For purposes of this Agreement, the following amounts and terms shall be calculated and defined as follows:
- (a) "Annual Invested Capital" is defined as the average of the Company's (i) total assets less cash and cash equivalents, minus (ii) total liabilities less short-term and long-

term debt for a fiscal year and its preceding fiscal year, each as reported by the Company adjusted to eliminate acquisition-related fixed assets, intangible assets, and goodwill resulting from Board-approved acquisitions that occur during the Performance Period.

1. (b) **Termination "Beginning Stock Price" with respect to any company means the twenty (20) trading day average split adjusted closing price of Employment.** Executive's such company's stock immediately after the first day of the Performance Period.

(c) "Ending Stock Price" with respect to any company means the twenty (20) trading day average split adjusted closing price of such company's stock up to and including the last day of employment the Performance Period.

(d) "Net Operating Profit After Taxes" is defined as the Company's operating income multiplied by 1 minus the Company's effective tax rate, each as reported in the Company's consolidated financial statements for each fiscal year during the Performance Period, adjusted to eliminate (i) the after-tax effect of additional depreciation and amortization expense resulting from fair value adjustments to assets acquired as a part of Board-approved acquisitions (whether before or after the Date of Grant) and certified by the Committee to be included among the adjustments to the Organic Return on Invested Capital calculation and the after-tax effect of special gains and charges related to such acquisitions; and (ii) (A) the cumulative effects of accounting or tax changes, (B) gains and losses from discontinued operations, and (C) the cumulative effect of events occurring during the Performance Period that are unusual in nature or occur infrequently or both, and in each case certified by the Committee to be included among the adjustments to the Organic Return on Invested Capital calculation.

(e) "Organic Return on Invested Capital" shall be calculated by dividing (i) the average of the Company's Net Operating Profit After Taxes (as defined below in 2.4 (d) above) for each of the three fiscal years during the Performance Period, by (ii) the three-year average of the Company's Annual Invested Capital (as defined in 2.4 (a) above) with the three years beginning on the last day of the fiscal year immediately preceding the Performance Period and the last day of the fiscal year of the Performance Period.

(f) "Relative TSR Performance" shall mean the Company's TSR relative to the TSR of the S&P 500 Companies measured once as of the last day of the Performance Period and expressed as a percentile.

(g) "S&P 500 Companies" shall mean all of the companies which are listed on the Standard & Poor's 500 Composite Index, including the Company, was December 31, 2022 (the "Separation Date").

2. **Payment Through Separation Date.** The Company has paid Executive for all services rendered on the first day of the Performance Period and which remain continuously listed on the Standard & Poor's 500 Composite Index through the Separation Date, in accordance with Company's regular payroll schedule Performance Period; provided however, that for the purposes hereof the Standard & Poor's 500 Composite Index shall be deemed to include companies that were removed therefrom during the measurement period but that continued during the entire measurement period to have their shares listed on at least one of the NYSE, NASDAQ, American Stock Exchange, Boston Stock Exchange, Chicago Stock Exchange, National Stock Exchange (formerly Cincinnati Stock Exchange), NYSE Arca (formerly known as the Pacific Stock Exchange), Philadelphia Stock Exchange or as otherwise permitted under applicable state law. Executive has received all his pay, benefits and paid/unpaid time-off due. Executive has been reimbursed for all business expenses consistent with the Company's policies.

3. **Separation Consideration.** In consideration for this Second Release, and the mutual covenants contained herein, the Company is providing Executive additional good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, including:

- a) Permitting Executive to continue employment from the effective date of the Employment Transition Agreement entered into between the Company and Executive, and dated November 16, 2022 ("Agreement") through the Separation Date, including Executive's continued eligibility to receive a 2022 bonus, subject to all financial considerations, under the Company's Management Incentive Plan ("MIP") subject to the terms and conditions of the MIP;
- b) Payment of fifty-two (52) weeks of severance in the amount of \$27,380.77 per week, paid in equal installments on the regular payroll dates for active employees, which may be changed by the Company from time to time, each of which installments shall be considered a separate payment for purposes of Section 409A of the Internal Revenue Code;
- c) Subsidizing premiums in the Ecolab medical, prescription, dental and/or vision plans, to the extent that Executive is enrolled in and elects to continue such benefits under COBRA, during the severance period so that Executive will pay the active employee premium rate during the severance period; and
- d) Providing outplacement services through Navigate Forward;

provided any other exchange(s) that the benefits provided Committee may designate from time to time.

(h) "Total Shareholder Return (TSR)" with respect to a company as of a given date means the percentage change in subsections (a), (b), (c) and (d) of this Section 3 Separation Consideration will terminate and Company will be relieved of its obligations to pay additional amounts, and shall be entitled to repayment the value of the amounts described in subsection (b), if Executive either breaches any company's stock from the Beginning Stock Price to the Ending Stock Price calculated as the quotient of (i) the Covenants, as defined in Section 2 of the Agreement, or engages in a "competitive activity."

applicable Ending

Stock Price minus the applicable Beginning Stock Price, divided by (ii) the applicable Beginning Stock Price and adjusted for reinvested dividends.

- 2.5 **Relative Total Shareholder Return Modifier.** For all Grantees who are corporate officers elected by the Board of Directors of the Corporation on the Date of Grant, the initial determination of Vested Award Units will be subject to the Relative TSR Multiplier as set forth below and applied following the end of the Performance Period so the amount of Vested Award Units that vest on the Vesting Date will reflect the application of the multiplier:

Relative TSR Performance	Relative TSR Multiplier
80% percentile or greater	110% of initial determination of Vested Award Units
21%-79% percentile	100% of initial determination
20% percentile or less	90% of initial determination

- 2.6 **Authority of the Committee.** The Committee may adjust the calculation of Organic Return on Invested Capital applicable to the Award Units (and the Relative Total Shareholder Modifier, if applicable) under the circumstances, for the purpose and to the extent contemplated by Section 3.2(c) of the Plan.

ARTICLE 3. SETTLEMENT OF VESTED AWARD UNITS

Except as may otherwise be provided in Section 5.2 below, Vested Award Units will be paid to the Grantee by no later than March 15 of the year following the end of the Performance Period. Each Vested Award Unit will be paid to the Grantee in one share of Common Stock, provided that the Company will have no obligation to issue shares of Common Stock pursuant to this Agreement unless and until the Grantee has satisfied any applicable tax obligations pursuant to Article 9 below and such issuance otherwise complies with all applicable law. Prior to the time the Vested Award Units are settled, the Grantee will have no rights other than those of a "competitive activity" means Executive general creditor of the Company. The Award Units represent an unfunded and unsecured obligation of the Company.

