POLYONE CORP
Form 10-K
February 19, 2019

United States
Securities and Exchange Commission

Washington, DC 20549
FORM 10-K
þ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018
¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to .
Commission file number 1-16091
PolyOne Corporation
(Exact name of registrant as specified in its charter)

Ohio	34-1730488
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)
33587 Walker Road, Avon Lake, Ohio	44012 (Zip Code)
(Address of principal executive offices)	

Registrant's telephone number, including area code (440) 930-1000
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Shares, par value $.01 per share	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 þ No ¨
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ¨ No þ
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 þ 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 þ No ¨
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. þ
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 þ 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 is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ¨ No þ

The aggregate market value of the registrant's outstanding common shares held by non-affiliates on June 29, 2018, determined using a per share closing price on that date of $43.22, as quoted on the New York Stock Exchange, was $3.5 billion.

The number of shares of common shares outstanding as of February 1, 2019 was 77,722,398.

DOCUMENTS INCORPORATED BY REFERENCE

Part III of this Annual Report on Form 10-K incorporates by reference certain information from the registrant's definitive Proxy Statement with respect to the 2019 Annual Meeting of Shareholders.

POLYONE CORPORATION

PART I

CAUTIONARY NOTE ON FORWARD-LOOKING STATEMENTS

In this Annual Report on Form 10-K, statements that are not reported financial results or other historical information are “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements give current expectations or forecasts of future events and are not guarantees of future performance. They are based on management’s expectations that involve a number of business risks and uncertainties, any of which could cause actual results to differ materially from those expressed in or implied by the forward-looking statements. You can identify these statements by the fact that they do not relate strictly to historic or current facts. They use words such as “will,” “anticipate,” “estimate,” “expect,” “project,” “intend,” “plan,” “believe,” and other words and t similar meaning in connection with any discussion of future operating or financial condition, performance and/or sales. In particular, these include statements relating to future actions; prospective changes in raw material costs, product pricing or product demand; future performance; estimated capital expenditures; results of current and anticipated market conditions and market strategies; sales efforts; expenses; the outcome of contingencies such as legal proceedings and environmental liabilities; and financial results. Factors that could cause actual results to differ materially from those implied by these forward-looking statements include, but are not limited to:

- disruptions, uncertainty or volatility in the credit markets that could adversely impact the availability of credit already arranged and the availability and cost of credit in the future;
- the effect on foreign operations of currency fluctuations, tariffs and other political, economic and regulatory risks;
- changes in polymer consumption growth rates and laws and regulations regarding plastics in jurisdictions where we conduct business;
- changes in global industry capacity or in the rate at which anticipated changes in industry capacity come online;
- fluctuations in raw material prices, quality and supply, and in energy prices and supply;
- production outages or material costs associated with scheduled or unscheduled maintenance programs;
- unanticipated developments that could occur with respect to contingencies such as litigation and environmental matters;
- an inability to raise or sustain prices for products or services;
- an inability to achieve or delays in achieving or achievement of less than the anticipated financial benefit from initiatives related to acquisition and integration, working capital reductions, cost reductions and employee productivity goals;
- our ability to pay regular quarterly cash dividends and the amounts and timing of any future dividends;
- our ability to identify and evaluate acquisition targets and consummate and integrate acquisitions;
- information systems failures and cyberattacks; and
- other factors described in this Annual Report on Form 10-K under Item 1A, “Risk Factors.”

We cannot guarantee that any forward-looking statement will be realized, although we believe we have been prudent in our plans and assumptions. Achievement of future results is subject to risks, uncertainties and assumptions. Should known or unknown risks or uncertainties materialize, or should underlying assumptions prove inaccurate, actual results could vary materially from those anticipated, estimated or projected. Investors should bear this in mind as they consider forward-looking statements. We undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events or otherwise, except as otherwise required by law. You are advised, however, to consult any further disclosures we make on related subjects in our reports on Forms 10-Q, 8-K and 10-K filed with the SEC. You should understand that it is not possible to predict or identify all risk factors. Consequently, you should not consider any such list to be a complete set of all potential risks or uncertainties.

ITEM 1. BUSINESS

Business Overview

We are a premier provider of specialized polymer materials, services and solutions with operations in specialty engineered materials, advanced composites, color and additive systems and polymer distribution. We are also a highly specialized developer and manufacturer of performance enhancing additives, liquid colorants and fluoropolymer and silicone colorants. Headquartered in Avon Lake, Ohio, we have employees at sales, manufacturing and distribution facilities in North America, South America, Europe and Asia. When used in this Annual Report on Form 10-K, the terms “we,” “us,” “our”, "PolyOne" and the “Company” mean PolyOne Corporation and its consolidated subsidiaries.

PolyOne was formed on August 31, 2000 from the consolidation of The Geon Company (Geon) and M.A. Hanna Company (Hanna). Geon’s roots date back to 1927 when B.F.Goodrich scientist Waldo Semon produced the first usable vinyl polymer. In 1948, B.F.Goodrich created a vinyl plastic division that was subsequently spun off through a public offering in 1993, creating The Geon Company, a separate publicly-held company. Hanna was formed in 1885 as a privately-held company and became publicly-held in 1927. In the mid-1980s, Hanna began to divest its historic mining and shipping businesses to focus on polymers. Hanna purchased its first polymer company in 1986 and completed its 26th polymer company acquisition in 2000.

PolyOne Corporation is incorporated in Ohio and headquartered in Avon Lake, Ohio. We currently employ approximately 6,900 people and have 74 manufacturing sites and eight distribution facilities in North America, South America, Europe and Asia. We offer more than 35,000 polymer solutions to over 10,000 customers across the globe. In 2018, we had sales of $3.5 billion, approximately 43% of which were to customers outside the United States.

We are able to leverage our polymer and formulation expertise with our operational capabilities, creating an essential link between large chemical producers (our raw material suppliers) and designers, assemblers and processors of plastics (our customers). We believe that our role in the value chain continues to become more vital as our customers increasingly need reliable suppliers with global reach and increasingly effective material-based solutions to improve their products' appeal, performance, differentiation, profitability and competitive advantage. Our goal is to provide customers with specialized materials and solutions through our global footprint, broad market knowledge, technical expertise, product breadth, efficient manufacturing operations, a fully integrated information technology network and raw material procurement leverage. Our end markets include healthcare, transportation, packaging, consumer, building and construction, industrial, wire and cable, electrical and electronics and appliance.

Polymer Industry Overview

Polymers are a class of organic materials that are generally produced by converting natural gas or crude oil derivatives into monomers, such as ethylene, propylene, vinyl chloride and styrene. These monomers are then polymerized into chains called polymers, or plastic resin, such as polyethylene and polypropylene, in their most basic forms. Large petrochemical companies, including some in the petroleum industry, produce a majority of the monomers and base resins because they have direct access to the raw materials needed for production. Monomers make up the majority of the variable cost of manufacturing the base resin. As a result, the cost of a base resin tends to move in tandem with the industry market prices for monomers and the cost of raw materials and energy used during production. Resin selling prices can move in tandem with costs, but are largely driven by supply and demand.

Thermoplastic polymers make up a substantial majority of the resin market and are characterized by their ability to be reshaped repeatedly into new forms after heat and pressure are applied. Thermoplastics offer versatility and a wide range of applications. The major types of thermoplastics include polyethylene, polyvinyl chloride, polypropylene, polystyrene, polyester and a range of specialized engineering resins. Each type of thermoplastic has unique qualities and characteristics that make it appropriate for use in a particular application. Thermoplastic composites include these base resins, but are combined with a structural filler such as glass, wood, carbon or polymer fibers to enhance strength, rigidity and structure. Further performance can be delivered through an engineered thermoplastic sheet or thick film, which may incorporate more than one resin formulation or composite in multiple layers to impart additional properties such as gas barrier, structural integrity and lightweighting.

Thermoplastics and polymer composites are found in a variety of end-use products and markets, including packaging, building and construction, wire and cable, transportation, medical, furniture and furnishings, durable goods, outdoor high performance equipment, electrical and electronics, adhesives, inks and coatings. Each type of thermoplastic resin

has unique characteristics (such as flexibility, strength or durability) suitable for use in a particular end-use application. The packaging industry requires plastics that help keep food fresh and free of contamination while providing a variety of options for product display, and offering advantages in terms of weight and user-friendliness. In the building and construction industry, plastic provides an economical and energy efficient replacement for other traditional materials in piping applications, siding, flooring, insulation, windows and doors, as well as structural and interior or decorative

uses. In the wire and cable industry, thermoplastics and composites serve to protect by providing electrical insulation, flame resistance, durability, water resistance, water swelling and color coding to engineered fibers, yarn products, wire coatings and connectors. In the transportation industry, plastic has proven to be durable, lightweight and corrosion resistant while offering fuel savings, design flexibility and high performance, often replacing traditional materials such as metal and glass. In the medical industry, plastics are used for a vast array of devices and equipment, including blood and intravenous bags, medical tubing, catheters, lead replacement for radiation shielding, clamps and connectors to bed frames, curtains and sheeting, electronic enclosures and equipment housings. In the outdoor high performance industry, plastic applications are used for components and colorants for all terrain vehicles and reinforced polymers are used for various outdoor activities. In the electronics industry, plastic enclosures and connectors not only enhance safety through electrical insulation, but thermally and electrically conductive plastics provide heat transferring, cooling, antistatic, electrostatic discharge, and electromagnetic shielding performance for critical applications including integrated circuit chip packaging.

Various additives can be formulated with a base resin and further engineered into a structure to provide them with greater versatility and performance. Polymer formulations and structures have advantages over metals, wood, rubber, glass and other traditional materials, which have resulted in the replacement of these materials across a wide spectrum of applications that range from automobile parts to construction materials. These specialized polymers offer advantages compared to traditional materials that include design freedom, processability, weight reduction, chemical resistance, flame retardance and lower cost. Plastics are renowned for their durability, aesthetics, ease of handling and recyclability.

PolyOne Segments

We operate in four reportable segments: (1) Color, Additives and Inks; (2) Specialty Engineered Materials; (3) Performance Products and Solutions; and (4) Distribution. Previously, PolyOne had five reportable segments. However, as a result of the divestiture of the Designed Structures & Solutions segment (DSS) on July 19, 2017, we have removed DSS as a separate operating segment and its results are presented as a discontinued operation. Historical information has been retrospectively adjusted to reflect these changes. Please see Note 3, Discontinued Operations, to the accompanying consolidated financial statements for additional information.

Our segments are further detailed in Note 14, Segment Information, to the accompanying consolidated financial statements.

Competition

The production of plastics and the manufacturing of custom and proprietary formulated color and additives systems for the plastics industry are highly competitive. Competition is based on service, performance, product innovation, product recognition, speed, delivery, quality and price. The relative importance of these factors varies among our products and services. We believe that we are the largest independent formulator of plastic materials and producer of custom and proprietary color and additive systems in the United States and Europe, with a growing presence in Asia and South America. Our competitors range from large international companies with broad product offerings to local independent custom producers whose focus is a specific market niche or product offering.

The distribution of polymer resin is also highly competitive. Speed, service, reputation, product line, brand recognition, delivery, quality and price are the principal factors affecting competition. We compete against other national independent resin distributors in North America, along with other regional distributors. Growth in the polymer distribution market is highly correlated with growth in the base polymer resins market. We believe that the strength of our company name and reputation, the broad range of product offerings from our suppliers and our speed and responsiveness, combined with the quality of products and agility of our distribution network, allow us to compete effectively.

Raw Materials

The primary raw materials used by our manufacturing operations are polyolefin and other thermoplastic resins, polyvinyl chloride (PVC) resin, plasticizers, inorganic and organic pigments, all of which we believe are in adequate supply. Oxy Vinyls LP sells PVC to PolyOne under terms of a Resin Purchase Agreement that expires on December 31, 2020. The agreement requires PolyOne to purchase a majority of its annual requirements in North America from Oxy Vinyls LP. This contract provides a year-by-year evergreen renewal provision, unless terminated by either party

with a one-year advance notice. We believe this contract assures the availability of adequate amounts of PVC resin. We also believe that the pricing under this contract provides PVC resin to PolyOne at a competitive price. See the discussion of risks associated with raw material supply and costs in Item 1A, “Risk Factors”.

Patents and Trademarks

We own and maintain a number of patents and trademarks in the United States and other key countries that contribute to our competitiveness in the markets we serve because they protect our inventions and product names against infringement by others. Patents exist for 20 years from filing date, and trademarks have an indefinite life based upon continued use. While we view our patents and trademarks to be valuable because of the broad scope of our products and services and brand recognition we enjoy, we do not believe that the loss or expiration of any single patent or trademark would have a material adverse effect on our results of operations, financial position or cash flows. Nevertheless, we have management processes designed to rigorously protect our inventions and trademarks.

Seasonality and Backlog

Sales of our products and services are seasonal as demand is generally slower in the first and fourth calendar quarters of the year. Because of the nature of our business, we do not believe that our backlog is a meaningful indicator of the level of our present or future business.

Working Capital Practices

Our products are generally manufactured with a short turnaround time, and the scheduling of manufacturing activities from customer orders generally includes enough lead time to assure delivery of an adequate supply of raw materials. We offer payment terms to our customers that are competitive. We generally allow our customers to return merchandise if pre-agreed quality standards or specifications are not met; however, we employ quality assurance practices that seek to minimize customer returns. Our customer returns are immaterial.

Significant Customers

No customer accounted for more than 3% of our consolidated revenues in 2018, and we do not believe we would suffer a material adverse effect to our consolidated financial statements if we were to lose any single customer.

Research and Development

We have substantial technology and development capabilities. Our efforts are largely devoted to developing new product formulations to satisfy defined market needs, by providing quality technical services to evaluate alternative raw materials, assuring the continued success of our products for customer applications, providing technology to improve our products, processes and applications and providing support to our manufacturing plants for cost reduction, productivity and quality improvement programs. We operate research and development centers that support our commercial development activities and manufacturing operations. These facilities are equipped with state-of-the-art analytical, synthesis, polymer characterization and testing equipment, along with pilot plants and polymer manufacturing operations that simulate specific production processes that allow us to rapidly translate new technologies into new products. Our investment in product research and development was $56.3 million in 2018, $52.1 million in 2017 and $50.4 million in 2016.

Methods of Distribution

We sell products primarily through direct sales personnel, distributors, including our Distribution segment, and commissioned sales agents. We primarily use truck carriers to transport our products to customers, although some customers pick up product at our manufacturing facilities or warehouses. We also ship some of our manufactured products to customers by rail.

Employees

In September 2018, the Great Place to Work Institute certified PolyOne as a Great Place to Work® in the U.S. based on a comparison of our employees' survey responses to those of employees at hundreds of other certified companies. We believe this reflects our commitment to better serving our associates, customers and communities, as well as further advancing our sustainability initiatives.

As of December 31, 2018, we employed approximately 6,600 people. Approximately 2% of our employees are represented by labor unions under collective bargaining agreements. We believe that relations with our employees are good, and we do not anticipate significant operating issues to occur as a result of current negotiations, or when we renegotiate collective bargaining agreements as they expire.

Environmental, Health and Safety

We are subject to various environmental laws and regulations that apply to the production, use and sale of chemicals, emissions into the air, discharges into waterways and other releases of materials into the environment and the generation, handling, storage, transportation, treatment and disposal of waste material. We endeavor to ensure the safe and lawful operation of our facilities in the manufacture and distribution of products, and we believe we are in material compliance with all applicable laws and regulations.

We maintain a disciplined environmental and occupational safety and health compliance program and conduct periodic internal and external regulatory audits at our facilities to identify and correct potential environmental exposures, including compliance matters and operational risk reduction opportunities. This effort can result in process or operational modifications, the installation of pollution control devices or cleaning up grounds or facilities. We believe that we are in material compliance with all applicable requirements.

We are strongly committed to safety as evidenced by our record-low injury incidence rate of 0.51 per 100 full-time workers per year in 2018 and 0.69 in 2017. The 2017 average injury incidence rate for our NAICS Code (326 Plastics and Rubber Products Manufacturing) was 3.9. We hold the American Chemistry Council's certification as a Responsible Care Management System® (RCMS) company. Certification was granted based on PolyOne's conformance to the RCMS's comprehensive environmental health, safety and security requirements. The RCMS certification affirms the importance PolyOne places on having world-class environmental, health, safety and security performance.

In January 2019, PolyOne, along with 29 other member companies located throughout North America, South America, Europe, Asia, Africa and the Middle East, joined together as founding members of the Alliance to End Plastic Waste (AEPW). The AEPW has thus far committed over $1.0 billion to help end plastic waste in the environment. The AEPW intends to develop and bring to scale solutions expected to minimize and manage plastic waste and promote solutions for used plastics by helping enable a circular economy. Our commitment to AEPW confirms the importance we place on being a global leader in all aspects of how we define sustainability: people, products, planet and performance.