ARTICLE 4. GRANT RESTRICTIONS

- 4.1 **Transferability.** Any attempt to transfer, assign or encumber the Award Units other than in accordance with this Agreement and the Plan will be null and void, and will result in the immediate termination and forfeiture of the Award and all Award Units that have not yet Vested.
- 4.2 **Dividends and Other Distributions.** Subject to Article 6 of this Agreement, the Grantee will have no right to receive dividends, dividend equivalents or other distributions with respect to Award Units.

ARTICLE 5. TERMINATION OF EMPLOYMENT OR OTHER SERVICE; CHANGE IN CONTROL

- 5.1 **Termination of Employment or Other Service.** This Award is paid by or has any direct or indirect interest (except considered a Stock Unit Award subject to a service-based vesting condition and to the achievement of a specified Performance Criterion as a shareholder condition to vesting for purposes of less Section 12 of the Plan. Except as otherwise provided in this Section 5.1, the effect of the termination of the

Grantee's employment or other service with the Company and all Subsidiaries prior to the Vesting Date of this Award will be as provided in this Section and subject to Section 12.2 of the Plan which provides that in the event that the Grantee is determined to have committed any action which would constitute Cause, all rights of the Grantee under the Plan shall terminate and be forfeited without notice of any kind.

- (a) **Termination of Employment Due to Death or Disability.** In the event a Grantee's employment or other service with the Company and all Subsidiaries is terminated by reason of death or Disability, the service-based vesting conditions associated with unvested Award Units then held by the Grantee that are also subject to the achievement of specified Performance Criterion over a performance period as a condition of vesting will be deemed satisfied, but vesting shall occur only when and to the extent the applicable Performance Criterion are satisfied.

(b) Termination of Employment Due to Retirement. In the event a Grantee's employment or other service with the Company and all Subsidiaries is terminated by reason of Retirement, the service-based vesting conditions associated with unvested Award Units then held by the Grantee that are also subject to the achievement of specified Performance Criterion over a performance period as a condition of vesting will be deemed satisfied if such Award Units have been outstanding for at least six months from the Date of Grant, but vesting shall occur only when and to the extent the applicable Performance Criterion are satisfied; and any such Award Units then held by the Grantee that have not been outstanding for at least six months will terminate and be forfeited.

(c) Termination of Employment for Reasons Other than 1% of Death, Disability or Retirement. In the event a company whose shares are publicly traded) Grantee's employment or other service with the Company and all Subsidiaries is terminated for any reason other than death, Disability, Retirement, or a Grantee is in any business that develops, produces or sells any product or service that competes with a product the employ or service of Ecolab a Subsidiary and the Subsidiary ceases to be a Subsidiary of the Company (unless the Grantee continues in the employ or service of the Company or another Subsidiary), all unvested Award Units then held by the Grantee will terminate and be forfeited.

(d) Termination of Employment by Company and all Subsidiaries without Cause. If the Grantee's employment by or other service with the Company and all Subsidiaries is terminated by the Company or any of its subsidiaries.

4. General Release. In addition Subsidiary without Cause prior to the initial release Vesting Date, then (i) for purposes of claims Section 2.1(b) of this Agreement, the Grantee will be deemed to have been in the continuous employ of or service with the Company or any Subsidiary until the Vesting Date with respect to one-third of the Award Units if such termination occurs during the second year of the Performance Period and with respect to two-thirds of the Award Units if the such termination occurs during the third year of the Performance Period, and (ii) for purposes of determining the number of Vested Award Units on the Vesting Date under Section 2.2 of this Agreement, the Vested Award Unit Percentage determined in accordance with Section 2.2 will be applied to the number of Award Units as to which the service-based vesting condition is deemed satisfied in accordance with clause (i) of this sentence, rather than to the total number of Award Units.

5.2 Change in Control. If a Change in Control occurs prior to the Vesting Date, the effect on this Award shall be as provided in Section 14.2 of the Plan, such that if within two years after the Change in Control a Grantee experiences an involuntary termination of employment or other service for reasons other than Cause, or terminates his or her employment or other service for Good Reason, as specifically defined in Exhibit A of this Agreement, then all unvested Award

Units will become immediately fully vested and except non-forfeitable and any Performance Criteria applicable to the Award Units will be deemed to have been satisfied at the target level of performance specified in the Agreement. If vesting of Award Units should be accelerated in accordance with Section 14.2 of the Plan, Vested Unit Awards will be settled and paid to the Grantee no later than two and one-half months after the end of the Grantee's taxable year in which the Award Units became Vested.

ARTICLE 6. ADJUSTMENTS

The number and kind of securities subject to this Award will be subject to adjustment under the circumstances and to the extent specified in Section 4.3 of the Plan.

ARTICLE 7. RIGHTS AS A STOCKHOLDER

The Grantee will have no rights as expressly a stockholder with respect to any of the Award Units until the Award Units are settled following vesting and the Grantee becomes the holder of record of shares of Common Stock.

ARTICLE 8. EMPLOYMENT OR SERVICE

Nothing in this Agreement will be construed to (a) limit in any way the right of the Company to terminate the employment or service of the Grantee at any time, or (b) be evidence of any agreement or understanding, express or implied, that the Company will retain

the Grantee in any particular position at any particular rate of compensation or for any particular period of time.

ARTICLE 9. WITHHOLDING TAXES

By accepting this Award, the Grantee (i) acknowledges his or her obligation to pay any federal, foreign, state and local withholding or employment-related taxes attributable to this Award as provided in this Second Release, Executive releases Section 13 of the Plan, and (ii) consents and directs the Company (and or its present third party administrator to withhold the number of shares of Common Stock issuable upon the vesting of some or all of the Award Units as the Company, in its sole discretion, deems necessary to satisfy such withholding obligations. For purposes of satisfying the Grantee's withholding and former affiliates, assigns, fiduciaries, insurers, owners, parents, predecessors, subsidiaries, successors employment-related tax obligations, shares withheld by the Company will be valued at their Fair Market Value on the date of settlement.

ARTICLE 10. AUTHORIZATION TO RELEASE AND TRANSFER NECESSARY PERSONAL INFORMATION

The Grantee hereby explicitly and unambiguously consents to the collection, use and transfer, in electronic or other entities related to it), form, of the Grantee's personal data by and among, as applicable, the Company and its Subsidiaries for the exclusive purpose of implementing, administering and their past managing the Grantee's participation in the Plan. The Grantee understands that the Company may hold certain personal information about the Grantee, including, but not limited to, the Grantee's name, home address and present directors, employees, officers, benefit plans, telephone number, date of birth, social security number (or any other social or national identification number), salary, nationality, job title, number of Award Units and/or shares of Common Stock held and the details of all Award Units or any other entities entitlement to shares of Common Stock awarded, cancelled, vested, unvested or individuals acting outstanding for the purpose of implementing, administering and managing the Grantee's participation in the Plan (the "Data"). The Grantee understands that the Data may be transferred to the Company or to any third parties assisting in the implementation, administration and management of them, from the Plan, that these recipients may be located in the Grantee's country or elsewhere, and that any known recipient's country (e.g., the United States) may have different data privacy laws and protections than the Grantee's country. The Grantee understands that he or unknown claims she may request a list with

the names and addresses of any type to date regarding potential recipients of the Data by contacting his employment, its end, or her local human resources representative or the Company. This means Executive waives ("gives up") these claims, Company's stock plan administrator. The Grantee authorizes the recipients to receive, possess, use, retain and transfer the Data, in electronic or other form, for the sole purpose of implementing, administering and managing the Grantee's participation in the Plan, including any requisite transfer of such Data to a broker or other third party assisting with the administration of Award Units under the Plan or with whom shares of Common Stock acquired pursuant to the fullest extent allowed by law, such as claims for:

- a) unlawful discrimination, harassment or retaliation, such as under the Age Discrimination in Employment Act ("ADEA"), and that any such unlawful activity affected any payment in this Second Release;
- b) violation of any other federal, state, local, common law or foreign legal requirements, such as any regarding accommodations, background checks, consortium loss, constructive discharge, fiduciary duty, health/safety, indemnification, information/records requirements, leaves of absence, negligence, notice obligations, public policy, torts, and whistleblowing;
- c) violation of any express or implied contract/covenant/duty/promise, and any intellectual property/proprietary right;
- d) compensation, severance, benefits, insurance, damages, equitable relief, attorney fees, costs, interest and penalties; and
- e) participation in any class or collective action.

5. Exclusions from General Release. Excluded vesting of the Award Units or cash from the General Release sale of such shares may be deposited. Furthermore, the Grantee acknowledges and understands that the

transfer of the Data to the Company or to any third parties is necessary for the Grantee's participation in Section 4 above the Plan. The Grantee understands that the Grantee may, at any time, view the Data, request additional information about the storage and processing of the Data, require any necessary amendments to the Data or refuse or withdraw the consents herein by contacting the Grantee's local human resources representative or the Company's stock plan administrator in writing. The Grantee further acknowledges that withdrawal of consent may affect his or her ability to vest in or realize benefits from the Award Units, and the Grantee's ability to participate in the Plan. For more information on the consequences of refusal to consent or withdrawal of consent, the Grantee understands that he or she may contact his or her local human resources representative or the Company's stock plan administrator.

ARTICLE 11. SUBJECT TO PLAN

11.1 Terms of Plan Prevail. The Award and the Award Units granted pursuant to this Agreement have been granted under, and are (a) any claims arising after Executive signs this Second Release; (b) claims or rights which cannot be waived by law, including Executive's right subject to receive vested benefits under the terms of, the Company's benefit plans, and (c) claims relating to Executive's right to receive indemnification from Plan. The terms of the Company as provided Plan are incorporated by reference in the Company's governing documents or this Agreement in any agreement between Executive their entirety, and the Company. Also excluded from the General Release is Executive's right to file Grantee acknowledges having received a charge with an administrative agency or participate in any agency investigation. Executive is, however, waiving his right to recover any money in connection with such a charge or investigation. Executive is also waiving his right to recover money in connection with a charge filed by any other individual or by the Equal Employment Opportunity Commission or any other federal or state agency, except that he may receive money properly awarded by the U.S. Securities and Exchange Commission as a securities whistleblower incentive. Further, the Company is committed to compliance with applicable federal, state and local laws. As such, nothing in the General Release in Section 4 prohibits Executive from reporting possible violations of law to any government agency if such report is made in confidence and good faith to a federal, state or local government official, either directly or indirectly, solely for the

purpose of reporting or investigating a suspected violation of law or for pursuing an anti-retaliation lawsuit relating to such report.

6. Covenant Not to Sue. A "covenant not to sue" is a legal term that means Executive promises not to file a lawsuit in court. It is different from the General Release of claims contained in Section 4 above. Besides waiving and releasing the claims covered by Section 4 above, Executive further agrees never to sue the Company or join any lawsuit against the Company in any forum for any reason, with respect to claims, laws or theories covered by the General Release language in Section 4 above, but excluding claims excluded from the General Release language in Section 5 and provided further that Executive may bring a claim against the Company to enforce the Agreement or to challenge the validity copy of the Agreement and/or the Second Release under the ADEA. If Executive sues the Company in violation Plan. The provisions of this Section, he shall Agreement will be liable interpreted as to be consistent with the Plan, and any ambiguities in this Agreement will be interpreted by reference to the Company for its reasonable attorneys' fees and other litigation costs incurred Plan. In the event that any provision in defending against such a suit. Alternatively, if Executive sues the Company in violation of this Section, the Company can require Executive to return all but \$500 of the money paid to him pursuant to the Agreement. In that event, the Company shall be excused from making any further payments or continuing any other benefits otherwise owed to Executive under Section 2 of the Agreement and Section 3 of the Second Release, it being acknowledged, that it would not violate any part of the Agreement or the Second Release for Executive to sue Company to enforce the Agreement, or to challenge the validity of the Agreement, and/or Second Release under the ADEA.

7. **Non-Admissions.** The fact and terms of this Second Release are not an admission by the Company of liability or other wrongdoing under any law.

8. **Company Property.** Executive returned, did not tamper is inconsistent with and has no access to, any Company property such as equipment, credit cards, keys, software, work product, hard/soft document originals/copies, current/former/prospective customer lists, confidential information of the Company (including, but not limited to board materials, financial information, and trade secrets) and any other materials in any media. Upon request, Executive will provide the Company access to any of his personal electronic document storage accounts or electronic devices to confirm or permit removal of any Company property. Nothing here interferes with Executive's claims or rights in the Release Exclusions Section 5.

9. **Continuing Obligations of Agreement.** The execution of this Second Release does not supersede or otherwise relieve Executive from any continuing obligations owed by him to the Company under the terms of the Agreement.

10. **Severability.** If any provision Plan, the terms of the Plan will prevail. References in this Second Release is determined Agreement to specific Sections of the Plan refer to those Sections of the Plan as in effect on the Date of Grant.

11.2 **Definitions.** Unless otherwise defined in this Agreement, the terms capitalized in this Agreement have the same meanings as given to such terms in the Plan as in effect on the Date of Grant.

ARTICLE 12. MISCELLANEOUS

12.1 **Binding Effect.** This Agreement will be unenforceable, binding upon the heirs, executors, administrators and successors of the parties agree that such provision should hereto.