In our operations, we must comply with product-related governmental law and regulations affecting the plastics industry generally and also with content-specific law, regulations and non-governmental standards. We believe that compliance with current governmental laws and regulations and with non-governmental content-specific standards will not have a material adverse effect on our financial position, results of operations or cash flows. The risk of additional costs and liabilities, however, is inherent in certain plant operations and certain products produced at these plants, as is the case with other companies in the plastics industry. Therefore, we may incur additional costs or liabilities in the future. Other developments, such as increasingly strict environmental, safety and health laws, regulations and related enforcement policies, including those under the Restrictions on the Use of Certain Hazardous Substances (RoHS), Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), the Dodd-Frank Wall Street Reform and Consumer Protection Act (covering Conflict Minerals), and the Consumer Product Safety Improvement Act, the implementation of additional content-specific standards, discovery of unknown conditions, and claims for damages to property, persons or natural resources resulting from plant emissions or products, could also result in additional costs or liabilities.

We incurred environmental expenses, before insurance recoveries, of $23.2 million in 2018, $14.8 million in 2017 and $8.3 million in 2016. The increase in environmental expense is primarily due to arbitration related to potential recoveries of previously incurred costs from third parties and insurance carriers. In 2018, 2017 and 2016, we recognized gains associated with insurance recoveries of $4.3 million, $9.1 million and $6.1 million, respectively, as reimbursement of previously incurred environmental remediation costs.

We also conduct investigations and remediation at certain of our active and inactive facilities and have assumed responsibility for the resulting environmental liabilities from operations at certain sites we, or our predecessors, formerly owned or operated. With respect to the former Goodrich Corporation Calvert City site, the United States Environmental Protection Agency (USEPA) issued its Record of Decision (ROD) in September 2018, selecting a remedy consistent with our accrual assumptions. In October 2018, the USEPA sent a letter to the respondents inviting negotiation of an agreement to conduct the remedial design; that negotiation is ongoing. Our current reserve of $103.3

million is consistent with the USEPA's estimates contained in the ROD. Environmental reserves for all other sites totaled $10.8 million as of December 31, 2018, covering probable future environmental expenditures that we can reasonably estimate related to previously contaminated sites, other third-party liabilities, alleged contributions of contamination and contractual indemnification of other parties. This amount represents our best estimate of probable costs, based upon the information and technology currently available. We continue to pursue available insurance coverage related to all matters and recognize gains as we receive reimbursement. No receivable has been recognized for future recoveries.

Refer to Note 11, Commitments and Contingencies, to the accompanying consolidated financial statements for further discussion of the Calvert City site and our overall environmental liability.

We expect 2019 cash environmental expenditures to approximate $10.0 million.

International Operations

Our international operations are subject to a variety of risks, including currency fluctuations and devaluations, exchange controls, currency restrictions and changes in local economic conditions. While the impact of these risks is difficult to predict, any one or more of them could adversely affect our future operations. For more information about the noted risks, see Item 1A. Risk Factors. For more information about our international operations, see Note 14, Segment Information, to the accompanying consolidated financial statements.

Where You Can Find Additional Information

Our principal executive offices are located at 33587 Walker Road, Avon Lake, Ohio 44012, and our telephone number is (440) 930-1000. We are subject to the information reporting requirements of the Exchange Act, and, in accordance with these requirements, we file annual, quarterly and other reports, proxy statements and other information with the SEC relating to our business, financial results and other matters. The reports, proxy statements and other information we file are available to the public at the SEC's website at http://www.sec.gov.

Our Internet address is www.polyone.com. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act are available, free of charge, on our website (www.polyone.com, select Investors and then SEC Filings) or upon written request, as soon as reasonably practicable after we electronically file or furnish them to the SEC. The contents of our website are not part of this Annual Report on Form 10-K, and the reference to our website does not constitute incorporation by reference into this Form 10-K of the information contained at that site.

ITEM 1A. RISK FACTORS

The following are certain risk factors that could affect our business, results of operations, financial position or cash flows. These risk factors should be considered along with the forward-looking statements contained in this Annual Report on Form 10-K because these factors could cause our actual results or financial condition to differ materially from those projected in forward-looking statements. The following discussion is not an all-inclusive listing of risks, although we believe these are the more material risks that we face. If any of the following occur, our business, results of operations, financial position or cash flows could be adversely affected.

Demand for and supply of our products and services may be adversely affected by several factors, some of which we cannot predict or control.

Several factors may affect the demand for and supply of our products and services, including:

- economic downturns or other volatility in the significant end markets that we serve;
- product obsolescence or technological changes that unfavorably alter the value/cost proposition of our products and services;
- competition from existing and unforeseen polymer and non-polymer based products;
- declines in general economic conditions or reductions in industrial production growth rates, both domestically and globally, which could impact our customers' ability to pay amounts owed to us;
- changes in environmental regulations that would limit our ability to sell our products and services in specific markets;
- changes in laws and regulations regarding plastic materials; and
- inability to obtain raw materials or supply products to customers due to factors such as supplier work stoppages, supply shortages, plant outages or regulatory changes that may limit or prohibit overland transportation of certain hazardous materials and exogenous factors, like severe weather.

If any of these events occur, the demand for and supply of our products and services could suffer and potentially lead to asset impairment or otherwise adversely affect our results.

Our manufacturing operations are subject to hazards and other risks associated with polymer production and the related storage and transportation of raw materials, products and wastes.

The occurrence of an operating problem at our facilities (e.g., an explosion, mechanical failure, chemical spills or discharges) may have a material adverse effect on the productivity and profitability of a particular manufacturing or distribution facility or on our operations as a whole, during and after the period of these operating difficulties. Operating problems may cause personal injury and/or loss of life, customer attrition and severe damage to or

destruction of

property and equipment and environmental damage. We are subject to present claims and potential future claims with respect to workplace exposure, workers' compensation and other matters. Our property and casualty insurance, which we believe is of the types and in the amounts that are customary for the industry, may not fully insure us against all potential hazards that are incident to our business or otherwise could occur.

Environmental, health and safety laws and regulations impact our operations and financial statements.

Our operations on, and ownership of, real property are subject to environmental, health and safety laws and regulations at the national, state and local governmental levels (including, but not limited to, the Restrictions on the Use of Certain Hazardous Substances and the Consumer Product Safety Information Act of 2008). The nature of our business exposes us to compliance costs and risks of liability under these laws and regulations due to the production, storage, transportation, recycling or disposal and/or sale of materials that can cause contamination and other harm to the environment or personal injury if they are improperly handled and released. Environmental compliance requirements on us and our vendors may significantly increase the costs of these activities involving raw materials, energy, finished products and wastes. We may incur substantial costs, including fines, criminal or civil sanctions, damages, remediation costs or experience interruptions in our operations for violations of these laws.

Our operations could be adversely affected by various risks inherent in conducting operations worldwide.

Our operations are subject to risks; including, but not limited to, the following:

- changes in local government regulations and policies including, but not limited to duty or tariff restrictions, foreign currency exchange controls or monetary policy, repatriation of earnings, expropriation of property, investment limitations and tax policies;
- risks associated with the withdrawal of the United Kingdom (UK) from the European Union (EU), commonly known as "Brexit";
- political and economic instability and disruptions, including labor unrest, civil strife, acts of war, guerrilla activities, insurrection and terrorism;
- legislation that regulates the use of chemicals;
- disadvantages of competing against companies from countries that are not subject to U.S. laws and regulations, including the Foreign Corrupt Practices Act (FCPA) and the U.K. Bribery Act;
- compliance with international trade laws and regulations, including export control and economic sanctions;
- difficulties in staffing and managing multi-national operations;
- limitations on our ability to enforce legal rights and remedies;
- reduced protection of intellectual property rights;
- other risks arising out of foreign sovereignty over the areas where our operations are conducted; and
- increasingly complex laws and regulations concerning privacy and data security, including the European Union's General Data Protection Regulation.

On June 23, 2016, the UK held a referendum in which UK voters approved an exit from the EU. The June 2016 referendum result, and the subsequent commencement of the official withdrawal process by the UK government in March 2017, has created uncertainties affecting business operations in the UK and the EU. The long-term nature of the UK's relationship with the EU is unclear and there is considerable uncertainty when any relationship will be agreed and implemented. The long term effects of Brexit will depend on any agreements the UK makes to retain access to EU markets, either during a transitional period or more permanently. Given the lack of comparable precedent, it is unclear what financial, trade and legal implications the withdrawal of the UK from the EU would have and how such withdrawal would affect us. It is possible that the withdrawal could, among other things, affect the legal and regulatory environments to which our businesses are subject, impact trade between the UK and the EU through potential restrictions on the free movement of goods and labor between the UK and the EU, create economic and political uncertainty in the region, and create other impediments to our ability to transact within and between the UK and EU. Less than 2% of our total consolidated sales originated in the UK and shipped to the EU for the year ended December 31, 2018.

In addition, we could be adversely affected by violations of the FCPA, U.K Bribery Act and similar worldwide anti-bribery laws as well as export controls and economic sanction laws. The FCPA, U.K. Bribery Act and similar

anti-bribery laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to non-U.S. officials for the purpose of obtaining or retaining business. Our policies mandate compliance with these

laws. We operate in many parts of the world that have experienced governmental corruption to some degree and, in certain circumstances, strict compliance with anti-bribery laws may conflict with local customs and practices. We cannot assure you that our internal controls and procedures will always protect us from the reckless or criminal acts committed by our employees or agents. If we are found to be liable for FCPA, U.K Bribery Act, export control or sanction violations, we could suffer from criminal or civil penalties or other sanctions, including loss of export privileges or authorization needed to conduct aspects of our international business, which could have a material adverse effect on our business.

Any of these risks could have an adverse effect on our international operations by reducing demand for our products.

Natural gas, electricity, fuel, logistics and raw material costs could cause volatility in our results.

The cost of our natural gas, electricity, fuel, logistics and raw materials, may not correlate with changes in the prices we receive for our products, either in the direction of the price change or in absolute magnitude. Natural gas and raw materials costs represent a substantial part of our manufacturing costs. Most of the raw materials we use are commodities and the price of each can fluctuate widely for a variety of reasons, including changes in availability because of major capacity additions or reductions or significant facility operating problems. Other external factors beyond our control can also cause fluctuations in raw materials prices, which could negatively impact demand for our products and cause volatility in our results.

We face competition from other companies and customers' in-house production.

We encounter competition in price, payment terms, delivery, service, performance, product innovation, product recognition and quality, depending on the product involved.

We expect that our competitors will continue to develop and introduce new and enhanced products, which could cause a decline in the market acceptance of our products. In addition, our competitors could cause a reduction in the selling prices of some of our products as a result of intensified price competition. Competitive pressures can also result in the loss of customers.

Increased information systems security threats and more sophisticated and targeted computer crime could pose a risk to our systems, networks and products, which could harm our business.

We depend on integrated information systems to conduct our business. Increased global information systems security threats and more sophisticated and targeted computer crime pose a risk to the security of our systems and networks and the confidentiality, availability and integrity of our data and communications. Our systems, networks and products may be vulnerable to advanced persistent threats or other types of system failures. Depending on their nature and scope, such threats and system failures could potentially lead to the compromising of confidential information and communications, improper use of our systems and networks, manipulation and destruction of data, defective products, production downtimes and operational disruptions, which in turn could cause customers to cancel orders or otherwise adversely affect our reputation, competitiveness and results of operations.

Disruptions in the global credit, financial and/or currency markets could limit our access to credit or otherwise harm our financial results, which could have a material adverse impact on our business.

Global credit and financial markets experience volatility, including volatility in security prices, liquidity and credit availability, declining valuations of certain investments and significant changes in the capital and organizational structures of certain financial institutions. Market conditions may limit our ability to access the capital necessary to grow and maintain our business. Accordingly, we may be forced to delay raising capital, issue shorter tenors than we prefer or pay unattractive interest rates, which could increase our interest expense, decrease our profitability and significantly reduce our financial flexibility.

We are exposed to fluctuations in foreign currency exchange rates. Any significant change in the value of the currencies of the countries in which we do business against the U.S. dollar, whether precipitated by governmental monetary policy or otherwise, could affect our ability to sell products competitively and control our cost structure, which could have a material adverse effect on our business, financial condition and results of operations. For additional detail related to this risk, see Item 7A, "Quantitative and Qualitative Disclosure About Market Risk."

The agreements governing our debt, including our revolving credit facility, term loan and other debt instruments, contain various covenants that limit our ability to take certain actions and also require us to meet financial maintenance tests, failure to comply with which could have a material adverse effect on us.

The agreements governing our senior secured revolving credit facility and our senior secured term loan, and the indentures and credit agreements governing other debt, contain a number of customary restrictive covenants that, among other things, limit our ability to: sell or otherwise transfer assets, including in a spin-off, incur additional debt or liens, consolidate or merge with any entity or transfer or sell all or substantially all of our assets, pay dividends or make

certain other restricted payments, make investments, enter into transactions with affiliates, create dividend or other payment restrictions with respect to subsidiaries, make capital investments and alter the business we conduct.

In addition, certain of these agreements require us to comply under certain circumstances with specific financial tests, under which we are required to achieve certain or specific financial and operating results. Our ability to comply with these provisions may be affected by events beyond our control. A breach of any of these covenants would result in a default under such agreements and instruments, which in certain circumstances could be a default under all of these agreements and instruments. In the event of any default, our lenders could elect to declare all amounts borrowed under the agreements, together with accrued interest thereon, to be due and payable. In such event, we cannot assure that we would have sufficient assets to pay debt then outstanding under the agreements governing our debt.

Furthermore, certain of these agreements condition our ability to obtain additional borrowing capacity, engage in certain transactions or take certain other actions, on our achievement of certain or specific financial and operating results, although our failure to achieve such results would not result in a default under such agreements. Any future refinancing of the revolving credit facility or other debt may contain similar restrictive covenants.

To service our indebtedness, we will require a significant amount of cash. Our ability to generate cash depends on many factors beyond our control.

Our ability to pay interest on our debt and to satisfy our other debt obligations will depend in part upon our future financial and operating performance and that of our subsidiaries and upon our ability to renew or refinance borrowings. Prevailing economic conditions and financial, business, competitive, legislative, regulatory and other factors, many of which are beyond our control, will affect our ability to make these payments. While we believe that cash flow from our current level of operations, available cash and available borrowings under our revolving credit facilities provide adequate sources of liquidity, a significant drop in operating cash flow resulting from economic conditions, competition or other uncertainties beyond our control could create the need for alternative sources of liquidity. If we are unable to generate sufficient cash flow to meet our debt service obligations, we will have to pursue one or more alternatives, such as reducing or delaying capital or other expenditures, refinancing debt, selling assets, or raising equity capital.

We have a significant amount of goodwill, and any future goodwill impairment charges could adversely impact our results of operations.

As of December 31, 2018, we had goodwill of $650.3 million. The future occurrence of a potential indicator of impairment, such as a significant adverse change in business climate, an adverse action or assessment by a regulator, unanticipated competition, a material negative change in relationships with customers, strategic decisions made in response to economic or competitive conditions, loss of key personnel or a more-likely-than-not expectation that a reporting unit or a significant portion of a reporting unit will be sold or disposed of, could result in goodwill impairment charges, which could adversely impact our results of operations. We have recorded goodwill impairment charges in the past, and such charges materially impacted our historical results of operations and financial condition. Based on our 2018 goodwill impairment test, performed as of October 1, 2018, no reporting units were identified as being at risk of future impairment. For additional information, see Note 4, Goodwill and Intangible Assets, to the accompanying consolidated financial statements and “Critical Accounting Policies” included in Item 7, "Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Headquartered in Avon Lake, Ohio we operate globally with principal locations consisting of 74 manufacturing sites and eight distribution facilities in North America, South America, Europe and Asia. We own the majority of our manufacturing sites and lease our distribution facilities. We believe that the quality and production capacity of our facilities is sufficient to maintain our competitive position for the foreseeable future. The following table identifies the principal facilities of our segments:

Performance Products and Solutions	Specialty Engineered Materials	Color, Additives and Inks		Distribution
1. Carson, California	1. Birmingham, Alabama	1. Glendale, Arizona	25. Tianjin, China	1. Rancho Cucamonga,
2. Terre Haute, Indiana	2. Englewood, Colorado	2. Phoenix, Arizona	26. Tabor, Czech Republic	California
3. Louisville, Kentucky	3. Montrose, Colorado	3. Fort Smith, Arkansas	27. Odkarby, Finland	2. Chicago, Illinois
4. Lockport, New York	4. North Haven, Connecticut	4. Bethel, Connecticut	28. Cergy, France	3. Eagan, Minnesota
5. Avon Lake, Ohio	5. McHenry, Illinois	5. Kennesaw, Georgia	29. Tossiat, France	4. Edison, New Jersey
6. Clinton, Tennessee	6. Winona, Minnesota	6. Elk Grove Village, Illinois	30. Diez, Germany	5. Statesville, North
7. Dyersburg, Tennessee	7. Hickory, North Carolina	7. La Porte, Indiana	31. Gyor, Hungary	Carolina
8. Pasadena, Texas	8. Avon Lake, Ohio	8. St. Louis, Missouri	32. Pune, India	6. Elyria, Ohio
9. Seabrook, Texas	9. Hatfield, Pennsylvania	9. Pineville, North Carolina	33. Milan, Italy	7. La Porte, Texas
10. Orangeville, Ontario,	10. Changzhou, China	10. Berea, Ohio	34. Toluca, Mexico	8. Brampton, Ontario,
Canada	11. Shenzhen, China	11. Massillon, Ohio	35. Eindhoven, Netherlands	Canada
11. St. Remi de Napierville,	12. Suzhou, China	12. North Baltimore, Ohio	36. Lima, Peru	(8 Distribution Facilities)
Quebec, Canada	14. Gaggenau, Germany	13. Norwalk, Ohio	37. Kutno, Poland	
12. Dongguan, China	15. Melle, Germany	14. Lehigh, Pennsylvania	38. Jeddah, Saudi Arabia	
13. Ramos Arizpe, Mexico	16. Leeuwarden, Netherlands	15. Mountain Top,	39. Alicante, Spain	
(13 Manufacturing Plants)	17. Barbastro, Spain	Pennsylvania	40. Barcelona, Spain	
	18. Istanbul, Turkey	16. Vonore, Tennessee	41. Pamplona, Spain	
	19. Leek, United Kingdom	17. Richland Hills, Texas	42. Bangkok, Thailand	
	Dyersburg, Tennessee (1)	18. Assesse, Belgium	43. Knowsley, United	
	Seabrook, Texas (1)	19. Itupeva, Brazil	Kingdom	
	Shanghai, China (2)	20. Novo Hamburgo, Brazil	Suwanee, Georgia (2)	
	Pune, India (1)	21. Pudong (Shanghai),	Shenzhen, China (1)	

(18 Manufacturing Plants)	China	Pamplona, Spain [2]
	22. & 23. Shanghai, China [3]	(43 Manufacturing Plants)
	24. Suzhou, China	

(1) Facility is not included in manufacturing plants total as it is also included as part of another segment.
(2) Facility is not included in manufacturing plants total as it is a design center/lab.
(3) There are two manufacturing plants located at Shanghai, China

ITEM 3. LEGAL PROCEEDINGS

Information regarding other legal proceedings can be found in Note 11, Commitments and Contingencies, to the accompanying consolidated financial statements and is incorporated by reference herein.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

EXECUTIVE OFFICERS OF THE REGISTRANT

Executive officers are elected by our Board of Directors to serve one-year terms. The following table lists the name of each person serving as an executive officer of the Company, their age, and position with the Company as of February 1, 2019.