12.2 **Governing Law.** This Agreement and all rights and obligations under this Agreement will be modified so that it is enforceable or, if modification is not possible, that it should be severed, and the enforceability of the remaining provisions will not be affected by such modification or severance.

11. **Governing Law.** This Second Release shall be interpreted and enforced construed in accordance with the Plan and governed by the laws of the State of Minnesota except insofar as without regard to conflicts of law provisions. Any legal proceeding related to this Agreement will be brought in an interpretation or enforcement issue is governed by federal law. Executive agrees that a appropriate Minnesota court, and the parties to this Agreement consent to the exclusive jurisdiction of competent jurisdiction in the State court for this purpose.

12.3 **Entire Agreement.** This Agreement and the Plan set forth the entire agreement and understanding of Minnesota will adjudicate any dispute under the parties hereto with respect to the grant, vesting and payment of this Second Release.

Award and the administration of the Plan and supersede all prior agreements, arrangements, plans and understandings relating to the grant, vesting and payment of this Award and the administration of the Plan.

12. **Revocation.** After Executive signs this Second Release, he will have fifteen (15) days to revoke it if he changes his mind. If Executive wants to revoke the Second Release, he should deliver a written revocation to the Company's General Counsel within fifteen days after he signs it. If he does not revoke this Second Release, he will receive the separation consideration described in Section 3.

13. **Additional Executive Acknowledgments.** Executive also agrees that:

- He is entering this Second Release knowingly and voluntarily;
- He has been advised by this Second Release to consult with an attorney before signing this Second Release;
- He understands he may take up to twenty-one (21) days to consider this Second Release before signing it;
- He is not otherwise entitled to the separation consideration referenced in Section 3;
- He is not entitled to severance; and
- The Agreement and this Second Release are the entire agreement between him and the Company regarding the transition of his duties through the Separation Date, and the terms of his continued employment through the Separation Date. Executive understands that his failure to execute this Second Release will not relieve him of any continuing obligations owed by him under the terms of the Agreement, including without limitation the release of claims contained in Section 8 and the covenant not to sue contained in Section 10.

[Signature Page Follows]

12.4 **Amendment and Waiver.** Other than as provided in the Plan, this Agreement may be amended, waived, modified or canceled only by a written instrument executed by the parties hereto or, in the case of a waiver, by the party waiving compliance.

12.5 **Captions.** The Article, Section and paragraph captions in this Agreement are for convenience of reference only, do not constitute part of this Agreement and are not to be deemed to limit or otherwise affect any of the provisions of this Agreement.

12.6 **Electronic Delivery and Execution.** The Grantee hereby consents and agrees to electronic delivery of any documents that the Company may elect to deliver (including, but not limited to, plan documents, prospectus and prospectus supplements, grant or award notifications and agreements, account statements, annual and quarterly reports, and all other forms of communications) in connection with this and any other Incentive Award made or offered under the Plan. The Grantee understands that, unless revoked by giving written notice to the Company pursuant to the Plan, this consent will be effective for the duration of the Agreement. The Grantee also understands that the Grantee will have the right at any time to request that the Company deliver written copies of any and all materials referred to above. The Grantee hereby consents to any and all procedures the Company has established or may establish for an electronic signature system for delivery and acceptance of any such documents that the Company may elect to deliver, and agrees that the Grantee's electronic signature is the same as, and will have the same force and effect as, the Grantee's manual signature. The Grantee consents and agrees that any such procedures and delivery may be effected by a third party engaged by the Company to provide administrative services related to the Plan.

12.7 **Address for Notice.** All notices to the Company shall be in writing and sent to the Company's General Counsel at the Company's corporate headquarters. Notices to the Grantee shall be addressed to the Grantee at the address as from time to time reflected in the Company's or Subsidiary's employment records as the Grantee's address.

12.8 **Severability.** In the event that any provision in this Agreement shall be held invalid or unenforceable, such provision shall be severable from, and such invalidity or unenforceability shall not be construed to have any effect on, the remaining provisions of this Agreement.

12.9 **Appendix.** Notwithstanding any provision of this Agreement to the contrary, this grant of Award Units and the shares of Common Stock acquired under the Plan shall be subject to any and all special terms and provisions, if any, as set forth in the Appendix for the Grantee's country of residence.

Exhibit A

The following provision will be applicable instead of the definition set forth in Section 2.13 of the Plan.

2.13 "Good Reason" means, unless otherwise set forth in an agreement between the Company and the Participant, without the express written consent of the affected Participant, any of the following events involving the Company or Subsidiary that employs or receives services from the Participant:

- (a) the assignment to the Participant of any duties inconsistent in any substantial respect with the Participant's position, authority or responsibilities as in effect during the 90-day period immediately preceding the Change in Control which assignment results in a substantial diminution in such position, authority or responsibilities or any other substantial adverse change in such position (including titles), authority or responsibilities, excluding an isolated, insubstantial and inadvertent action not taken in bad faith and which is remedied by the Company or applicable Subsidiary as set forth below;
- (b) any failure by the Company or applicable Subsidiary to furnish the Participant with compensation and benefits at a level substantially equal to or exceeding those received by the Participant from the Company or applicable Subsidiary during the 90-day period preceding the Change in Control, other than (i) an insubstantial and inadvertent failure remedied by the Company or applicable Subsidiary as set forth below, (ii) a reduction in compensation which is applied to all non-union employees of the Company or applicable Subsidiary in the same dollar amount or percentage, or (iii) a reduction or modification of any employee benefit program covering substantially all of the employees of the Company or applicable Subsidiary, which reduction or modification generally applies to all employees covered under such program; or
- (c) the Company or applicable Subsidiary requiring the Participant to be based or to perform services at any office or location that is in excess of 50 miles from the principal location of the Participant's work during the 90-day period immediately preceding the Change in Control, except for travel reasonably required in the performance of the Participant's responsibilities.

Before a termination by the Participant under this Section 2.13 will constitute termination for Good Reason, the Participant must give the Company a notice of termination within 30 calendar days of the occurrence of the event that constitutes Good Reason. The notice must set forth in reasonable detail the specific reason for the termination and the facts and circumstances claimed to provide a basis for termination of employment under the provision indicated. Failure to provide such notice within such 30-day period shall be conclusive proof that the Participant does not have Good Reason to terminate employment.

For purposes of this Section 2.13, Good Reason shall exist only if the Company or applicable Subsidiary fails to remedy the event or events constituting Good Reason within 30 calendar days after receipt of the notice of termination from the Participant. If the Participant determines Good Reason for termination exists and timely files a notice of termination, such determination shall be presumed to be true and the Company will have the burden of proving that Good Reason does not exist.

EXECUTIVE

Date Timothy Mulhere

ECOLAB INC.

Date By: _____

Title:

[Signature Page to Second Release]

SUBSIDIARIES OF ECOLAB INC.

EXHIBIT (21.1)

SUBSIDIARIES OF ECOLAB INC.

<u>Entity Name</u>	<u>State or Other Jurisdiction of Incorporation</u>
NLC Process and Water Services SARL	Algeria
Ecolab (Antigua) Ltd.	Antigua & Barbuda
Anios America S.A.	Argentina
Ecolab Argentina S.R.L.	Argentina
Ecolab Services Argentina S.R.L.	Argentina
Ecolab (Aruba) N.V.	Aruba
Ecolab (Fiji) Pty Limited	Australia
Ecolab AU2 Pty Ltd	Australia
Ecolab AU3 Pty Ltd	Australia
Ecolab AU4 Pty Ltd	Australia
Ecolab Pty Ltd.	Australia
Purolite Pty Ltd	Australia
Ecolab GmbH	Austria
NALCO HOLDINGS G.m.b.H.	Austria
NALCO OSTERREICH Ges m.b.H. GmbH	Austria
Ecolab Limited	Bahamas
Ecolab Bahrain S.P.C.	Bahrain
Ecolab (Barbados) Limited	Barbados
CID LINES NV	Belgium
Cirlam BV	Belgium
Copal Holding NV	Belgium
Copal Invest NV	Belgium
Ecolab B.V.	Belgium
Ecolab Production Belgium B.V.	Belgium
Kay BV	Belgium
NALCO BELGIUM B.V.	Belgium
Ecolab Quimica Ltda.	Brazil
Endoclear Equipamentos Médicos Hospitalares Ltda.	Brazil
Purolite do Brasil Ltda	Brazil
Nalco (BN) SDN BHD	Brunei Darussalam
Ecolab EOOD	Bulgaria
Ecolab CDN 2 Co.	Canada
Ecolab CDN 4 ULC	Canada
Ecolab Co. Compagnie Ecolab	Canada
Les Produits Chimiques ERPAC Inc. Flottec Canada ULC	Canada
Nalco Canada ULC	Canada

Ecolab S.A. SpA
Flottec Chile SpA
Nalco Industrial Services Chile Limitada
Bioquell Technology (Shenzhen) Ltd.

Chile
Chile
Chile
China

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<u>Entity Name</u>	<u>State or Other Jurisdiction of Incorporation</u>
Bioquell Technology (Shenzhen) Ltd.	China
CID Lines Beijing Animal Hygiene Co Ltd.	China
Ecolab (China) Investment Co., Ltd	China
Ecolab (GZ) Chemicals Limited	China
Ecolab (Taicang) Technology Co., Ltd.	China
Ecolab Chemicals Limited	China
Jianghai Environmental Protection Co., Ltd.	China
Nalco (China) Environmental Solution Co. Ltd.	China
NALCO (SHANGHAI) TRADING CO. LTD.	China
NALCO INDUSTRIAL SERVICES (NANJING) CO., LTD.	China
NALCO INDUSTRIAL SERVICES (SUZHOU) CO., LTD.	China
Purolite (China) Co., Ltd.	China
Purolite (Zhejiang) Technology Co., Ltd.	China
Zhejiang Purosoft Environment Engineering Co., Ltd	China
Ecolab Colombia S. A.	Colombia
Ecolab SRL	Costa Rica
Purolite s.r.o.	Czech Republic
CALGON LLC	Delaware
Chamtech, L.L.C.	Delaware
E&M Bio-Chemicals, Chemlink Laboratories, LLC	Delaware
Ecolab Acquisition LLC	Delaware
Ecolab Holdings (Europe) LLC	Delaware
Ecolab Holdings Inc.	Delaware
Ecolab Israel Holdings LLC	Delaware
Ecolab Lux Partner LLC	Delaware
Ecolab Manufacturing Inc.	Delaware
Ecolab Production LLC	Delaware
Ecolab U.S. 2 Inc.	Delaware
Ecolab U.S. 6 LLC	Delaware
Ecolab U.S. 7 LLC	Delaware
Ecolab U.S. 9 LLC	Delaware
Ecolab US 1 GP	Delaware
Ecolab USA Inc.	Delaware
Microtek Medical Inc.	Delaware
NALCO CHINA HOLDINGS LLC	Delaware
Nalco Company LLC (1)	Delaware
Nalco Contract Operations, LLC	Delaware
NALCO GLOBAL HOLDINGS LLC	Delaware
NALCO HOLDING COMPANY	Delaware
NALCO INDUSTRIAL OUTSOURCING COMPANY	Delaware
NALCO INTERNATIONAL HOLDINGS LLC	Delaware
Nalco Production LLC	Delaware

NALCO PWS, INC.
NALCO TWO, INC.

Delaware
Delaware

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<u>Entity Name</u>	<u>State or Other Jurisdiction of Incorporation</u>
NALCO U.S. HOLDINGS LLC	Delaware
Nalco US 1 LLC	Delaware
Nalco Water Pretreatment Solutions, LLC	Delaware
NALCO WORLDWIDE HOLDINGS LLC	Delaware
Purolite LLC	Delaware
Quantum Technical Services, LLC	Delaware
Wabasha Leasing LLC	Delaware
Ecolab ApS	Denmark
NALCO DANMARK APS	Denmark
Microtek Dominicana S.A.	Dominican Republic
Ecolab Ecuador Cia. Ltda.	Ecuador
NALCO EGYPT TRADING	Egypt
NALCO EGYPT, LTD.	Egypt
Ecolab, S.A. de C.V.	El Salvador
Ecolab Pte Ltd	Fiji
NALCO FINLAND MANUFACTURING OY	Finland
NALCO FINLAND OY	Finland
Oy Ecolab AB	Finland
Anios Diffusion SAS	France
Anios Manufacturing SAS	France
CID Lines France Sarl	France
DMD	France
Ecolab FR 1 SAS	France
Ecolab FR 4 SAS	France
Ecolab Pest France SAS	France
Ecolab Production France SAS	France
Ecolab SAS	France
Ecolab Services SNC	France
Ecolab SNC	France
Hydenet SAS	France
Laboratoires Anios SAS	France
Laboratoires Anios-Distribution SAS	France
NALCO FRANCE SAS	France
Purolite SAS	France
Soluscope SAS	France
Microtek Medical Holdings Inc.	Georgia
Ecolab DE 1 GmbH	Germany
Ecolab Deutschland GmbH	Germany
Ecolab Engineering GmbH	Germany
Ecolab Export GmbH	Germany
Ecolab Pest Deutschland GmbH	Germany
Nalco Deutschland GmbH	Germany
Nalco Deutschland Manufacturing GmbH	Germany