Name	Age	Position
Robert M. Patterson	46	Chairman, President and Chief Executive Officer
Bradley C. Richardson	60	Executive Vice President, Chief Financial Officer
Mark D. Crist	60	Senior Vice President, President of Color, Additives and Inks
Michael A. Garratt	55	Senior Vice President, Chief Commercial Officer
J. Scott Horn	63	Senior Vice President, President of Distribution
Lisa K. Kunkle	50	Senior Vice President, General Counsel and Secretary
M. John Midea, Jr.	54	Senior Vice President, Global Operations and Process Improvement
Chris L. Pederson	52	Senior Vice President, President of Specialty Engineered Materials
Joel R. Rathbun	46	Senior Vice President, Mergers & Acquisitions
João José San Martin Neto	58	Senior Vice President, Chief Human Resources Officer
Donald K. Wiseman	51	Senior Vice President, President of Performance Products and Solutions

Robert M. Patterson: Chairman, President and Chief Executive Officer, May 2016 to date. President and Chief Executive Officer, May 2014 to May 2016. Executive Vice President and Chief Operating Officer, March 2012 to May 2014. Executive Vice President and Chief Financial Officer, January 2011 to March 2012. Senior Vice President and Chief Financial Officer, May 2008 to January 2011. Vice President and Treasurer of Novelis, Inc. (an aluminum rolled products manufacturer) from 2007 to May 2008. Vice President, Controller and Chief Accounting Officer of Novelis from 2006 to 2007. Mr. Patterson served as Vice President and Segment Chief Financial Officer, Thermal and Flow Technology Segments of SPX Corporation (a multi-industry manufacturer and developer) from 2005 to 2006 and as Vice President and Chief Financial Officer, Cooling Technologies and Services of SPX from 2004 to 2005.

Bradley C. Richardson: Executive Vice President, Chief Financial Officer, November 2013 to date. Executive Vice President, Chief Financial Officer of Diebold, Incorporated (an integrated self-service delivery manufacturer for the banking industry and security systems) from November 2009 through November 2013. Executive Vice President, Corporate Strategy and Chief Financial Officer at Modine Manufacturing Company (a manufacturer of thermal management systems and components) from 2003 to 2009. Vice President, Performance Management Planning and Control, Chief Financial Officer, Upstream, BP Amoco, London, (a producer of oil, natural gas, and petro chemicals) from 2000 to 2003. Mr. Richardson serves on the Board of Directors of Brady Corporation and is Chair of its Audit Committee.

Mark D. Crist: Senior Vice President, President of Color, Additives and Inks, July 2017 to date. Senior Vice President, President of Distribution, June 2014 to July 2017. Vice President, Global Key Accounts and Vice President of Asia January 2012 to May 2014. Global Commercial Director of Geon Performance Materials, June 2008 to December 2011. General Manager, Nalco Chemical Company Europe (a manufacturer of specialty chemicals, services and systems) from April 2006 to March 2008. General Manager, Nalco Chemical Company North America from June 2003 to March 2006.

Michael A. Garratt: Senior Vice President, Chief Commercial Officer, April 2016 to date. Senior Vice President, President of Performance Products and Solutions, September 2013 to April 2016. President, Marmon Utility (a manufacturer of medium-high voltage utility, subsea and down-hole power cables and molded insulator systems) from March 2011 to September 2013. Chief Operating Officer, Excel Polymers (a custom thermoset rubber formulator) from November 2009 to December 2010. Vice President and General Manager - Americas Compounding and Performance Additives, Excel Polymers from March 2009 to November 2009. Vice President and General Manager - Industrial and Consumer, Excel Polymers from December 2005 to March 2009. From April 1996 to June 2005, Mr. Garratt worked for DuPont Dow Elastomers, a joint venture of Dupont and Dow (global manufacturers of engineered thermoset rubber and thermoplastic elastomer materials) in market development and product management positions, culminating in a regional commercial leadership role for Europe, the Middle East and Africa.

J. Scott Horn: Senior Vice President, President of Distribution, July 2017 to date. General Manager, Distribution, 2000 to July 2017. Vice President of M.A. Hanna Resin Distribution from 1995 to 2000, when PolyOne was formed. President, Fiberchem, Inc. (a leading regional distributor of thermoplastic and thermoset resins) from 1991, upon acquisition of Fiberchem by PolyOne's predecessor, M.A. Hanna Company, to 1995. Mr. Horn worked in various roles of increasing responsibility at Fiberchem from 1981 to 1991.

Lisa K. Kunkle: Senior Vice President, General Counsel and Secretary, May 2015 to date. Vice President, General Counsel and Secretary, August 2007 to May 2015, Assistant General Counsel February 2007 to August 2007. Partner, Jones Day (a global law firm) from January 2006 to February 2007. Associate, Jones Day from August 1995 to January 2006.

M. John Midea, Jr.: Senior Vice President, Global Operations and Process Improvement, February 2015 to date. President and Chief Executive Officer, Resco Products (a refractory products company) from August 2012 to October 2014. President and Chief Operating Officer, Ennis Traffic Safety Solutions (a traffic safety and infrastructure company) from June 2008 to July 2012. Vice President, North American - General Industrial, Valspar Corporation (a manufacturer of paints and coatings) from June 2007 to May 2008. Vice President and General Manager, Power Coatings, Valspar Corporation from February 2002 to June 2007.

Chris L. Pederson: Senior Vice President, President of Specialty Engineered Materials, November 2018 to date. Vice President, Strategy, Hexcel Corporation (a global leader in advanced composites technology) from March 2017 to November 2018. Vice President, Aerospace of Cytec Engineered Materials (a producer of specialty bonding adhesives and composite materials) from November 2009 to February 2016. Vice President, Research and Development of Cytec from January 2004 to November 2009. Mr. Pederson served as a Senior Engineer at Boeing (a global aerospace company) from 1992 to 2001.

Joel R. Rathbun: Senior Vice President, Mergers and Acquisitions, January 2016 to date. General Manager, Specialty Engineered Materials North America, February 2013 to January 2016. Vice President, Mergers and Acquisitions, June 2011 to February 2013. Mr. Rathbun served as Senior Vice President, Mergers and Acquisitions, Moelis & Company (an American global independent investment bank) from January 2008 to June 2011. He also served as Executive Director, Mergers and Acquisitions of CIBC World Markets (an investment bank in the domestic and international equity and debt capital markets) from 2006 to 2008.

João José San Martin Neto: Senior Vice President, Chief Human Resources Officer, November 2016 to date. Senior Director, Human Resources, Color, Additives and Inks, February 2013 to November 2016. Group Global Director, Human Resources, Engineered Products and Solutions from November 2012 to February 2013. Vice President Human Resources, Alcoa Power and Propulsion (a business unit of Alcoa Inc. specializing in titanium and aluminum castings) from May 2009 to October 2012. Vice President Human Resources, Alcoa Electrical & Electronic Solutions (a business unit of Alcoa Inc. specializing in the design, development and production of electrical and electronic distribution systems) from August 2003 to April 2009.

Donald K. Wiseman: Senior Vice President, President of Performance Products and Solutions, April 2016 to date. General Manager of Geon Performance Materials, September 2015 to April 2016. Prior to PolyOne, he worked at Johns Manville (a manufacturer of insulation, roofing materials and engineered products), where he had responsibility for its Performance Materials business from December 2013 to September 2015. Managing Director, Cabot Microelectronics Corporation (a provider of chemical mechanical planarization solutions) from June 2012 to December 2013. Global Business Director, Cabot Microelectronics Corporation from June 2007 to June 2012. Vice President of Operations, Michelman (a manufacturer of advanced materials used in coatings, printing & packaging and industrial markets) from May 2005 to June 2007.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common shares, at $0.01 par value per share, are traded on the New York Stock Exchange under the symbol "POL".

As of February 1, 2019, there were 1,781 holders of record of our common shares.

We currently have an authorized common share repurchase program. For the full year 2018, we repurchased 3.4 million common shares at a weighted average share price of $37.01. During the three months ended December 31, 2018, we repurchased 2.1 million common shares as shown in the table below.

Period	Total Number of Shares Purchased	Weighted Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Maximum Number of Shares that May Yet be Purchased Under the Program[(1)]
October 1 to October 31	792,446	$ 31.76	792,446	4,444,140
November 1 to November 30	1,336,668	$ 33.55	1,336,668	3,107,472
December 1 to December 31	—	—	—	3,107,472
Total	2,129,114	$ 32.91	2,129,114	

(1) On August 18, 2008, we announced that our Board of Directors approved a common share repurchase program authorizing PolyOne to purchase up to 10.0 million of its common shares. On October 11, 2011 and October 23, 2012, we further announced that our Board of Directors had increased the common share repurchase authorization by an additional 5.3 million and 13.2 million, respectively. On May 16, 2016, we announced that we would increase our share buyback by 7.3 million to 10.0 million. As of December 31, 2018, approximately 3.1 million shares remained available for purchase under these authorizations. Purchases of common shares may be made by open market purchases or privately negotiated transactions and may be made pursuant to Rule 10b5-1 plans and accelerated share repurchases.

ITEM 6. SELECTED FINANCIAL DATA

Refer to Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” in Part II of this Annual Report on Form 10-K and the notes to our accompanying consolidated financial statements for additional information regarding the financial data presented below, including matters that might cause this data not to be indicative of our future financial condition, results of operations or cash flows.

(In millions, except per share data)	2018	2017	2016	2015	2014
Sales	$3,533.4	$3,229.9	$2,938.6	$2,928.8	$3,219.0
Operating income	273.7	272.8	267.7	258.4	200.5
Net income from continuing operations	160.8	173.6	166.2	148.5	74.7
Net income from continuing operations attributable to PolyOne shareholders	161.1	173.5	166.4	148.4	75.5
Cash dividends declared per common share	$0.720	$0.580	$0.495	$0.420	$0.340
Earnings per share from continuing operations attributable to PolyOne shareholders:					
Basic	$2.02	$2.13	$1.98	$1.69	$0.82
Diluted	$2.00	$2.11	$1.96	$1.67	$0.81
Total assets	$2,723.3	$2,705.3	$2,735.8	$2,620.3	$2,666.3
Long-term debt	$1,336.2	$1,276.4	$1,239.4	$1,127.6	$948.5

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Overview

Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) is designed to provide information that is supplemental to, and should be read together with, our consolidated financial statements and the accompanying notes contained in this Annual Report on Form 10-K. Information in this Item 7 is intended to assist the reader in obtaining an understanding of our consolidated financial statements, the changes in certain key items in those financial statements from year to year, the primary factors that accounted for those changes, and any known trends or uncertainties that we are aware of that may have a material effect on our future performance, as well as how certain accounting principles affect our consolidated financial statements.

The following discussion contains forward-looking statements that reflect our plans, estimates and beliefs. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to these differences include, but are not limited to, those discussed below and elsewhere in this Annual Report on Form 10-K, particularly in "Cautionary Note on Forward-Looking Statements" and Item 1A, "Risk Factors."

Our Business

We are a premier provider of specialized polymer materials, services and solutions with operations in specialty engineered materials, advanced composites, color and additive systems and polymer distribution. We are also a highly specialized developer and manufacturer of performance enhancing additives, liquid colorants, and fluoropolymer and silicone colorants. Headquartered in Avon Lake, Ohio, with 2018 sales of $3.5 billion, we have manufacturing sites and distribution facilities in North America, South America, Europe and Asia. We currently employ approximately 6,900 people and offer more than 35,000 polymer solutions to over 10,000 customers across the globe. We provide value to our customers through our ability to link our knowledge of polymers and formulation technology with our manufacturing and supply chain capabilities to provide value-added solutions to designers, assemblers and processors of plastics (our customers).

Key Challenges

Our business faces macroeconomic exposures resulting from economic downturns, especially as it relates to cyclical markets such as building and construction, automotive and industrial. In addition, with 56% and 54% of our respective Color, Additives and Inks and Specialty Engineered Materials segments' sales outside the United States, we experience volatility related to foreign currency fluctuations, most significantly the Euro. Increasing profitability during periods of raw material price volatility is another challenge. Further, we strive to capitalize on the opportunity to accelerate development of products that meet a growing body of environmental laws and regulations such as lead and phthalate restrictions included in the Restrictions on the Use of Certain Hazardous Substances and the Consumer Product Safety Information Act of 2008.

Strategy and Key Trends

To address these challenges and achieve our vision, we have implemented a strategy with four core components: specialization, globalization, operational excellence and commercial excellence. Specialization differentiates us through products, services, technology and solutions that add value. Globalization allows us to service our customers with consistency wherever their operations might be around the world. Operational excellence empowers us to respond to the voice of the customer while focusing on continuous improvement. Commercial excellence enables us to deliver value to customers by supporting their growth and profitability with superior customer service.

In the short term, we will maintain our focus on sales growth with expanding margins, with a goal of offsetting weaker foreign currencies, raw material volatility and logistics cost inflation. Longer term, we will continue to focus on accelerating the launch of new products and collaborating with our customers to develop new and unique solutions for their benefit while focusing on our four cornerstones of sustainability - people, products, planet and performance to ensure the growth we achieve is sustainable for us and our customers. Capital expenditures will be focused primarily to support sales growth, investment in recent acquisitions, and other strategic investments. We also continue to consider acquisitions and other synergy opportunities that complement our core platforms. These actions will ensure that we continue to invest in our core capabilities and continue to support growth in key markets and product offerings.

We will continue our enterprise-wide Lean Six Sigma program directed at improving margin, profitability and cash flow by applying proven management techniques and strategies to key areas of the business, such as pricing, supply chain and operations management, productivity and quality. Long-term trends that currently provide opportunities to leverage our strategy include improving health and wellness, protecting the environment, globalizing and localizing and increasing energy efficiency. Examples of how our strategy supports these trends can be found in numerous initiatives:

active participation in the medical device market, leveraging our global footprint to deliver consistent solutions globally, lightweighting and metal replacement and development of solutions that respond to ever-changing market needs by offering alternatives to traditional materials.

Recent Developments

On January 2, 2019, the Company completed the acquisition of Fiber-Line, a global leader in polymer coated engineered fibers and composite materials, for $120.2 million, subject to a working capital adjustment and contingent earn-out consideration over a two-year period. The results of Fiber-Line will be reported in the Specialty Engineered Materials segment. The acquisition of Fiber-Line is expected to add approximately $100.0 million in annual sales.

On May 31, 2018, the Company acquired the outstanding shares of PlastiComp, Inc. (PlastiComp) for total consideration of $43.6 million, net of cash acquired and inclusive of contingent earn-out consideration that will be finalized two years from the date of acquisition. Specializing in long-fiber reinforced thermoplastics, PlastiComp's results are reported in the Specialty Engineered Materials segment.

On January 2, 2018, the Company completed the acquisition of IQAP Masterbatch Group S.L. (IQAP), an innovative producer of specialty colorants and additives based in Spain with customers throughout Europe, for $74.9 million, net of cash acquired. The results of operations of IQAP are reported in the Color, Additives and Inks segment.