<u>Entity Name</u>	<u>State or Other Jurisdiction of Incorporation</u>
Nalco Deutschland Manufacturing GmbH	Germany
Nalco Manufacturing Beteiligungs GmbH	Germany
Nalco Real Estate GmbH	Germany
Purolite GmbH	Germany
Ecolab A.E.B.E.	Greece
Ecolab (Guam) LLC	Guam
Ecolab, Sociedad Anonima	Guatemala
Quimicas Ecolab S.A. de C.V.	Honduras
Ecolab HK 1 Limited	Hong Kong
Ecolab HK 2 Limited	Hong Kong
Ecolab Limited	Hong Kong
Ecolab Name Holding Limited	Hong Kong
Ecolab Water Holding Limited	Hong Kong
NALCO HONG KONG LIMITED	Hong Kong
Ecolab Global Business Services Kft.	Hungary
Ecolab Digital Center Private Limited	India
Ecolab Food Safety & Hygiene Solutions Private Limited	India
Nalco Water India Private Limited	India
Purolite Private Limited	India
PT Ecolab International Indonesia	Indonesia
PT Ecolab Technologies and Services	Indonesia
Bioquell Global Logistics (Ireland) Ltd.	Ireland
Ecolab Finance Company Designated Activity Company	Ireland
Ecolab Limited	Ireland
Ecolab Manufacturing IE Limited	Ireland
Ecolab JVZ Limited	Israel
NALCO ISRAEL INDUSTRIAL SERVICES LTD	Israel
Ecolab Holding Italy S.r.l.	Italy
Ecolab Production Italy Srl	Italy
Ecolab Srl	Italy
Immobiliare R.E.O.P.A. SRL	Italy
NALCO ITALIANA HOLDINGS S.R.L.	Italy
NALCO ITALIANA MANUFACTURING S.R.L.	Italy
NALCO ITALIANA Srl	Italy
Nuova Farmec S.r.l.	Italy
Ecolab Limited	Jamaica
Ecolab G.K.	Japan
KATAYAMA NALCO INC.	Japan
Nalco Japan G.K.	Japan
Purolite KK	Japan
Aqua Environmental Limited	Jersey
Cymru Holdings Limited	Jersey

<u>Entity Name</u>	<u>State or Other Jurisdiction of Incorporation</u>
Cymru Holdings Limited	Jersey
Company Ecolab LLP	Kazakhstan
QazSorbent LLP	Kazakhstan
Ecolab East Africa (Kenya) Limited	Kenya
Purolite LLC ECOLAB KOREA LIMITED	Korea,
Ecolab Korea Ltd.	Korea, Republic of
EPN Water CO., LTD	Korea, Republic of
NALCO KOREA LIMITED Purolite LLC	Korea, Republic of
Ecolab, SIA	Latvia
Nalco Libya	Libya
Ecolab LUX & Co Holdings S.C.A.	Luxembourg
Ecolab LUX 1 Sarl	Luxembourg
Ecolab Lux 10 Sarl	Luxembourg
Ecolab Lux 12 SCA	Luxembourg
Ecolab Lux 13 Sarl	Luxembourg
Ecolab Lux 14 Sarl	Luxembourg
Ecolab Lux 16 Sarl	Luxembourg
Ecolab Lux 17 Sarl	Luxembourg
Ecolab LUX 2 Sarl	Luxembourg
Ecolab LUX 4 Sarl	Luxembourg
Ecolab LUX 7 Sarl	Luxembourg
Ecolab Lux 9 Sarl	Luxembourg
Ecolab LUX Sarl	Luxembourg
Nalco Worldwide Holdings S.à.S.a r.l./B.V.	Luxembourg
Ecolab-Importacao E. Exportacao Limitada	Macau
Ecolab International SDN BHD	Malaysia
Ecolab Sdn Bhd	Malaysia
Ecolab Services Malaysia SDN. BHD.	Malaysia
Ecolab Malta 1 Limited	Malta
Ecolab Malta 2 Limited	Malta
Ecolab Malta 3 Limited	Malta
Ecolab Malta GPS	Malta
Ecolab MT Limited	Malta
Microtek Medical Malta Holding Limited	Malta
Microtek Medical Malta Limited	Malta
Abednego de Mexico S. de R.L. de C.V.	Mexico
CID Lines Mexico, S.A. DE C.V.	Mexico
Ecolab, Holdings Mexico, S. de R. L. de C. V.	Mexico
Ecolab, S. de R.L. de C.V.	Mexico
NALCO DE MEXICO, S. de R. L. de C.V.	Mexico
Productos Químicos Flottec, S. de R.L. de C.V.	Mexico
Purolite, S. de R.L. de C.V.	Mexico

<u>Entity Name</u>	<u>State or Other Jurisdiction of Incorporation</u>
Abednego Environmental Services, LLC	Michigan
Abednego Mexico Holdings, LLC	Michigan

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<u>Entity Name</u>	<u>State or Other Jurisdiction of Incorporation</u>
Ecolab Maroc Société à Responsabilité Limitée	Morocco
Ecolab B.V.	Netherlands
ECOLAB NL 10 B.V.	Netherlands
Ecolab NL 11 B.V.	Netherlands
Ecolab NL 15 BV	Netherlands
Ecolab NL 16 B.V.	Netherlands
Ecolab NL 23 B.V.	Netherlands
Ecolab NL 3 BV	Netherlands
Ecolab Production Netherlands B.V.	Netherlands
Ecolabone B.V.	Netherlands
INTERNATIONAL WATER CONSULTANT B.V.	Netherlands
Microtek Medical B.V.	Netherlands
NALCO DUTCH HOLDINGS B.V.	Netherlands
NALCO EUROPE B.V.	Netherlands
NALCO GLOBAL HOLDINGS B.V.	Netherlands
Nalco Holding B.V.	Netherlands
Nalco International Holdings B.V.	Netherlands
NALCO NETHERLANDS B.V.	Netherlands
NALCO OVERSEAS HOLDING B.V.	Netherlands
NALCO UNIVERSAL HOLDINGS BV	Netherlands
Nalco Wastewater Contract Operations, Inc.	New York
Ecolab New Zealand	New Zealand
Purolite NZ Limited	New Zealand
Ecolab y Compañía Colectiva de Responsabilidad Limitada	Nicaragua
MOBOTEC AB, LLC	North Carolina
Ecolab a.s.	Norway
NALCO PAKISTAN (PRIVATE) LIMITED	Pakistan
Ecolab S.A.	Panama
NANOSPECIALTIES, LLC	Pennsylvania
Ecolab Perú Peru Holdings S.R.L.	Peru
Ecolab Philippines Inc.	Philippines
NALCO PHILIPPINES INC.	Philippines
CID Lines Sp. z o. o.	Poland
Ecolab Production Poland sp. z o.o.	Poland
Ecolab Services Poland Sp. z o o	Poland
Ecolab Sp. z o o	Poland
Nalco Polska Sp. z o. o.	Poland
Purolite sp. z o.o.	Poland
NALCO PORTUGUESA (QUÍMICA INDUSTRIAL), UNIPESSOAL LDA	Portugal
Ecolab Water and Hygiene Trading W.L.L.	Qatar