Highlights and Executive Summary

A summary of PolyOne’s sales, operating income, income from continuing operations net of income taxes and net income from continuing operations attributable to PolyOne common shareholders is included in the following table:

(In millions)	2018	2017	2016
Sales	$3,533.4	$3,229.9	$2,938.6
Operating income	273.7	272.8	267.7
Net income from continuing operations	160.8	173.6	166.2
Net income from continuing operations attributable to PolyOne common shareholders	161.1	173.5	166.4

Results of Operations				Variances — Favorable (Unfavorable) 2018 versus 2017		2017 versus 2016	
(Dollars in millions, except per share data)	2018	2017	2016	Change	% Change	Change	% Change
Sales	$3,533.4	$3,229.9	$2,938.6	$303.5	9.4 %	$291.3	9.9 %
Cost of sales	2,788.5	2,511.0	2,262.2	(277.5)	(11.1)%	(248.8)	(11.0)%
Gross margin	744.9	718.9	676.4	26.0	3.6 %	42.5	6.3 %
Selling and administrative expense	471.2	446.1	408.7	(25.1)	(5.6)%	(37.4)	(9.2)%
Operating income	273.7	272.8	267.7	0.9	0.3 %	5.1	1.9 %
Interest expense, net	(62.8)	(60.8)	(59.7)	(2.0)	(3.3)%	(1.1)	(1.8)%
Debt extinguishment costs	(1.1)	(0.3)	(0.4)	(0.8)	nm	0.1	25.0 %
Other (expense) income, net	(12.6)	0.6	19.0	(13.2)	nm	(18.4)	96.8 %
Income from continuing operations before income taxes	197.2	212.3	226.6	(15.1)	(7.1)%	(14.3)	(6.3)%
Income tax expense	(36.4)	(38.7)	(60.4)	2.3	5.9 %	21.7	35.9 %
Net income from continuing operations	$160.8	$173.6	$166.2	$(12.8)	(7.4)%	$7.4	4.5 %
Loss from discontinued operations, net of income taxes	(1.3)	(231.2)	(1.2)	229.9	nm	(230.0)	nm
Net income (loss)	159.5	(57.6)	165.0	217.1	nm	(222.6)	(134.9)%
Net loss (income) attributable to noncontrolling interests	0.3	(0.1)	0.2	0.4	nm	0.3	150.0 %
Net income (loss) attributable to PolyOne common shareholders	$159.8	$(57.7)	$165.2	$217.5	nm	$(222.9)	(134.9)%
Earnings (loss) per share attributable to PolyOne common shareholders - basic:							
Continuing operations	$2.02	$2.13	$1.98				
Discontinued operations	(0.01)	(2.84)	(0.01)				
Total	$2.01	$(0.71)	$1.97				
Earnings (loss) per share attributable to PolyOne common shareholders - diluted:							
Continuing operations	$2.00	$2.11	$1.96				
Discontinued operations	(0.01)	(2.81)	(0.01)				
Total	$1.99	$(0.70)	$1.95				

nm - not meaningful

Sales

Sales increased $303.5 million, or 9.4%, in 2018 compared to 2017 primarily driven by organic sales growth of 5.3%, acquisitions of 3.3%, and favorable foreign exchange.

Sales increased $291.3 million, or 9.9%, in 2017 compared to 2016. Previous commercial investments drove organic sales growth of 6.6%, while acquisitions added 3.2%.

Cost of sales

As a percent of sales, cost of sales increased from 77.7% in 2017 to 78.9% in 2018 primarily as a result of raw material cost inflation and increased North American logistics costs.

As a percent of sales, cost of sales increased from 77.0% in 2016 to 77.7% in 2017 primarily as a result of raw material cost inflation.

Selling and administrative expense

These costs include selling, technology, administrative functions, corporate and general expenses. Selling and administrative expense in 2018 increased $25.1 million, primarily related to acquired businesses of $19.0 million, additional investment in commercial resources and $3.1 million of translation impact from foreign exchange.

Selling and administrative expense in 2017 increased $37.4 million, primarily related to $20.3 million in additional compensation and employee costs, which included our investment in commercial resources, as well as the impact from acquired businesses of $16.3 million.

Interest expense, net

Interest expense, net increased $2.0 million in 2018 compared to 2017 due to the impact of increased interest rates associated with our variable rate debt. Partially offsetting this increase was an interest rate reduction from amending the senior secured term loan in April to reduce the margin by 25 basis points and a $2.0 million favorable impact from the net investment hedges that were executed during 2018. See Note 15, Derivatives and Hedging, to the accompanying consolidated financial statements for detail on those hedges.

Interest expense, net increased $1.1 million in 2017 compared to 2016 due to the impact of increased interest rates associated with our variable rate debt and higher borrowings on our senior secured revolving credit facility. Partially offsetting these increases were interest rate reductions from amending the senior secured term loan in January 2017 and August 2017 to reduce the margin by 50 basis points and 25 basis points, respectively.

Other (expense) income, net

The Company has adopted Accounting Standards Update (ASU) 2017-07, Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost on January 1, 2018. As a result, all components of net periodic benefit cost, except for service costs, are presented here. For further detail, see Note 10, Employee Benefit Plans, to the accompanying consolidated financial statements.

Debt extinguishment costs

Debt extinguishment costs of $1.1 million and $0.3 million for 2018 and 2017, respectively, includes the write-off of unamortized deferred financing costs and premium and consent payments in connection with the amendments of the senior secured term loan due 2026 and the senior secured revolving credit facility. See Note 5, Financing Arrangements, to the accompanying consolidated financial statements for additional information.

Income taxes

The Company is subject to taxation in the U.S. and numerous foreign jurisdictions. In determining the effective income tax rate, the Company analyzes various factors, including annual earnings, the laws of taxing jurisdictions in which the earnings were generated, the impact of state and local income taxes, the ability to use tax credits, net operating loss carryforwards, and available tax planning alternatives. Discrete items, including the effect of changes in tax laws, statutory tax rates, and valuation allowances or other non-recurring tax adjustments are reflected in the period in which they occur as an addition to, or reduction from, the income tax provision.

The Tax Cuts and Jobs Act (TCJA) was enacted on December 22, 2017. Among other things, effective in 2018, the TCJA reduced the U.S. federal corporate tax rate from 35% to 21%, exempts from U.S. federal income taxation dividends from certain foreign corporations to their U.S. shareholders, eliminates or reduces the effect of various federal tax deductions and creates new taxes on certain outbound payments and future foreign earnings generated after 2017. The TCJA required U.S. companies to pay a one-time transition tax on earnings of foreign corporate subsidiaries that were at least ten-percent owned by such U.S. companies and that were previously deferred from U.S. taxation.

As of December 31, 2018, we had completed our accounting for the tax effects of the enactment of the TCJA. In compliance with the one-year measurement period of the SEC's Staff Accounting Bulletin 118 (SAB 118) (issued December 22, 2017), we have finalized the effects of the TCJA on our existing deferred income tax balances, the one-time transition tax and, as discussed below, the impact the TCJA had on our indefinite reinvestment assertion pursuant to Accounting Principles Board 23 (APB 23). These finalized effects are included as components of income tax expense from continuing operations and are noted in the following tabular reconciliation.

As of December 31, 2018, we had completed our analysis with respect to the impact of the TCJA on our continuing assertion that our foreign earnings are indefinitely reinvested pursuant to APB 23 of Accounting Standards

Codification 740-30 (ASC 740-30). APB 23 provides guidance that US companies do not need to recognize tax effects on foreign earnings that are indefinitely reinvested. Our assertion has changed with respect to certain earnings of foreign affiliates in certain countries, which resulted in a recognition of tax liabilities. As of December 31, 2018, and noted in the Repatriation of certain foreign earnings from prior and current periods line in the following tabular reconciliation, we

recognized an impact of 4.5% to our provision from a decision to repatriate prior year earnings after completing our analysis with respect to the TCJA and 1.2% pertaining to our decision to repatriate certain current year earnings. The rest of our foreign earnings are indefinitely reinvested pursuant to APB 23 and our policy. No deferred income taxes were recorded on outside basis differences as it was not practicable to determine the provision impact, if any, due to the complexities associated with this calculation.

We elected to recognize the resulting tax on the global intangible low-taxed income (GILTI) as a period expense in the period the tax is incurred.

A reconciliation of the applicable U.S. federal statutory tax rate to the consolidated effective income tax rate from continuing operations along with a description of significant or unusual reconciling items is included below.

	2018	2017	2016
Federal statutory income tax rate	21.0 %	35.0 %	35.0 %
Foreign tax rate differential	(5.8)	(11.1)	(5.6)
State and local tax, net	2.8	1.4	2.1
Tax on GILTI	1.5	—	—
Repatriation on certain foreign earnings from prior and current periods	5.7	0.4	—
Tax benefits on certain foreign investments	—	(6.8)	(1.9)
Domestic production activities deduction	(0.7)	(1.9)	(1.5)
Amended prior period tax returns and corresponding favorable audit adjustments	—	(3.6)	(1.3)
Net impact of uncertain tax positions	(0.4)	2.2	(1.1)
Changes in valuation allowances	(1.8)	0.7	0.4
U.S. tax reform, transition tax	0.8	11.3	—
U.S. tax reform, tax effect on net deferred tax liabilities	(3.5)	(9.5)	—
Other	(1.1)	0.1	0.6
Effective income tax rate	18.5 %	18.2 %	26.7 %

2018

The increase in the Repatriation on certain foreign earnings from prior and current periods line item resulted from a decision to repatriate certain foreign earnings from current and prior periods.

The benefit reflected in the Changes in valuation allowances line resulted from the realizability of a deferred tax asset for one of our foreign entities.

2017

The increase in the Foreign tax rate differential line item in the table above, compared to 2016, primarily related to a European legal entity realignment.

Tax benefits on certain foreign investments decreased the effective tax rate by 6.8% ($14.4 million) related to distributions from foreign subsidiaries with net foreign tax credits.

U.S. tax reform had a net unfavorable impact of 1.8% ($3.8 million) that included the unfavorable impact of the transition tax of 11.3% ($24.0 million) and was partially offset by the lower U.S. federal corporate tax rate reducing our net deferred tax liabilities, which reduced the tax rate by 9.5% ($20.2 million).

2016

Tax benefits on certain foreign investments decreased the effective tax rate by 1.9% ($4.3 million) primarily related to the dissolution of an entity.

The Net impact of uncertain tax positions decreased the effective tax rate by 1.1% ($2.5 million) and primarily related to the reversal of an uncertain tax position due to the expiration of the statute of limitations.

Segment Information

Operating income is the primary measure that is reported to our chief operating decision maker for purposes of making decisions about allocating resources to the segments and assessing their performance. Operating income at the segment level does not include: corporate general and administrative costs that are not allocated to segments; intersegment sales and profit eliminations; charges related to specific strategic initiatives, such as the consolidation of operations; restructuring activities, including employee separation costs resulting from personnel reduction programs, plant closure and phase-in costs; costs incurred directly in relation to acquisitions or divestitures; integration costs; executive separation agreements; share-based compensation costs; environmental remediation costs and other liabilities for facilities no longer owned or closed in prior years; actuarial gains and losses associated with our pension and post-retirement benefit plans; and certain other items that are not included in the measure of segment profit or loss that is reported to and reviewed by our chief operating decision maker. These costs are included in Corporate and eliminations.

PolyOne has four reportable segments: (1) Color, Additives and Inks; (2) Specialty Engineered Materials; (3) Performance Products and Solutions; and (4) Distribution.

Our segments are further discussed in Note 14, Segment Information, to the accompanying consolidated financial statements.

Sales and Operating Income — 2018 compared with 2017 and 2017 compared with 2016

				2018 versus 2017		2017 versus 2016	
(Dollars in millions)	2018	2017	2016	Change	% Change	Change	% Change
Sales:							
Color, Additives and Inks	$1,046.5	$893.2	$797.7	$153.3	17.2 %	$95.5	12.0 %
Specialty Engineered Materials	645.8	624.3	565.8	21.5	3.4 %	58.5	10.3 %
Performance Products and Solutions	735.8	720.6	668.5	15.2	2.1 %	52.1	7.8 %
Distribution	1,265.4	1,154.6	1,071.0	110.8	9.6 %	83.6	7.8 %
Corporate and eliminations	(160.1)	(162.8)	(164.4)	2.7	1.7 %	1.6	1.0 %
Sales	$3,533.4	$3,229.9	$2,938.6	$303.5	9.4 %	$291.3	9.9 %
Operating income:							
Color, Additives and Inks	$158.5	$138.6	$127.5	$19.9	14.4 %	$11.1	8.7 %
Specialty Engineered Materials	72.3	75.5	81.1	(3.2)	(4.2)%	(5.6)	(6.9)%
Performance Products and Solutions	73.6	77.1	74.4	(3.5)	(4.5)%	2.7	3.6 %
Distribution	71.5	72.6	68.2	(1.1)	(1.5)%	4.4	6.5 %
Corporate and eliminations	(102.2)	(91.0)	(83.5)	(11.2)	(12.3)%	(7.5)	(9.0)%
Operating income	$273.7	$272.8	$267.7	$0.9	0.3 %	$5.1	1.9 %
Operating income as a percentage of sales:							
Color, Additives and Inks	15.1 %	15.5 %	16.0 %	(0.4)% points		(0.5)% points	
Specialty Engineered Materials	11.2 %	12.1 %	14.3 %	(0.9)% points		(2.2)% points	
Performance Products and Solutions	10.0 %	10.7 %	11.1 %	(0.7)% points		(0.4)% points	
Distribution	5.7 %	6.3 %	6.4 %	(0.6)% points		(0.1)% points	
Total	7.7 %	8.4 %	9.1 %	(0.7)% points		(0.7)% points	

Color, Additives and Inks

Sales increased $153.3 million, or 17.2%, in 2018 compared to 2017. Acquisitions increased sales 10.5%, while organic sales grew 5.2% primarily in the packaging and consumer end markets. Favorable foreign exchange added 1.5%.

Operating income increased $19.9 million in 2018 compared to 2017 primarily due to the benefit of higher sales and recent acquisitions.

Sales increased $95.5 million, or 12.0%, in 2017 compared to 2016. Acquisitions increased sales by 8.1%, while sales grew 3.4% organically primarily in the packaging, wire & cable and textile end markets. Favorable foreign exchange rates added 0.5% to the sales growth rate.

Operating income increased $11.1 million in 2017 compared to 2016. This was driven by increased sales and acquisitions.

Specialty Engineered Materials

Sales increased $21.5 million, or 3.4%, in 2018 compared to 2017. Sales growth in Europe and Asia contributed 3.2%, acquisitions added 1.9% and favorable foreign exchange added 1.7%. Lower sales in North America partially offset these increases due to weakness in the wire and cable and consumer end markets.

Operating income decreased by $3.2 million, in 2018 compared to 2017 as the benefit of higher sales and recent acquisitions was more than offset by higher raw material and logistics costs.

Sales increased $58.5 million, or 10.3%, in 2017 compared to 2016 largely driven by organic growth of 5.1% and growth from acquisition of 5.0%.

Operating income decreased by $5.6 million, in 2017 compared to 2016 as the benefit of increased sales was more than offset by raw material cost inflation.

Performance Products and Solutions

Sales increased $15.2 million, or 2.1%, in 2018 compared to 2017 as higher unit sales was slightly offset by weaker mix.

Operating income decreased $3.5 million in 2018 compared to 2017. The benefit of increased sales was more than offset by weaker mix and higher logistics costs, as well as lower demand in certain end markets in North America, such as building and construction and appliance.

Sales increased $52.1 million, or 7.8%, in 2017 compared to 2016 primarily due to higher unit sales within the electrical and industrial end markets along with a 2.3% impact from higher overall average selling prices associated with raw material cost inflation.

Operating income increased $2.7 million in 2017 compared to 2016 as the benefit of increased sales was partially offset by the impact of hurricane Harvey and ongoing raw material cost inflation.

Distribution

Sales increased $110.8 million, or 9.6%, in 2018 compared to 2017 as a result of increased unit sales and higher overall average selling prices associated with raw material cost inflation.

Operating income decreased $1.1 million in 2018 compared to 2017 as the benefit of higher sales was more than offset by higher logistics costs and increased selling and administrative expense, including our continued investment in commercial resources.

Sales increased $83.6 million, or 7.8%, in 2017 compared to 2016 as a result of organic growth as well as higher overall average selling prices associated with raw material cost inflation.

Operating income increased $4.4 million in 2017 compared to 2016 as a result of higher sales.

Corporate and Eliminations

Corporate and eliminations increased $11.2 million in 2018 compared to 2017. This increase was primarily a result of higher environmental remediation costs combined with lower insurance reimbursements associated with such costs in 2018. Partially offsetting these costs were lower compensation and employee costs.

Corporate and eliminations increased $7.5 million in 2017 compared to 2016. This increase is largely due to higher compensation and employee costs primarily associated with additional incentives and commercial resources.

Liquidity and Capital Resources

Our objective is to finance our business through operating cash flow and an appropriate mix of debt and equity. By laddering the maturity structure, we avoid concentrations of debt maturities, reducing liquidity risk. We may from time to time seek to retire or purchase our outstanding debt with cash and/or exchanges for equity securities, in open market purchases, privately negotiated transactions or otherwise. We may also seek to repurchase our outstanding common shares. Such repurchases, if any, will depend on prevailing market conditions, our liquidity requirements, contractual restrictions and other factors. The amounts involved have been and may continue to be material.

The following table summarizes our liquidity as of December 31, 2018:

(In millions)	
Cash and cash equivalents	$170.9
Revolving credit availability	280.7
Liquidity	$451.6

As of December 31, 2018, approximately 95% of the Company's cash and cash equivalents resided outside the United States.

After considering the impact of foreign tax credit carryforwards, there was no resulting cash tax payable as a result of the one-time transition tax on previously deferred foreign earnings.

Based on current projections, we believe that we will be able to continue to manage and control working capital, discretionary spending and capital expenditures and that cash provided by operating activities, along with available borrowing capacity under our revolving credit facilities, will allow us to maintain adequate levels of available capital to fund our operations, meet debt service obligations, continue paying dividends, explore specialty acquisitions and opportunistically repurchase outstanding common shares.

Expected sources of cash in 2019 include cash from operations and available liquidity under our revolving credit facility, if needed. Expected uses of cash in 2019 include select specialty acquisitions, interest payments, cash taxes, dividend payments, share repurchases, environmental remediation costs and capital expenditures. Capital expenditures are currently estimated to be in the range of $80.0 to $90.0 million in 2019, primarily to support sales growth, our continued investment in recent acquisitions and other strategic investments.

Additionally, as further described in Note 11, Commitments and Contingencies, to the accompanying consolidated financial statements, we may incur additional uses of cash for environmental remediation at the former Goodrich Corporation Calvert City site.

Cash Flows

The following summarizes our cash flows from operating, investing and financing activities.

(In millions)	2018	2017	2016
Cash provided by (used by):			
Operating Activities	$253.7	$202.4	$227.6
Investing Activities	(170.3)	(119.4)	(235.4)
Financing Activities	(148.1)	(72.7)	(40.3)
Effect of exchange rate on cash	(8.0)	6.6	(5.0)
Net (decrease) increase in cash and cash equivalents	$(72.7)	$16.9	$(53.1)

Operating activities

In 2018, net cash provided by operating activities was $253.7 million as compared to $202.4 million in 2017. The increase in net cash provided by operating activities of $51.3 million primarily reflects improved working capital, as well as a receipt of $27.9 million of U.S. federal income tax refunds.

Working capital as a percentage of sales, which we define as the average thirteen months of accounts receivable, plus inventory, less accounts payable, divided by full year sales, increased to 10.7% at December 31, 2018 from 10.3% at December 31, 2017. This increase is due to the impact of recent acquisitions.

In 2017, net cash provided by operating activities was $202.4 million as compared to $227.6 million in 2016. The decrease in net cash provided by operating activities of $25.2 million reflects an increase in working capital in support of higher revenues.

Investing Activities

Net cash used by investing activities during 2018 of $170.3 million reflects acquisitions of $98.6 million and capital expenditures of $76.0 million.

Net cash used by investing activities during 2017 of $119.4 million reflects capital expenditures of $79.6 million and acquisitions of $163.8 million, partially offset by the proceeds from the sale of business and other assets of $124.0 million.

Net cash used by investing activities during 2016 of $235.4 million reflects capital expenditures of $84.2 million and acquisitions of $164.2 million, partially offset by the sale of and proceeds from other assets of $13.0 million.

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Financing Activities

Net cash used by financing activities in 2018 primarily reflects repurchases of $123.0 million of our outstanding common shares, cash dividends paid of $56.1 million, and repayment of debt of $22.9 million. Net borrowings of $62.6 million under our revolving credit facilities partially offset these uses.

Net cash used by financing activities in 2017 primarily reflects repurchases of $70.7 million of our outstanding common shares, cash dividends paid of $44.1 million and $6.5 million repayment of long-term debt. Net borrowings of $55.9 million under our revolving credit facilities partially offset these uses.

Net cash used by financing activities in 2016 primarily reflects repurchases of $86.2 million of our outstanding common shares, cash dividends paid of $40.2 million and $6.0 million repayment of long-term debt. Partially offsetting these cash outflows was the increase of $100.0 million to the senior secured term loan primarily used to fund acquisitions.

Total Debt

The following table summarizes debt as presented at December 31, 2018 and 2017.

(In millions)	December 31, 2018	December 31, 2017
Senior secured revolving credit facility due 2022	$ 120.1	$ 56.5
Senior secured term loan due 2026	619.8	629.0
5.250% senior notes due 2023	595.0	594.0
Other debt [(1)]	20.7	29.5
Total debt	$ 1,355.6	$ 1,309.0
Less short-term and current portion of long-term debt	19.4	32.6
Total long-term debt, net of current portion	$ 1,336.2	$ 1,276.4

(1) Other debt includes capital lease obligations of $3.4 million and $17.8 million as of December 31, 2018 and 2017, respectively.

On April 11, 2018, the Company entered into a fifth amendment to its senior secured term loan. Under the terms of the amended senior secured term loan, the margin was reduced by 25 basis points to 175 basis points. At the Company's discretion, interest is based upon (i) a margin rate of 175 basis points plus the 1-, 2-, 3-, or 6-month LIBOR, subject to a floor of 75 basis points, or (ii) a margin rate of 75 basis points plus a Prime Rate, subject to a floor of 175 basis points. On November 9, 2018, the Company entered into a sixth amendment to its senior secured term loan, which extended the maturity to 2026. Repayments in the amount of one percent of the aggregate principal amount as of August 3, 2016 are payable annually, while the remaining balance matures on January 30, 2026. The weighted average annual interest rate under the senior secured term loan for the year ended December 31, 2018 and 2017 was 3.80% and 3.27%, respectively. The total principal repayments for the year ended December 31, 2018 were $6.5 million.

The Company maintains a senior secured revolving credit facility, which matures on February 24, 2022 and provides a maximum borrowing facility size of $450.0 million, subject to a borrowing base with advances against certain U.S. and Canadian accounts receivable, inventory and other assets as specified in the agreement. The revolving credit facility has a U.S. and a Canadian line of credit. Currently there are no borrowings on the Canadian portion of the facility. Advances under the U.S. portion of our revolving credit facility bear interest, at the Company’s option, at a Base Rate or a LIBOR Rate plus an applicable margin. The Base Rate is a fluctuating rate equal to the greater of (i) the Federal Funds Rate plus one-half percent, (ii) the prevailing LIBOR Rate plus one percent, and (iii) the prevailing Prime Rate. The applicable margins vary based on the Company’s daily average excess availability during the previous quarter. The weighted average annual interest rate under this facility for the year ended December 31, 2018 and 2017 was 3.35% and 2.77%, respectively. As of December 31, 2018, we had borrowings of $120.1 million under our revolving credit facility, which had remaining availability of $279.4 million. As of December 31, 2017, we had borrowings of $56.5 million under our revolving credit facility, which had remaining availability of $326.2 million.

The agreements governing our revolving credit facility and our senior secured term loan, and the indentures and credit agreements governing other debt, contain a number of customary financial and restrictive covenants that, among other things, limit our ability to: sell or otherwise transfer assets, including in a spin-off, incur additional debt or liens,

consolidate or merge with any entity or transfer or sell all or substantially all of our assets, pay dividends or make certain other restricted payments, make investments, enter into transactions with affiliates, create dividend or other payment restrictions with respect to subsidiaries, make capital investments and alter the business we conduct. As of December 31, 2018, we were in compliance with all covenants.

As of December 31, 2018 and 2017, the Company maintained a credit line of $12.0 million and $16.0 million, respectively, with Saudi Hollandi Bank. The credit line has an interest rate equal to the Saudi Arabia Interbank Offered Rate plus a

fixed rate of 0.85% and is subject to annual renewal. Borrowings under the credit line were primarily used to fund capital expenditures related to the manufacturing facility in Jeddah, Saudi Arabia. As of December 31, 2018, letters of credit under the credit line were immaterial and borrowings were $10.7 million with a weighted average annual interest rate of 3.35%. As of December 31, 2017, letters of credit under the credit line were $0.2 million and borrowings were $11.7 million with a weighted average annual interest rate of 2.69%. As of December 31, 2018 and 2017, remaining availability on the credit line was $1.3 million and $4.1 million, respectively.

For additional information about our debt obligations, see Note 5, Financing Arrangements, to the accompanying consolidated financial statements.

Letters of Credit

Our revolving credit facility provides up to $50.0 million for the issuance of letters of credit, $10.5 million of which was used at December 31, 2018. These letters of credit are issued by the bank in favor of third parties and are mainly related to insurance claims.

Contractual Cash Obligations

The following table summarizes our obligations under debt agreements, operating leases, interest obligations, pension and other post-retirement plan obligations and purchase obligations as of December 31, 2018:

	Payment Due by Period				
(In millions)	Total	2019	2020 & 2021	2022 & 2023	Thereafter
Total debt [1]	$1,371.8	$19.4	$ 15.7	$ 734.3	$ 602.4
Operating leases	80.6	24.5	32.8	14.3	9.0
Interest on long-term debt obligations [2]	354.9	70.6	59126.4	101.5	56.4
Pension and post-retirement obligations [3]	45.4	5.2	10.0	9.49.4	20.8
Purchase obligations [4]	19.4	16.7	2.2	0.5	—
Total	$1,872.1	$136.4	$ 187.1	$ 860.0	$ 688.6

(1) Total debt includes both the current and long-term portions of debt and capital lease obligations.

(2) Represents estimated contractual interest payments for all outstanding debt.

(3) Pension and post-retirement obligations relate to our U.S. and international pension and other post-retirement plans. The expected payments associated with these plans represent an actuarial estimate of future assumed payments based upon retirement and payment patterns for a 10 year period. Due to uncertainties regarding the assumptions involved in estimating future required contributions to our pension and non-pension postretirement benefit plans, including: (i) interest rate levels, (ii) the amount and timing of asset returns and (iii) what, if any, changes may occur in pension funding legislation, the estimates in the table may differ materially from actual future payments.

(4) Purchase obligations are primarily comprised of service agreements related to telecommunication, information technology, utilities and other manufacturing plant services and certain capital commitments.

The table excludes the liability for unrecognized income tax benefits, because we cannot predict with reasonable certainty the timing of cash settlements, if any, with the applicable taxing authorities. At December 31, 2018, the gross liability for unrecognized income tax benefits, including interest and penalties, totaled $19.2 million.

Off-Balance Sheet Arrangements

We have no material off-balance sheet arrangements as defined in Item 303(a)(4)(ii) of Regulation S-K.

Critical Accounting Policies and Estimates

Significant accounting policies are described more fully in Note 1, Description of Business and Summary of Significant Accounting Policies, to the accompanying consolidated financial statements. The preparation of financial statements in conformity with U.S. generally accepted accounting principles (U.S. GAAP) requires us to make estimates and assumptions about future events that affect the amounts reported in our consolidated financial statements and accompanying notes. We base our estimates on historical experience and assumptions that we believe are reasonable considering the related facts and circumstances. The application of these critical accounting policies involves the exercise of judgment and use of assumptions for future uncertainties. Accordingly, actual results could differ significantly from these estimates. We believe that the following discussion addresses our most critical accounting policies, which are those that are the most important to the portrayal of our financial condition and results

of operations and require our most difficult, subjective and complex judgments.

Description	Judgments and Uncertainties	Effect if Actual Results Differ from Assumptions
Environmental Liabilities • Based upon our estimates, we have an undiscounted accrual of $114.1 million at December 31, 2018 for probable future environmental expenditures. Any such provision is recognized using the Company's best estimate of the amount of loss incurred, or at the lower end of an estimated range, when a single best estimate is not determinable. • With respect to the former Goodrich Corporation Calvert City site, the United States Environmental Protection Agency (USEPA) issued its Record of Decision (ROD) in September 2018, selecting a remedy consistent with our accrual assumptions. In October 2018, the USEPA sent a letter to the respondents inviting negotiation of an agreement to conduct the remedial design; that negotiation is ongoing. Our current reserve of $103.3 million is consistent with the USEPA's estimates contained in the ROD. • Based on currently available information as of December 31, 2018, we have not identified evidence that Franklin-Burlington contributed any of the primary contaminants of concern to the lower Passaic River and therefore have not accrued for costs of remediation to the lower Passaic River. • In some cases, the Company recovers a portion of the costs relating to these obligations from insurers or other third parties; however, the Company records such amounts only when they are collected.	• This accrual represents our best estimate of the remaining probable costs based upon information and technology currently available. Depending upon the results of future testing, the ultimate remediation alternatives undertaken, changes in regulations, new information, newly discovered conditions and other factors, it is reasonably possible that we could incur additional costs in excess of the amount accrued. However, such additional costs, if any, cannot currently be estimated. Our estimate of this liability may be revised as new regulations or technologies are developed or additional information is obtained.	• If further developments or resolution of these matters are not consistent with our assumptions and judgments, we may need to recognize a significant adjustment in a future period. • As we progress through certain benchmarks such as completion of the remedial investigation and feasibility study, issuance of a record of decision and remedial design, additional information will become available that may require an adjustment to our existing reserves.

Description	Judgments and Uncertainties	Effect if Actual Results Differ from Assumptions
Pension and Other Post-retirement Plans		
• We account for our defined benefit pension plans and other post-retirement plans in accordance with FASB ASC Topic 715, Compensation — Retirement Benefits. We immediately recognize actuarial gains and losses in our operating results in the year in which the gains or losses occur. In 2018, we recognized a $15.6 million charge as a result of the recognition of these actuarial losses, which unfavorably impacted net income (loss), comprehensive income (loss) and the funded status of our pension plans. This loss was mainly driven by lower than expected asset returns.	• Asset returns and interest rates significantly affect the value of future assets and liabilities of our pension and post-retirement plans and therefore the funded status of our plans. It is difficult to predict these factors due to the volatility of market conditions. • To develop our discount rate, we consider the yields of high-quality corporate bonds with maturities that correspond to the timing of our benefit obligations, referred to as the bond matching approach. • To develop our expected long-term return on plan assets, we consider historical and forward looking long-term asset returns and the expected investment portfolio mix of plan assets. The weighted-average expected long-term rate of return on plan assets was 5.09% for 2018, 6.08% for 2017 and 6.87% for 2016. • Life expectancy is a significant assumption that impacts our pension and other post-retirement benefits obligation. During 2018, we adopted the MP-2018 mortality improvement scale which was issued by the Society of Actuaries in October 2018.	• The weighted average discount rates used to value our pension liabilities as of December 31, 2018 and 2017 were 4.11% and 3.62%, respectively, post-retirement liabilities were 3.98% and 3.60%, respectively. As of December 31, 2018, an increase/decrease in the discount rate of 50 basis points, holding all other assumptions constant, would have increased or decreased pre-tax income and the related pension and post-retirement liability by approximately $19.7 million. An increase/decrease in the discount rate of 50 basis points as of December 31, 2018 would result in a change of approximately $1.3 million in the 2019 net periodic benefit cost. • The expected long-term return on plan assets utilized as of January 1, 2018 and 2017 was 5.09% and 6.08%, respectively. An increase/decrease in our expected long-term return on plan assets of 50 basis points as of December 31, 2018, would result in a change of approximately $2.1 million to 2019 net periodic benefit cost.
Income Taxes		

- We account for income taxes using the asset and liability method under ASC Topic 740. Under the asset and liability method, deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. In addition, deferred tax assets are also recorded with respect to net operating losses and other tax attribute carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled. Valuation allowances are established when realization of the benefit of deferred tax assets is not deemed to be more likely than not. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

- We recognize net tax benefits under the recognition and measurement criteria of ASC Topic 740, Income Taxes, which prescribes requirements and other guidance for financial statement recognition and measurement of positions taken or expected to be taken on tax returns. We record interest and penalties related to uncertain tax positions as a component of income tax expense.

- We have completed our accounting for the tax effects of the enactment of the TCJA as of December 31, 2018. We elected to recognize the resulting tax on GILTI as a period expense in the period the tax is incurred.

- The ultimate recovery of certain of our deferred tax assets is dependent on the amount and timing of taxable income that we will ultimately generate in the future and other factors such as the interpretation of tax laws. We have provided valuation allowances as of December 31, 2018, aggregating to $15.1 million primarily against certain foreign and state net operating loss carryforwards based on our current assessment of future operating results and other factors. At December 31, 2018, the gross liability for unrecognized income tax benefits, including interest and penalties, totaled $19.2 million.

- Undistributed and indefinitely reinvested earnings for certain consolidated non-U.S. subsidiaries were approximately $350 million as of December 31, 2018. No provision was made on these earnings as APB 23 of ASC 740-30 provides guidance that U.S. companies do not need to recognize tax effects on foreign earnings that are indefinitely reinvested. Additionally, no deferred income taxes were recorded on outside basis differences as it was not practicable to determine the provision impact, if any, due to the complexities associated with this calculation.

- Although management believes that the estimates and judgments discussed herein are reasonable, actual results could differ, which could result in income tax expense or benefits that could be material.