<u>Entity Name</u>	<u>State or Other Jurisdiction of Incorporation</u>
Ecolab SRL	Romania
Purolite SRL	Romania
AO Ecolab	Russian Federation
CID Lines LLC	Russian Federation
Meratech Rus Group LLC	Russian Federation
NALCO COMPANY OOO	Russian Federation
Ecolab (St. Lucia) Limited	Saint Lucia
NALCO SAUDI CO. LTD.	Saudi Arabia
Ecolab Hygiene d.o.o.	Serbia
Bioquell Asia Pacific Pte. Ltd.	Singapore
Ecolab Asia Pacific Pte. Ltd.	Singapore
Ecolab Pte. Ltd.	Singapore
NALCO ASIA HOLDING COMPANY PTE. LTD.	Singapore
Purolite Pte. Ltd.	Singapore
Ecolab d.o.o.	Slovenia
Ecolab (Proprietary) Limited	South Africa
Lobster Ink Africa (Pty.) Ltd.	South Africa
NALCO AFRICA (PTY.) LTD.	South Africa
Purolite (Pty) Ltd	South Africa
CID Lines Iberica SL	Spain
DERYPOL SA	Spain
Ecolab Hispano-Portuguesa S.L.	Spain
Ecolab Spain Services S.L.U.	Spain
Hicopla SL	Spain
NALCO ESPANOLA MANUFACTURING, S.L.U.	Spain
NALCO ESPAÑOLA, S.L.	Spain
Ecolab AB	Sweden
NALCO AB	Sweden
Ecolab (Schweiz) GmbH	Switzerland
Ecolab CH 1 GmbH	Switzerland
Ecolab CH 2 GmbH	Switzerland
Ecolab CH 6 GmbH	Switzerland
Ecolab Europe GmbH	Switzerland
Lobster International S.A.	Switzerland
Nalco Schweiz GmbH	Switzerland
Purolite AG	Switzerland
Ecolab Ltd.	Taiwan
NALCO TAIWAN CO., LTD.	Taiwan
Ecolab East Africa (Tanzania) Limited	Tanzania
Flottec, LLC	Texas
Ecolab Limited	Thailand
NALCO INDUSTRIAL SERVICES (THAILAND) CO. LTD.	Thailand

<u>Entity Name</u>	<u>State or Other Jurisdiction of Incorporation</u>
Ecolab (Trinidad and Tobago) Unlimited	Trinidad And Tobago
Purolite LLC	Tunisia
Ecolab Temizleme Sistemleri Limited Sirketi	Turkey
Nalco Anadolu Kimya Sanayi ve Ticaret Limited Sirketi	Turkey
Oksa Kimya Sanayi A.S.	Turkey
Purolite Ileri Kimyasal Ticaret Ltd	Turkey
Ecolab East Africa (Uganda) Limited	Uganda
Ecolab LLC TZOV	Ukraine
Ecolab Gulf FZE	United Arab Emirates
Nalco Middle East FZE	United Arab Emirates
Bioquell Limited	United Kingdom
Bioquell UK Limited	United Kingdom
Bro-Tech Limited	United Kingdom
Ecolab (U.K.) Holdings Limited	United Kingdom
Ecolab GB 1 Limited	United Kingdom
Ecolab Limited	United Kingdom
Ecolab Manufacturing UK Limited	United Kingdom
Enviroflo Engineering Limited	United Kingdom
LHS (UK) Limited	United Kingdom
NALCO ACQUISITION ONE	United Kingdom
NALCO INVESTMENTS U.K. LIMITED	United Kingdom
NALCO LIMITED	United Kingdom
NALCO MANUFACTURING LTD.	United Kingdom
Purolite (Int.) Ltd	United Kingdom
Purolite Ltd	United Kingdom
Shield Holdings Limited	United Kingdom
Shield Medicare Limited	United Kingdom
Technical Textile Services Limited	United Kingdom
Techtex Holdings Limited	United Kingdom
Ecolab S.R.L.	Uruguay
Ecolab S.A.	Venezuela
Ecolab Viet Nam Company Limited	Viet Nam

(1) This subsidiary also conducts business under the assumed name of NALCO Water, An Ecolab Company.

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-275302) and Form S-8 (Registration Nos. (Nos. 2-90702; 33-18202; 33-55986; 33-56101; 333-95043; 333-109890; 33-34000; 33-56151; 333-18627; 333-109891; 33-56125; 333-70835; 33-60266; 333-95041; 333-40239; 333-95037; 333-50969; 333-58360; 333-97927; 333-115567; 333-129427; 333-129428; 333-140988; 333-115568; 333-132139; 333-147148; 333-163837; 333-163838; 333-165130; 333-165132; 333-166646; 333-174028; 333-178300; 333-178302; 333-190317; 333-199730; 333-199732; 333-226534; 333-250090; 333-271653; and 333-250090) and Form S-3 (Registration No. 333-249740) 333-271654) of Ecolab Inc. of our report dated February 24, 2023 February 23, 2024 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP

Minneapolis, Minnesota

February 24, 2023 23, 2024

EXHIBIT (24.1)

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that the undersigned, a director of Ecolab Inc., a Delaware corporation, does hereby make, nominate and appoint CHRISTOPHE BECK, LANESHA T. MINNIX and THERESA E. CORONA, and each of them, to be my attorney-in-fact, with full power and authority to sign his name to the Annual Report on Form 10-K of Ecolab Inc. for the fiscal year ended December 31, 2022 December 31, 2023, and all amendments thereto, provided that the Annual Report and any amendments thereto, in final form, be approved by said attorney-in-fact, and his name, when thus signed, shall have the same force and effect as though I had manually signed said document.

IN WITNESS WHEREOF, I have hereunto affixed my signature this 24 23rd day of February, 2023, 2024.