Description	Judgments and Uncertainties	Effect if Actual Results Differ from Assumptions
Goodwill		
• Goodwill represents the excess of the purchase price over the fair value of the net assets of acquired companies. We follow the guidance in ASC 350, Intangibles — Goodwill and Other, including subsequent updates, and test goodwill for impairment at least annually, absent a triggering event that would warrant an impairment assessment. On an ongoing basis, absent any impairment indicators, we perform our goodwill impairment testing as of the first day of October of each year.	• We have identified our reporting units at the operating segment level, or in most cases, one level below the operating segment level. Goodwill is allocated to the reporting units based on the estimated fair value at the date of acquisition. • We estimated fair value using the best information available to us, including market information and discounted cash flow projections using the income approach. • The income approach requires us to make assumptions and estimates regarding projected economic and market conditions, growth rates, operating margins and cash expenditures. Sensitivity analyses were performed around these assumptions in order to assess the reasonableness of the assumptions and the resulting estimated fair values.	• If actual results are not consistent with our assumptions and estimates, we may be exposed to goodwill impairment charges. • The fair value of the reporting unit is based on a number of subjective factors including: (a) appropriate consideration of valuation approaches, (b) the consideration of our business outlook and (c) weighted average cost of capital (discount rate), growth rates and market multiples for our estimated cash flows. • Based on our 2018 annual impairment test performed on October 1st, we determined there were no reporting units considered to be at risk of future impairment due to the fair value's proximity to the carrying value. We believe that the current assumptions and estimates are reasonable, supportable and appropriate. The business could be impacted by unforeseen changes in market factors or opportunities, which could impact our existing assumptions used in our impairment test. As such, there can be no assurance that these estimates and assumptions made for the purposes of the goodwill impairment test will prove to be accurate predictions of future performance.
Indefinite-lived Intangible Assets		
• Indefinite-lived intangible assets represent trade names associated with acquired companies.	• We estimate the fair value of trade names using a “relief from royalty payments” approach. This approach involves two steps: (1) estimating reasonable royalty rate for the trade name and (2) applying this royalty rate to a net sales stream and discounting the resulting cash flows to determine fair value. Fair value is then compared with the carrying value of the trade name.	• If actual results are not consistent with our assumptions and estimates, we may be exposed to impairment charges related to our indefinite lived trade name • Based on our 2018 annual impairment test, no trade names were considered at risk.

Recent and Future Adoption of Accounting Standards

Information regarding recent and future adoption of accounting standards can be found in Note 1, Description of Business and Summary of Significant Accounting Policies, to the accompanying consolidated financial statements and is incorporated by reference herein.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to certain market risks as part of our ongoing business operations, including risks from changes in interest rates on debt obligations and foreign currency exchange rates that could impact our financial condition, results of operations and cash flows. We manage our exposure to these and other market risks through regular operating and financing activities, including the use of derivative financial instruments. We intend to use these derivative financial instruments as risk management tools and not for speculative investment purposes.

Interest rate exposure — Interest on our revolving credit facility and senior secured term loan is based upon a Prime rate or LIBOR, plus a margin. Interest on the credit line with Saudi Hollandi Bank is based upon SAIBOR plus a fixed rate of 0.85%. There would be no material impact on our interest expense or cash flows from either a 10% increase or decrease in market rates of interest on our outstanding variable rate debt as of December 31, 2018.

Foreign currency exposure — We enter into intercompany transactions that are denominated in various foreign currencies and are subject to financial exposure from foreign exchange rate movement from the date a loan is recorded to the date it is settled or revalued. To mitigate this risk, we may enter into foreign exchange forward contracts and derivative instruments. Gains and losses on these contracts generally offset gains and losses on the assets and liabilities being hedged.

We face translation risks related to the changes in foreign currency exchange rates. Amounts invested in our foreign operations are translated into U.S. dollars at the exchange rates in effect at the balance sheet date. The resulting translation adjustments are recorded as a component of Accumulated other comprehensive loss in the Shareholders' equity section of the accompanying Consolidated Balance Sheets. Net sales and expenses in our foreign operations' foreign currencies are translated into varying amounts of U.S. dollars depending upon whether the U.S. dollar weakens or strengthens against other currencies. Therefore, changes in exchange rates may either positively or negatively affect our net sales and expenses from foreign operations as expressed in U.S. dollars.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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MANAGEMENT'S REPORT

The management of PolyOne Corporation is responsible for preparing the consolidated financial statements and disclosures included in this Annual Report on Form 10-K. The consolidated financial statements and disclosures included in this Annual Report fairly present in all material respects the consolidated financial position, results of operations, shareholders' equity and cash flows of PolyOne Corporation as of and for the year ended December 31, 2018.

Management is responsible for establishing and maintaining disclosure controls and procedures designed to ensure that the information required to be disclosed by the Company is captured and reported in a timely manner. Management has evaluated the design and operation of the Company's disclosure controls and procedures at December 31, 2018 and found them to be effective.

Management is also responsible for establishing and maintaining a system of internal control over financial reporting that is 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. Internal control over financial reporting includes policies and procedures that provide reasonable assurance that: PolyOne Corporation's accounting records accurately and fairly reflect the transactions and dispositions of the assets of the Company; unauthorized or improper acquisition, use or disposal of Company assets will be prevented or timely detected; the Company's transactions are properly recorded and reported to permit the preparation of the Company's consolidated financial statements in conformity with generally accepted accounting principles; and the Company's receipts and expenditures are made only in accordance with authorizations of management and the Board of Directors of the Company.

Management has assessed the effectiveness of PolyOne's internal control over financial reporting as of December 31, 2018 and has prepared Management's Annual Report On Internal Control Over Financial Reporting contained on page 62 of this Annual Report, which concludes that as of December 31, 2018, PolyOne's internal control over financial reporting is effective and that no material weaknesses were identified.

/s/ ROBERT M. PATTERSON	/s/ BRADLEY C. RICHARDSON
Robert M. Patterson	Bradley C. Richardson
Chairman, President and Chief Executive Officer	Executive Vice President, Chief Financial Officer

February 19, 2019

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Shareholders of PolyOne Corporation

Opinion on Internal Control over Financial Reporting

We have audited PolyOne Corporation's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, PolyOne Corporation (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of PolyOne Corporation as of December 31, 2018 and 2017, the related consolidated statements of income (loss), comprehensive income (loss), shareholders' equity and cash flows for each of the three years in the period ended December 31, 2018, and the related notes of PolyOne Corporation and our report dated February 19, 2019, expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible 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 Annual Report on Internal Control over Financial Reporting." Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 regulation of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

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 (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) 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 (3) 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.

/s/ Ernst & Young LLP

Cleveland, Ohio
February 19, 2019

31 POLYONE CORPORATION

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Shareholders of PolyOne Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of PolyOne Corporation (the Company) as of December 31, 2018 and 2017, the related consolidated statements of income (loss), comprehensive income (loss), shareholders' equity and cash flows for each of the three years in the period ended December 31, 2018, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company’s internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 19, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the 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 audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the 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 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as PolyOne Corporation's auditor since 1993.

Cleveland, Ohio

February 19, 2019

Consolidated Statements of Income (Loss)

	Year Ended December 31,		
(In millions, except per share data)	2018	2017	2016
Sales	$3,533.4	$3,229.9	$2,938.6
Cost of sales	2,788.5	2,511.0	2,262.2
Gross margin	744.9	718.9	676.4
Selling and administrative expense	471.2	446.1	408.7
Operating income	273.7	272.8	267.7
Interest expense, net	(62.8)	(60.8)	(59.7)
Debt extinguishment costs	(1.1)	(0.3)	(0.4)
Other (expense) income, net	(12.6)	0.6	19.0
Income from continuing operations before income taxes	197.2	212.3	226.6
Income tax expense	(36.4)	(38.7)	(60.4)
Net income from continuing operations	160.8	173.6	166.2
Loss from discontinued operations, net of income taxes	(1.3)	(231.2)	(1.2)
Net income (loss)	159.5	(57.6)	165.0
Net loss (income) attributable to noncontrolling interests	0.3	(0.1)	0.2
Net income (loss) attributable to PolyOne common shareholders	$159.8	$(57.7)	$165.2
Earnings (loss) per share attributable to PolyOne common shareholders - Basic:			
Continuing operations	$2.02	$2.13	$1.98
Discontinued operations	(0.01)	(2.84)	(0.01)
Total	$2.01	$(0.71)	$1.97
Earnings (loss) per share attributable to PolyOne common shareholders - Diluted:			
Continuing operations	$2.00	$2.11	$1.96
Discontinued operations	(0.01)	(2.81)	(0.01)
Total	$1.99	$(0.70)	$1.95
Weighted-average shares used to compute earnings per common share:			
Basic	79.7	81.5	83.9
Plus dilutive impact of share-based compensation	0.7	0.6	0.7
Diluted	80.4	82.1	84.6
Anti-dilutive shares not included in diluted common shares outstanding	—	0.6	0.2
Cash dividends declared per share of common stock	$0.720	$0.580	$0.495

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

Consolidated Statements of Comprehensive Income (Loss)

	Year Ended December 31,		
(In millions)	2018	2017	2016
Net income (loss)	$159.5	$(57.6)	$165.0
Other comprehensive (loss) income, net of tax:			
Translation adjustments and related hedging instruments	(27.6)	41.2	(23.0)
Cash flow hedges	(1.3)	—	—
Other	(0.4)	—	0.1
Total other comprehensive (loss) income	(29.3)	41.2	(22.9)
Total comprehensive income (loss)	130.2	(16.4)	142.1
Comprehensive loss (income) attributable to noncontrolling interests	0.3	(0.1)	0.2
Comprehensive income (loss) attributable to PolyOne common shareholders	$130.5	$(16.5)	$142.3

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

Consolidated Balance Sheets

(In millions, except par value per share)	Year Ended December 31, 2018	2017
ASSETS		
Current assets:		
Cash and cash equivalents	$170.9	$243.6
Accounts receivable, net	413.4	392.4
Inventories, net	344.7	327.8
Other current assets	69.8	102.8
Total current assets	998.8	1,066.6
Property, net	495.4	461.6
Goodwill	650.3	610.5
Intangible assets, net	423.4	400.0
Other non-current assets	155.4	166.6
Total assets	$2,723.3	$2,705.3
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Short-term and current portion of long-term debt	$19.4	$32.6
Accounts payable	399.0	388.9
Accrued expenses and other current liabilities	139.2	149.1
Total current liabilities	557.6	570.6
Non-current liabilities:		
Long-term debt	1,336.2	1,276.4
Pension and other post-retirement benefits	54.3	62.3
Deferred income taxes	69.3	40.3
Other non-current liabilities	165.3	156.3
Total non-current liabilities	1,625.1	1,535.3
SHAREHOLDERS' EQUITY		
Common Shares, $0.01 par, 400.0 shares authorized, 122.2 shares issued	1.2	1.2
Additional paid-in capital	1,166.9	1,161.5
Retained earnings	472.9	387.1
Common shares held in treasury, at cost, 44.5 shares in 2018 and 41.3 shares in 2017	(1,018.7)	(898.3)
Accumulated other comprehensive loss	(82.3)	(53.0)
PolyOne shareholders' equity	540.0	598.5
Noncontrolling interest	0.6	0.9
Total equity	540.6	599.4
Total liabilities and equity	$2,723.3	$2,705.3

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

Consolidated Statements of Cash Flows

	Year Ended December 31,		
(In millions)	2018	2017	2016
Operating activities			
Net income (loss)	$159.5	$(57.6)	$165.0
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Loss on sale of business, net of tax	—	227.7	—
Depreciation and amortization	88.5	97.4	100.5
Accelerated depreciation and fixed asset charges associated with restructuring activities	3.0	0.9	5.4
Gain from sale of closed facilities	—	(3.6)	—
Deferred income tax (benefit) expense	(4.8)	(1.4)	10.5
Debt extinguishment costs	1.1	0.3	0.4
Share-based compensation expense	10.9	10.2	8.4
Changes in assets and liabilities, net of the effect of acquisitions:			
Increase in accounts receivable	(11.3)	(44.7)	(17.6)
(Increase) decrease in inventories	(10.6)	(41.1)	0.8
Increase in accounts payable	7.9	52.2	12.4
Increase (decrease) in pension and other post-retirement benefits	4.8	(9.6)	(43.2)
Increase (decrease) in accrued expenses and other assets and liabilities - net	4.7	(28.3)	(15.0)
Net cash provided by operating activities	253.7	202.4	227.6
Investing activities			
Capital expenditures	(76.0)	(79.6)	(84.2)
Business acquisitions, net of cash acquired	(98.6)	(163.8)	(164.2)
Proceeds from the sale of business and other assets	4.3	124.0	13.0
Net cash used by investing activities	(170.3)	(119.4)	(235.4)
Financing activities			
Borrowings under credit facilities	1,152.9	1,472.9	1,031.9
Repayments under credit facilities	(1,090.3)	(1,417.0)	(1,032.7)
Purchase of common shares for treasury	(123.0)	(70.7)	(86.2)
Cash dividends paid	(56.1)	(44.1)	(40.2)
Repayment of other debt	(16.4)	—	—
Repayment of long-term debt	(6.5)	(6.5)	(6.0)
Payments on withholding tax on share awards	(4.1)	(4.7)	(5.1)
Debt financing costs	(4.6)	(2.6)	(2.0)
Net proceeds from long-term debt	—	—	100.0
Net cash used by financing activities	(148.1)	(72.7)	(40.3)
Effect of exchange rate changes on cash	(8.0)	6.6	(5.0)
(Decrease) increase in cash and cash equivalents	(72.7)	16.9	(53.1)
Cash and cash equivalents at beginning of year	243.6	226.7	279.8
Cash and cash equivalents at end of year	$170.9	$243.6	$226.7

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

Consolidated Statements of Shareholders' Equity

(In millions)	Common Shares	Shareholders' Equity								
	Common Shares	Common Shares Held in Treasury	Common Shares	Additional Paid-in Capital	Retained Earnings	Common Shares Held in Treasury	Accumulated Other Comprehensive Loss	Total PolyOne shareholders' equity	Non-controlling Interests	Total equity
Balance at January 1, 2016	122.2	(36.9)	$1.2	$1,155.6	$367.1	$(748.4)	$ (71.3)	$ 704.2	$ 1.0	$705.2
Net income					165.2			165.2	(0.2)	165.0
Other comprehensive loss							(22.9)	(22.9)		(22.9)
Cash dividends declared					(41.1)			(41.1)		(41.1)
Repurchase of common shares		(3.0)				(86.2)		(86.2)		(86.2)
Share-based compensation and exercise of awards		0.3		1.5		4.0		5.5		5.5
Balance at December 31, 2016	122.2	(39.6)	$1.2	$1,157.1	$491.2	$(830.6)	$ (94.2)	$ 724.7	$ 0.8	$725.5
Net (loss) income					(57.7)			(57.7)	0.1	(57.6)
Other comprehensive gain							41.2	41.2		41.2
Cash dividends declared					(46.9)			(46.9)		(46.9)
Repurchase of common shares		(2.0)				(70.7)		(70.7)		(70.7)
Share-based compensation and exercise of awards		0.3		4.4		3.0		7.4		7.4
Other					0.5			$ 0.5		$0.5
Balance at December 31, 2017	122.2	(41.3)	$1.2	$1,161.5	$387.1	$(898.3)	$ (53.0)	$ 598.5	$ 0.9	$599.4
Net income					159.8			159.8	(0.3)	159.5
Other comprehensive loss							(29.3)	(29.3)		(29.3)
Cash dividends declared					(57.5)			(57.5)		(57.5)
Repurchase of common shares		(3.4)				(123.0)		(123.0)		(123.0)
Share-based compensation and exercise of awards		0.2		5.4		2.6		8.0		8.0
Other					(16.5)			(16.5)		(16.5)
Balance at December 31, 2018	122.2	(44.5)	$1.2	$1,166.9	$472.9	$(1,018.7)	$ (82.3)	$ 540.0	$ 0.6	$540.6

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1 — DESCRIPTION OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Description of Business

We are a premier provider of specialized polymer materials, services and solutions with operations in specialty engineered materials, advanced composites, color and additive systems and polymer distribution. We are also a highly specialized developer and manufacturer of performance enhancing additives, liquid colorants, and fluoropolymer and silicone colorants. Headquartered in Avon Lake, Ohio, we have employees at manufacturing sites and distribution facilities in North America, South America, Europe and Asia. We provide value to our customers through our ability to link our knowledge of polymers and formulation technology with our manufacturing and supply chain to provide value added solutions to designers, assemblers and processors of plastics (our customers). When used in these notes to the consolidated financial statements, the terms “we,” “us,” “our”, “PolyOne” and the “Company” mean PolyOne Corporation and its consolidated subsidiaries.

Our operations are located primarily in North America, South America, Europe and Asia. Our operations are reported in four reportable segments: Color, Additives and Inks; Specialty Engineered Materials; Performance Products and Solutions; and Distribution. See Note 14, Segment Information, for more information.

Accounting Standards Adopted

On January 1, 2018, the Company adopted Accounting Standards Codification (ASC) 606, Revenue from Contracts with Customers and all related amendments (the Standard), for all contracts using the modified retrospective method. The Standard implements a five-step process for revenue recognition that focuses on transfer of control and defines a contract as “an agreement between two or more parties that creates legally enforceable rights and obligations.” The adoption of the Standard did not materially impact the timing and measurement of revenue recognition. Additionally, we concluded that the methodology for which we historically estimated and recognized variable consideration (e.g., rebates) is consistent with the requirements of the Standard. As a result, we did not recognize a cumulative effect adjustment to the opening balance of retained earnings.

At contract inception, PolyOne assesses the goods and services promised to a customer and identifies a performance obligation for each promised good or service that is distinct. Our contracts, generally in the form of purchase orders or written contracts, specify the product or service that is promised to the customer. The typical contract life is less than 12 months and contains only one performance obligation, to provide conforming goods or services to the customer. Revenue is recognized at the point in time when control of the product is transferred to the customer, which typically occurs when products are shipped from our facilities with the exception of certain contract manufacturing arrangements.

The revenue streams within the Company are consistent with those disclosed for our reportable segments, within Note 14, Segment Information. For descriptions of our product offerings and segments see Note 14, Segment Information. We offer more than 35,000 polymer solutions to over 10,000 customers across the world. No customer accounts for more than 3% of our consolidated revenues and we do not have a high concentration of business in one particular end market.

In March 2017, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2017-07, Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost (ASU 2017-07). This standard requires the presentation of the service cost component of the net periodic benefit cost in the same income statement line item as other employee compensation costs arising from services rendered during the period. All other components of net periodic benefit cost must be presented below operating income. The Company has adopted ASU 2017-07 on January 1, 2018.

ASU 2017-07 provides a practical expedient to utilize previously disclosed components of net periodic benefit costs as an estimate for retrospective presentation. Utilizing this practical expedient, the Company reclassified non-service components of net periodic benefit cost from Cost of sales and Selling and administrative expense into Other income, net on the Consolidated Statements of Income. The adoption of ASU 2017-07 resulted in $9.6 million of costs for the year ended December 31, 2018 and gains of $4.7 million, and $18.6 million for the years ended December 31, 2017 and 2016, respectively, of the non-service components of net periodic benefit presented in Other income, net. For additional detail on the components of our annual net periodic benefit cost, see Note 10, Employee Benefit Plans.

In October 2016, the FASB issued ASU 2016-16, Income Taxes (Topic 740), Intra-Entity Transfers of Assets Other than Inventory (ASU 2016-16), which requires companies to recognize the income tax effects of intercompany sales or transfers of assets, other than inventory, in the income statement as income tax expense or benefit in the period the sale or transfer occurs. We recognized an adjustment of $17.0 million to beginning retained earnings upon adoption of this standard on January 1, 2018 from transactions completed as of December 31, 2017.

In August 2017, the FASB issued ASU 2017-12, Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities (ASU 2017-12). This amendment to the hedge accounting model better aligns an entity's risk management activities with its financial reporting by expanding an entity's ability to hedge risk components, eliminating the separate measurement and reporting of hedge ineffectiveness and reducing the complexity of applying certain aspects of hedge accounting. The Company has early adopted ASU 2017-12 as of July 1, 2018. For additional disclosure and detail on the hedge relationships entered into by the Company, see Note 15, Derivatives and Hedging.

Accounting Standards Not Yet Adopted

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842) (ASU 2016-02). ASU 2016-02 was issued to increase transparency and comparability among entities by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about lease arrangements. ASU 2016-02 is effective for public companies for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018.

We will adopt the new standard on the required effective date of January 1, 2019 using the transition option, “Comparatives Under 840 Option,” established by ASU 2018-11, Leases (Topic 842), Targeted Improvements (ASU 2018-11). This transition option was released by the FASB to reduce the cost and complexity associated with reflecting the new standard in prior periods presented. We will also elect the practical expedient package related to the identification, classification and accounting for initial direct costs whereby prior conclusions do not have to be reassessed for leases that commenced before the effective date. As we will not reassess such conclusions, the Company does not plan to adopt the practical expedient to use hindsight to determine the likelihood of whether a lease will be extended, terminated or whether a purchase option will be exercised.

A cross-functional implementation team is finalizing policy elections, the discount rate to be used based on January 1, 2019 data, and business processes and controls to support recognition and disclosure under the new standard. The primary impact upon adoption will be the recognition of right of use assets and lease obligations, on a discounted basis, of our minimum lease obligations, as disclosed in Note 6, Leasing Arrangements. We currently do not expect ASU 2016-12 to have a material effect on our Consolidated Statements of Income.

In June 2016, the FASB issued ASU 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments (ASU 2016-13). ASU 2016-13 changes the impairment model for most financial instruments. Current guidance requires the recognition of credit losses based on an incurred loss impairment methodology that reflects losses once the losses are probable. Under ASU 2016-13, the Company will be required to use a current expected credit loss model (CECL) that will immediately recognize an estimate of credit losses that are expected to occur over the life of the financial instruments that are in the scope of this update, including trade receivables. The CECL model uses a broader range of reasonable and supportable information in the development of credit loss estimates. This guidance becomes effective for the Company on January 1, 2020, including the interim periods in the year. The Company is currently evaluating the impact that the adoption of this ASU will have on the consolidated financial statements and related disclosures.

Consolidation and Basis of Presentation

The consolidated financial statements include the accounts of PolyOne and its subsidiaries. All majority-owned affiliates over which we have control are consolidated. Transactions with related parties, including joint ventures, are in the ordinary course of business.

Historical information has been retrospectively adjusted to reflect the classification of discontinued operations. Discontinued operations are further discussed in Note 3, Discontinued Operations.

Reclassifications

Certain reclassifications of the prior period amounts and presentation have been made to conform to the presentation for the current period for the adoption of ASU 2017-07 as further described in the Accounting Standards Adopted section of this Note.

Use of Estimates

Preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions in certain circumstances that affect amounts reported in the accompanying consolidated financial statements and notes. Actual results could differ from these estimates.

Cash and Cash Equivalents
We consider all highly liquid investments purchased with a maturity of less than three months to be cash equivalents. Cash equivalents are stated at cost, which approximates fair value.

Allowance for Doubtful Accounts

We evaluate the collectability of receivables based on a combination of factors, each of which are adjusted if specific circumstances change. We reserve for amounts determined to be uncollectible based on a specific customer's inability to meet its financial obligation to us. We also record a general reserve based on the age of receivables past due, economic conditions and historical experience. In estimating the allowance, we take into consideration the existence of credit insurance. The allowance for doubtful accounts was $2.4 million and $2.8 million as of December 31, 2018 and 2017, respectively.

Inventories

External purchases of raw materials and finished goods are valued at weighted average cost. Raw materials and finished goods are stated at the lower of cost or market using the first-in, first-out (FIFO) method.

Long-lived Assets

Property, plant and equipment is carried at cost, net of depreciation and amortization that is computed using the straight-line method over the estimated useful lives of the assets, which generally ranges from 3 to 15 years for machinery and equipment and up to 40 years for buildings. We depreciate certain assets associated with closing manufacturing locations over a shortened life (through the cease-use date). Software is amortized over periods not exceeding 10 years. Property, plant and equipment is generally depreciated on accelerated methods for income tax purposes. We expense repair and maintenance costs as incurred. We capitalize replacements and betterments that increase the estimated useful life of an asset.

We retain fully depreciated assets in property and accumulated depreciation accounts until we remove them from service. In the case of sale, retirement or disposal, the asset cost and related accumulated depreciation balance is removed from the respective account, and the resulting net amount, less any proceeds, is included as a component of income from continuing operations in the accompanying Consolidated Statements of Income (Loss).

We account for operating and capital leases under the provisions of FASB Accounting Standards Codification (ASC) Topic 840, Leases.

Finite-lived intangible assets, which consist primarily of customer relationships, patents and technology are amortized over their estimated useful lives. The remaining useful lives range up to 20 years.

We assess the recoverability of long-lived assets when events or changes in circumstances indicate that we may not be able to recover the assets' carrying amount. We measure the recoverability of assets to be held and used by a comparison of the carrying amount of the asset to the expected future undiscounted cash flows associated with the asset. We measure the amount of impairment of long-lived assets as the amount by which the carrying value of the asset exceeds the fair value of the asset, which is generally determined based on projected discounted future cash flows or appraised values. No such impairments were recognized during 2018, 2017 or 2016.

Goodwill and Indefinite Lived Intangible Assets

In accordance with the provisions of FASB ASC Topic 350, Intangibles — Goodwill and Other, we assess the fair value of goodwill, quantitatively or qualitatively, on an annual basis or at an interim date if potential impairment indicators are present. Goodwill is the excess of the purchase price paid over the fair value of the net assets of the acquired business. Goodwill is tested for impairment, quantitatively or qualitatively, at the reporting unit level. Our reporting units have been identified at the operating segment level, or in most cases, one level below the operating segment level. Goodwill is allocated to the reporting units based on the estimated fair value at the date of acquisition.

Our annual measurement date for testing impairment of goodwill and indefinite-lived intangibles is October 1. We completed our testing of impairment as of October 1, noting no impairment in 2018, 2017 or 2016. There are no reporting units identified as at-risk of future impairment. The future occurrence of a potential indicator of impairment would require an interim assessment for some or all of the reporting units prior to the next required annual assessment on October 1, 2019.

We test our goodwill either quantitatively or qualitatively for impairment. For our quantitative approach, we use an income approach to estimate the fair value of our reporting units. The income approach uses a reporting unit's projection of estimated operating results and cash flows that is discounted using a weighted-average cost of capital that is determined based on current market conditions. The projection uses management's best estimates of economic and market conditions over the projected period including growth rates in sales, costs and number of units, estimates

of future expected changes in operating margins and cash expenditures. Other significant estimates and assumptions include terminal value growth rates, terminal value margin rates, future capital expenditures and changes in future working capital requirements. We validate our estimates of fair value under the income approach by considering the

implied control premium and conclude whether the implied control premium is reasonable based on other recent market transactions.

A qualitative approach for both goodwill and indefinite-lived intangible assets is performed if the last quantitative test exceeded certain thresholds. During our qualitative approach, we assess whether the existence of events or circumstances lead to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If, after assessing the totality of events and circumstances, we determine it is more likely than not that the fair value is less than carrying value, a quantitative impairment test is performed for each asset, as described above.

Indefinite-lived intangible assets primarily consist of the GLS, ColorMatrix and Gordon Composites trade names. Indefinite-lived intangible assets are tested, quantitatively or qualitatively, for impairment annually at the same time we test goodwill for impairment. For our quantitative approach, the implied fair value of indefinite-lived intangible assets is determined based on significant unobservable inputs, as summarized below. The fair value of the trade names is calculated using a “relief from royalty” methodology. This approach involves two steps (1) estimating reasonable royalty rates for the trade name and (2) applying this royalty rate to a net sales stream and discounting the resulting cash flows to determine fair value using a weighted-average cost of capital that is determined based on current market conditions. This fair value is then compared with the carrying value of the trade name.

Litigation Reserves

FASB ASC Topic 450, Contingencies, requires that we accrue for loss contingencies associated with outstanding litigation, claims and assessments for which management has determined it is probable that a loss contingency exists and the amount of loss can be reasonably estimated. We recognize expense associated with professional fees related to litigation claims and assessments as incurred. Refer to Note 11, Commitments and Contingencies, for further information.

Derivative Financial Instruments

FASB ASC Topic 815, Derivative and Hedging, requires that all derivative financial instruments, such as foreign exchange contracts, be recognized in the financial statements and measured at fair value, regardless of the purpose or intent in holding them.

We are exposed to foreign currency changes and to changes in cash flows due to changes in our contractually specified interest rates (e.g, LIBOR) in the normal course of business. We have established policies and procedures that manage this exposure through the use of financial instruments. By policy, we do not enter into these instruments for trading purposes or speculation. We formally assess, designate and document, as a hedge of an underlying exposure, the qualifying derivative instrument that will be accounted for as an accounting hedge at inception. Additionally, in accordance with ASU 2017-12, we assess at inception whether the financial instruments used in the hedging transaction are highly effective at offsetting changes in either the fair values or cash flows of the underlying exposures. If highly effective, any subsequent test may be done qualitatively.

The net interest payments accrued each month for effective instruments designated as a hedge are reflected in net income as adjustments of interest expense and the remaining change in the fair value of the derivatives is recorded as a component of Accumulated Other Comprehensive Income (AOCI). Instruments not designated as hedges are adjusted to fair value at each period end, with the resulting gains and losses recognized in the accompanying Consolidated Statements of Income (Loss) immediately.

Refer to Note 15, Derivatives and Hedging, for more information.

Pension and Other Post-retirement Plans

We account for our pensions and other post-retirement benefits in accordance with FASB ASC Topic 715, Compensation — Retirement Benefits. We immediately recognize actuarial gains and losses in our operating results in the year in which the gains or losses occur. Refer to Note 10, Employee Benefit Plans, for more information.

Accumulated Other Comprehensive Loss

Changes in accumulated other comprehensive loss in 2018, 2017 and 2016 were as follows:

(In millions)	Cumulative Translation Adjustment and Related Hedging Instruments	Pension and other post-retirement benefits	Cash Flow Hedges	Other	Total
Balance at January 1, 2016	$ (76.8)	$ 5.2	$ —	$0.3	$(71.3)
Translation adjustments	(23.0)	—	—	—	(23.0)
Unrealized gain	—	—	—	0.1	0.1
Balance at December 31, 2016	(99.8)	5.2	—	0.4	(94.2)
Translation adjustments	41.2	—	—	—	41.2
Balance at December 31, 2017	(58.6)	5.2	—	0.4	(53.0)
Translation adjustments	(25.6)	—	—	—	(25.6)
Unrealized losses	(2.0)	—	(1.3)	—	(3.3)
Other	—	—	—	(0.4)	(0.4)
Balance at December 31, 2018	$ (86.2)	$ 5.2	$ (1.3)	$—	$(82.3)

Fair Value of Financial Instruments

FASB ASC Topic 820, Fair Value Measurements and Disclosures, requires disclosures of the fair value of financial instruments. The estimated fair values of financial instruments were principally based on market prices where such prices were available and, where unavailable, fair values were estimated based on market prices of similar instruments.

Foreign Currency Translation

Revenues and expenses are translated at average currency exchange rates during the related period. Assets and liabilities of foreign subsidiaries are translated using the exchange rate at the end of the period. The resulting translation adjustments are recorded as accumulated other comprehensive income or loss. Gains and losses resulting from foreign currency transactions, including intercompany transactions that are not considered long-term investments, are included in Other income (expense), net in the accompanying Consolidated Statements of Income (Loss).

Revenue Recognition

We recognize revenue once control of the product is transferred to the customer, which typically occurs when products are shipped from our facilities.

Shipping and Handling Costs

Shipping and handling costs are included in cost of sales.

Research and Development Expense

Research and development costs of $56.3 million in 2018, $52.1 million in 2017 and $50.4 million in 2016 are charged to expense as incurred.

Environmental Costs

We expense costs that are associated with managing hazardous substances and pollution in ongoing operations on a current basis. Costs associated with environmental contamination are accrued when it becomes probable that a liability has been incurred and our proportionate share of the cost can be reasonably estimated. Any such provision is recognized using the Company's best estimate of the amount of loss incurred, or at the lower end of an estimated range, when a single best estimate is not determinable. In some cases, the Company may be able to recover a portion of the costs relating to these obligations from insurers or other third parties; however, the Company records such amounts only when they are collected.

Share-Based Compensation

We account for share-based compensation under the provisions of FASB ASC Topic 718, Compensation - Stock Compensation, which requires us to estimate the fair value of share-based awards on the date of grant. The value of

the portion of the award that is ultimately expected to vest is recognized as expense over the requisite service periods in the accompanying Consolidated Statements of Income (Loss). As of December 31, 2018, we had one active share-based employee compensation plan, which is described more fully in Note 13, Share-Based Compensation.

Income Taxes

Deferred income tax liabilities and assets are determined based upon the differences between the financial reporting and tax basis of assets and liabilities and are measured using the tax rate and laws currently in effect. In accordance with FASB ASC Topic 740, Income Taxes, we evaluate our deferred income taxes to determine whether a valuation allowance should be established against the deferred tax assets or whether the valuation allowance should be reduced based on consideration of all available evidence, both positive and negative, using a “more likely than not” standard. See Note 12, Income Taxes, for additional detail.

Note 2 — BUSINESS COMBINATIONS

On January 2, 2018, the Company completed the acquisition of IQAP Masterbatch Group S.L. (IQAP), an innovative provider of specialty colorants and additives based in Spain with customers primarily throughout Europe. Goodwill recognized as a result of this acquisition is not deductible for tax purposes. The results of IQAP are reported in the Color, Additives and Inks segment.

On May 31, 2018, the Company completed the acquisition of PlastiComp, Inc. (PlastiComp), who specializes in long-fiber reinforced thermoplastics. Goodwill recognized as a result of this acquisition is not deductible for tax purposes. The results of PlastiComp are reported in the Specialty Engineered Materials segment.

The combined total consideration of IQAP and PlastiComp of $118.5 million, net of cash acquired, is inclusive of contingent earn-out consideration for PlastiComp that will be finalized two years from the date of acquisition. The preliminary purchase price allocation for IQAP and PlastiComp resulted in intangible assets of $51.0 million, goodwill of $41.5 million, property, plant and equipment of $30.8 million, net working capital of $19.4 million, deferred tax liabilities of $13.1 million and other liabilities of $11.1 million. The total combined sales of IQAP and PlastiComp for the ended December 31, 2018 were $71.0 million.