/s/Shari L. Ballard

Shari L. Ballard

/s/Barbara J. Beck

Barbara J. Beck

/s/Jeffrey M. Ettinger

Jeffrey M. Ettinger

/s/Eric M. Green

Eric M. Green

/s/Arthur J. Higgins

Arthur J. Higgins

/s/Michael Larson

Michael Larson

/s/David W. MacLennan

David W. MacLennan

/s/Tracy B. McKibben

Tracy B. McKibben

/s/Lionel L. Nowell, III

Lionel L. Nowell, III

/s/Victoria J. Reich

Victoria J. Reich

/s/Suzanne M. Vautrinot

Suzanne M. Vautrinot

/s/John J. Zillmer

John J. Zillmer

EXHIBIT (31.1)

CERTIFICATION

I, Christophe Beck, certify that:

1. I have reviewed this annual report on Form 10-K of Ecolab Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

- (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
- (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 24,
2023 February 23, 2024

/s/ Christophe Beck
Christophe Beck
Chief Executive Officer

EXHIBIT (31.2)

CERTIFICATION

I, Scott D. Kirkland, certify that:

1. I have reviewed this annual report on Form 10-K of Ecolab Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

- (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
- (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 24, 2023 February 23, 2024

/s/ Scott D. Kirkland

Scott D. Kirkland
Chief Financial Officer

EXHIBIT (32.1)

SECTION 1350 CERTIFICATIONS

Pursuant to 18 U.S.C. Section 1350, each of the undersigned officers of Ecolab Inc. does hereby certify that:

- (a) the Annual Report on Form 10-K of Ecolab Inc. for the year ended December 31, 2022 December 31, 2023 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (b) information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Ecolab Inc.

Dated: February 24, 2023 February 23, 2024

/s/Christophe Beck

Christophe Beck
Chief Executive Officer

Dated: February 24, 2023 February 23, 2024

/s/Scott D. Kirkland

EXHIBIT (97.1)

ECOLAB INC.

RULE 10D-1 CLAWBACK POLICY

Recoupment of Incentive-Based Compensation

It is the policy of Ecolab Inc.(the "Company") that, in the event the Company is required to prepare an accounting restatement of the Company's financial statements due to material non-compliance with any financial reporting requirement under the federal securities laws (including any such correction that is material to the previously issued financial statements, or that would result in a material misstatement if the error were corrected in the current period or left uncorrected in the current period), the Company will recover on a reasonably prompt basis the amount of any Incentive-Based Compensation Received by a Covered Executive during the Recovery Period that exceeds the amount that otherwise would have been Received had it been determined based on the restated financial statements.

Policy Administration and Definitions

This Policy is administered by the Compensation & Human Capital Management Committee (the "Committee") of the Company's Board of Directors, subject to notification of the independent members of the Board of Directors with respect to application of this Policy to the Company's Chief Executive Officer, and is intended to comply with, and as applicable to be administered and interpreted consistent with, and subject to the exceptions set forth in, Listing Standard 303A.14 adopted by the New York Stock Exchange to implement Rule 10D-1 under the Securities Exchange Act of 1934, as amended (collectively, "Rule 10D-1").

For purposes of this Policy:

"Incentive-Based Compensation" means any compensation granted, earned or vested based in whole or in part on the Company's attainment of a financial reporting measure that was Received by a person (i) on or after October 2, 2023 and after the person began service as a Covered Executive, and (ii) who served as a Covered Executive at any time during the performance period for the Incentive-Based Compensation. A financial reporting measure is (i) any measure that is determined and presented in accordance with the accounting principles used in preparing the Company's financial statements and any measure derived wholly or in part from such a measure, and (ii) any measure based in whole or in part on the Company's stock price or total shareholder return.

Incentive-Based Compensation is deemed to be "Received" in the fiscal period during which the relevant financial reporting measure is attained, regardless of when the compensation is actually paid or awarded.

"Covered Executive" means any "executive officer" of the Company as defined under Rule 10D-1.

"Recovery Period" means the three completed fiscal years immediately preceding the date that the Company is required to prepare the accounting restatement described in this Policy, as determined

pursuant to Rule 10D-1, and any transition period of less than nine months that is within or immediately following such three fiscal years.

If the Committee determines the amount of Incentive-Based Compensation Received by a Covered Executive during a Recovery Period exceeds the amount that would have been Received if determined or calculated based on the Company's restated financial results, such excess amount of Incentive-Based Compensation shall be subject to recoupment by the Company pursuant to this Policy. For Incentive-Based Compensation based on stock price or total shareholder return, the Committee will determine the amount based on a reasonable estimate of the effect of the accounting restatement on the relevant stock price or total shareholder return. In all cases, the calculation of the excess amount of Incentive-Based Compensation to be recovered will be determined without regard to any taxes paid with respect to such compensation. The Company will maintain and will provide to the New York Stock Exchange documentation of all determinations and actions taken in complying with this Policy. Any determinations made by the Committee under this Policy shall be final and binding on all affected individuals.

The Company may effect any recovery pursuant to this Policy by requiring payment of such amount(s) to the Company, by set-off, by reducing future compensation, or by such other means or combination of means as the Committee determines to be appropriate. The Company need not recover the excess amount of Incentive-Based Compensation if and to the extent that the Committee determines that such recovery is impracticable, subject to and in accordance with any applicable exceptions under the New York Stock Exchange listing rules, and not required under Rule 10D-1, including if the Committee determines that the direct expense paid to a third party to assist in enforcing this Policy would exceed the amount to be recovered after making a reasonable attempt to recover such amounts. The Company is authorized to take appropriate steps to implement this Policy with respect to Incentive-Based Compensation arrangements with Covered Executives.

Any right of recoupment or recovery pursuant to this Policy is in addition to, and not in lieu of, any other remedies or rights of recoupment that may be available to the Company pursuant to the terms of any other policy, including the Company's Policy on Reimbursement of Incentive Payments, any employment agreement or plan or award terms, and any other legal remedies available to the Company; provided that the Company shall not recoup amounts pursuant to such other policy, terms or remedies to the extent it is recovered (or provide any advancement of expenses in such instance), including any payment or reimbursement for the cost of third-party insurance purchased by any Covered Executives to fund potential recovery obligations under this Policy. The Company shall not indemnify any Covered Executive against the loss of any Incentive-Based Compensation pursuant to this Policy.

DISCLAIMER

THE INFORMATION CONTAINED IN THE REFINITIV CORPORATE DISCLOSURES DELTA REPORT™ IS A COMPARISON OF TWO FINANCIALS PERIODIC REPORTS. THERE MAY BE MATERIAL ERRORS, OMISSIONS, OR INACCURACIES IN THE REPORT INCLUDING THE TEXT AND THE COMPARISON DATA AND TABLES. IN NO WAY DOES REFINITIV OR THE APPLICABLE COMPANY ASSUME ANY RESPONSIBILITY FOR ANY INVESTMENT OR OTHER DECISIONS MADE BASED UPON THE INFORMATION PROVIDED IN THIS REPORT. USERS ARE ADVISED TO REVIEW THE APPLICABLE COMPANY'S ACTUAL SEC FILINGS BEFORE MAKING ANY INVESTMENT OR OTHER DECISIONS.

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