The fair value of intangible assets acquired during the year ended December 31, 2018, including their estimated useful lives and valuation methodology are as follows:

(in millions)	Fair Value	Useful Life	Valuation Method
Customer relationships	$21.1	18	Multi-period excess earnings
Patents, technology and other	29.9	13 - 24	Relief-from-royalty method
Total	$51.0		

Note 3 — DISCONTINUED OPERATIONS

On July 19, 2017, PolyOne divested its Designed Structures and Solutions segment (DSS) to an affiliate of Arsenal Capital Partners (Arsenal) for $115.0 million cash. The sale resulted in the recognition of an after-tax loss of $229.0 million that was primarily recognized during the second quarter of 2017.

The following table summarizes the discontinued operations associated with DSS for the years ended December 31, 2018, 2017 and 2016, which is reflected within the Loss from discontinued operations, net of income taxes line of the Consolidated Statements of Income (Loss):

(In millions)	2018	2017	2016
Sales	$—	$222.1	$401.2
Loss on sale	$(1.8)	$(295.6)	$—
Loss from operations	—	(8.6)	(4.3)
Loss before taxes	(1.8)	(304.2)	(4.3)
Income tax benefit	0.5	73.0	3.1
Loss from discontinued operations, net of taxes	$(1.3)	$(231.2)	$(1.2)

Note 4 — GOODWILL AND INTANGIBLE ASSETS

The total purchase price associated with acquisitions is allocated to the fair value of assets acquired and liabilities assumed based on their fair values at the acquisition date, with excess amounts recorded as goodwill.

Goodwill as of December 31, 2018 and 2017 and changes in the carrying amount of goodwill by segment were as follows:

(In millions)	Specialty Engineered Materials	Color, Additives and Inks	Performance Products and Solutions	PolyOne Distribution	Total
Balance at January 1, 2017	173.5	346.4	11.2	1.6	532.7
Acquisition of businesses	—	77.0	—	—	77.0
Currency translation	(0.3)	1.1	—	—	0.8
Balance at December 31, 2017	173.2	424.5	11.2	1.6	610.5
Acquisition of businesses	16.3	25.8	—	—	42.1
Currency translation	(0.6)	(1.7)	—	—	(2.3)
Balance at December 31, 2018	$ 188.9	$ 448.6	$ 11.2	$ 1.6	$650.3

Indefinite and finite-lived intangible assets consisted of the following:

	As of December 31, 2018			
(In millions)	Acquisition Cost	Accumulated Amortization	Currency Translation	Net
Customer relationships	$278.4	$ (75.0)	$ (0.7)	$202.7
Patents, technology and other	188.1	(66.8)	(0.9)	120.4
Indefinite-lived trade names	100.3	—	—	100.3
Total	$566.8	$ (141.8)	$ (1.6)	$423.4

	As of December 31, 2017			
(In millions)	Acquisition Cost	Accumulated Amortization	Currency Translation	Net
Customer relationships	$257.3	$ (61.5)	$ 0.1	$195.9
Patents, technology and other	158.2	(54.4)	—	103.8
Indefinite-lived trade names	100.3	—	—	100.3
Total	$515.8	$ (115.9)	$ 0.1	$400.0

Amortization of finite-lived intangible assets included in continuing operations for the years ended December 31, 2018, 2017 and 2016 was $25.9 million, $21.6 million and $17.9 million, respectively.

We expect finite-lived intangibles amortization expense for the next five years as follows:

	2019	2020	2021	2022	2023
Expected amortization expense	$26.2	$25.6	$25.3	$23.3	$20.8

Note 5 — FINANCING ARRANGEMENTS

Total debt consisted of the following:

As of December 31, 2018 (In millions)	Principal Amount	Unamortized discount and debt issuance cost	Net debt	Weighted average interest rate
Senior secured revolving credit facility due 2022	$120.1	$ —	$120.1	3.35 %
Senior secured term loan due 2026	631.0	11.2	619.8	3.80 %
5.25% senior notes due 2023	600.0	5.0	595.0	5.25 %
Other debt [1]	20.7	—	20.7	
Total debt	$1,371.8	$ 16.2	$1,355.6	
Less short-term and current portion of long-term debt	19.4	—	19.4	
Total long-term debt, net of current portion	$1,352.4	$ 16.2	$1,336.2	

As of December 31, 2017 (In millions)	Principal Amount	Unamortized discount and debt issuance cost	Net debt	Weighted average interest rate
Senior secured revolving credit facility due 2022	$56.5	$ —	$56.5	2.77 %
Senior secured term loan due 2026	637.5	8.5	629.0	3.27 %
5.25% senior notes due 2023	600.0	6.0	594.0	5.25 %
Other debt [1]	29.5	—	29.5	
Total debt	$1,323.5	$ 14.5	$1,309.0	
Less short-term and current portion of long-term debt	32.6	—	32.6	
Total long-term debt, net of current portion	$1,290.9	$ 14.5	$1,276.4	

(1) Other debt includes capital lease obligations of $3.4 million and $17.8 million as of December 31, 2018 and 2017, respectively.

On April 11, 2018, the Company entered into a fifth amendment to its senior secured term loan. Under the terms of the amended senior secured term loan, the margin was reduced by 25 basis points to 175 basis points. At the Company's discretion, interest is based upon (i) a margin rate of 175 basis points plus the 1-, 2-, 3-, or 6-month LIBOR, subject to a floor of 75 basis points, or (ii) a margin rate of 75 basis points plus a Prime Rate, subject to a floor of 175 basis points. On November 9, 2018, the Company entered into a sixth amendment to its senior secured term loan, which extended the maturity to 2026. Repayments in the amount of one percent of the aggregate principal amount as of August 3, 2016 are payable annually, while the remaining balance matures on January 30, 2026. The total principal repayments for the year ended December 31, 2018 were $6.5 million.

The Company maintains a senior secured revolving credit facility, which matures on February 24, 2022 and provides a maximum borrowing facility size of $450.0 million, subject to a borrowing base with advances against certain U.S. and Canadian accounts receivable, inventory and other assets as specified in the agreement. The revolving credit facility has a U.S. and a Canadian line of credit. Currently there are no borrowings on the Canadian portion of the facility. Advances under the U.S. portion of our revolving credit facility bear interest, at the Company’s option, at a Base Rate or a LIBOR Rate plus an applicable margin. The Base Rate is a fluctuating rate equal to the greater of (i) the Federal Funds Rate plus one-half percent, (ii) the prevailing LIBOR Rate plus one percent, and (iii) the prevailing Prime Rate. The applicable margins vary based on the Company’s daily average excess availability during the previous quarter. As of December 31, 2018, we had borrowings of $120.1 million under our revolving credit facility, which had remaining availability of $279.4 million. As of December 31, 2017, we had borrowings of $56.5 million under our revolving credit facility, which had remaining availability of $326.2 million.

The agreements governing our revolving credit facility and our senior secured term loan, and the indentures and credit agreements governing other debt, contain a number of customary financial and restrictive covenants that, among other

things, limit our ability to: sell or otherwise transfer assets, including in a spin-off, incur additional debt or liens, consolidate or merge with any entity or transfer or sell all or substantially all of our assets, pay dividends or make certain other restricted payments, make investments, enter into transactions with affiliates, create dividend or other payment restrictions with respect to subsidiaries, make capital investments and alter the business we conduct. As of December 31, 2018, we were in compliance with all covenants.

As of December 31, 2018 and 2017, the Company maintained a credit line of $12.0 million and $16.0 million, respectively, with Saudi Hollandi Bank. The credit line has an interest rate equal to the Saudi Arabia Interbank Offered Rate plus a fixed rate of 0.85% and is subject to annual renewal. Borrowings under the credit line were primarily used to fund capital expenditures related to the manufacturing facility in Jeddah, Saudi Arabia. As of December 31, 2018, letters of credit under the credit line were immaterial and borrowings were $10.7 million with a weighted average annual interest

rate of 3.35%. As of December 31, 2017, letters of credit under the credit line were $0.2 million and borrowings were $11.7 million with a weighted average annual interest rate of 2.69%. As of December 31, 2018 and 2017, there was remaining availability on the credit line of $1.3 million and $4.1 million, respectively.

The estimated fair value of PolyOne's debt instruments at December 31, 2018 and 2017 was $1,316.8 million and $1,343.3 million, respectively, compared to carrying values of $1,355.6 million and $1,309.0 million as of December 31, 2018 and 2017, respectively. The fair value of PolyOne's debt instruments was estimated using prevailing market interest rates on debt with similar creditworthiness, terms and maturities and represent Level 2 measurements within the fair value hierarchy.

Aggregate maturities of the principal amount of debt for the next five years and thereafter are as follows:

(In millions)	
2019	$19.4
2020	8.1
2021	7.6
2022	127.3
2023	607.0
Thereafter	602.4
Aggregate maturities	$1,371.8

Included in Interest expense, net for the years ended December 31, 2018, 2017 and 2016 was interest income of $3.1 million, $0.7 million and $0.8 million, respectively. Total interest paid on debt was $61.0 million in 2018, $59.4 million in 2017 and $56.3 million in 2016.

Note 6 — LEASING ARRANGEMENTS

We lease certain manufacturing facilities, warehouse space, machinery and equipment, automobiles, railcars, computers and software under operating leases. Lease expense from continuing operations was $25.9 million in 2018, $25.2 million in 2017 and $23.0 million in 2016.

Future minimum lease payments under non-cancelable operating leases with initial lease terms longer than one year as of December 31, 2018 are as follows:

(In millions)	
2019	$24.5
2020	20.4
2021	12.4
2022	8.5
2023	5.8
Thereafter	9.0
Total	$80.6

Note 7 — INVENTORIES, NET

Components of Inventories, net are as follows:

(In millions)	December 31, 2018	December 31, 2017
Finished products	$ 204.3	$ 203.3
Work in process	6.9	5.1
Raw materials and supplies	133.5	119.4
Inventories, net	$ 344.7	$ 327.8

Note 8 — PROPERTY, NET

Components of Property, net are as follows:

(In millions)	December 31, 2018	December 31, 2017
Land and land improvements [1]	$ 48.8	$ 40.7
Buildings [2]	316.5	303.5
Machinery and equipment	1,082.2	1,038.0
Property, gross	1,447.5	1,382.2
Less accumulated depreciation and amortization	(952.1)	(920.6)
Property, net	$ 495.4	$ 461.6

(1) Land and land improvements include properties under capital leases of $0.1 million and $1.7 million as of December 31, 2018 and 2017, respectively.

(2) Buildings include properties under capital leases of $3.6 million and $16.5 million as of December 31, 2018 and 2017, respectively.

Depreciation expense from continuing operations was $62.6 million in 2018, $61.2 million in 2017 and $57.8 million in 2016.

Note 9 — OTHER BALANCE SHEET LIABILITIES

Other liabilities at December 31, 2018 and 2017 consist of the following:

	Accrued expenses and other current liabilities		Other non-current liabilities	
	December 31,		December 31,	
(In millions)	2018	2017	2018	2017
Employment costs	$75.7	$87.5	$18.9	$20.1
Environmental liabilities	9.9	8.4	104.2	108.7
Accrued taxes	16.0	13.8	—	—
Pension and other post-employment benefits	4.9	5.4	—	—
Accrued interest	10.8	10.1	—	—
Dividends payable	15.6	14.2	—	—
Unrecognized tax benefits	1.7	3.3	16.1	18.1
Other	4.6	6.4	26.1	9.4
Total	$139.2	$149.1	$165.3	$156.3

Note 10 — EMPLOYEE BENEFIT PLANS

We recognize actuarial gains and losses in our operating results in the year in which the gains or losses occur. These gains and losses are generally only measured annually as of December 31 and, accordingly, are recorded during the fourth quarter of each year. We recognized a charge of $15.6 million and $3.3 million in the fourth quarter of 2018 and 2017, respectively, related to the actuarial losses during the year. We recognized a benefit of $8.4 million in the fourth quarter of 2016, related to the actuarial gain during the year.

All U.S. qualified defined benefit pension plans are frozen, no longer accrue benefits and are closed to new participants. We have foreign pension plans that accrue benefits. The plans generally provide benefit payments using a formula that is based upon employee compensation and length of service.

The following tables present the change in benefit obligation, change in plan assets and components of funded status for defined benefit pension and post-retirement health care benefit plans.

	Pension Benefits		Health Care Benefits	
(In millions)	2018	2017	2018	2017
Change in benefit obligation:				
Projected benefit obligation — beginning of year	$507.7	$503.0	$ 8.8	$ 10.8
Service cost	0.6	0.6	—	—
Interest cost	17.6	19.3	0.3	0.4
Actuarial (gain) loss	(23.9)	21.3	(0.6)	(1.7)
Benefits paid	(37.7)	(38.8)	(0.8)	(0.9)
Other	(1.6)	2.3	(0.3)	0.2
Projected benefit obligation — end of year	$462.7	$507.7	$ 7.4	$ 8.8
Projected salary increases	(1.6)	(2.0)	—	—
Accumulated benefit obligation	$461.1	$505.7	$ 7.4	$ 8.8
Change in plan assets:				
Plan assets — beginning of year	$484.7	$474.3	$ —	$ —
Actual (loss) return on plan assets	(16.4)	44.0	—	—
Company contributions	4.5	4.6	0.8	0.9
Benefits paid	(37.7)	(38.8)	(0.8)	(0.9)
Other	(0.7)	0.6	—	—
Plan assets — end of year	$434.4	$484.7	$ —	$ —
Unfunded status at end of year	$(28.3)	$(23.0)	$ (7.4)	$ (8.8)

Amounts included in the accompanying Consolidated Balance Sheets as of December 31 are as follows:

	Pension Benefits		Health Care Benefits	
(In millions)	2018	2017	2018	2017
Non-current assets	$23.5	$35.9	$ —	$ —
Accrued expenses and other liabilities	$4.1	$4.4	$ 0.8	$ 1.0
Other non-current liabilities	$47.7	$54.5	$ 6.6	$ 7.8

As of December 31, 2018 and 2017, we had plans with total projected and accumulated benefit obligations in excess of the related plan assets as follows:

	Pension Benefits		Health Care Benefits	
(In millions)	2018	2017	2018	2017
Projected benefit obligation	$56.4	$63.9	$ 7.4	$ 8.8
Accumulated benefit obligation	$54.8	$61.9	$ 7.4	$ 8.8
Fair value of plan assets	$4.6	$5.1	$ —	$ —

Weighted-average assumptions used to determine benefit obligations at December 31:

	Pension Benefits		Health Care Benefits	
	2018	2017	2018	2017
Discount rate	4.11 %	3.62 %	3.98 %	3.60 %
Assumed health care cost trend rates at December 31:				
Health care cost trend rate assumed for next year	N/A	N/A	6.09 %	6.29 %
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)	N/A	N/A	4.50 %	4.50 %
Year that the rate reaches the ultimate trend rate	N/A	N/A	2027	2027

The following table summarizes the components of net periodic benefit cost or gain that was recognized during each of the years in the three-year period ended December 31, 2018.

	Pension Benefits			Health Care Benefits		
(In millions)	2018	2017	2016	2018	2017	2016
Components of net periodic benefit costs (gains):						
Service cost	$0.6	$0.6	$1.0	$—	$—	$—
Interest cost	17.6	19.3	20.7	0.3	0.4	0.5
Expected return on plan assets	(23.8)	(27.7)	(31.4)	—	—	—
Mark-to-market actuarial net losses (gains)	16.2	5.0	(7.8)	(0.6)	(1.7)	(0.6)
Other	(0.1)	—	—	—	—	—
Net periodic cost (benefit)	$10.5	$(2.8)	$(17.5)	$(0.3)	$(1.3)	$(0.1)

In 2018, we recognized a $15.6 million mark-to-market charge that was primarily a result of actual asset returns that were lower than our assumed returns. Partially offsetting the lower asset returns was the increase in our year end discount rates from 3.62% to 4.11%.

In 2017, we recognized a $3.3 million mark-to-market charge that was primarily a result of the decrease in our year end discount rates, from 3.97% to 3.62%, and updated mortality assumptions, partially offset by a higher than expected return on assets.

In 2016, we recognized an $8.4 million mark-to-market gain that was primarily a result of actual asset returns that were $5.7 million higher than our assumed returns and updated mortality assumptions. Partially offsetting these gains was the decrease in our year end discounts rates, from 4.10% to 3.97%.

Weighted-average assumptions used to determine net periodic benefit cost for the years ended December 31:

	Pension Benefits			Health Care Benefits		
	2018	2017	2016	2018	2017	2016
Discount rate*	3.62%	3.97%	4.10%	3.60 %	4.04 %	4.12 %
Expected long-term return on plan assets*	5.09%	6.08%	6.87%	— %	— %	— %
Assumed health care cost trend rates at December 31:						
Health care cost trend rate assumed for next year	N/A	N/A	N/A	6.29 %	6.52 %	6.69 %
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)	N/A	N/A	N/A	4.50 %	4.50 %	4.50 %
Year that the rate reaches the ultimate trend rate	N/A	N/A	N/A	2027	2027	2027

* The mark-to-market component of net periodic costs is determined based on discount rates as of year-end and actual asset returns during the year.

The expected long-term rate of return on pension assets was determined after considering the historical and forward looking long-term asset returns by asset category and the expected investment portfolio mix.

Our pension investment strategy is to diversify the portfolio among asset categories to enhance the portfolio's risk-adjusted return as well as insulate it from exposure to changes in interest rates. Our asset mix considers the duration of plan liabilities, historical and expected returns of the investments, and the funded status of the plan. The pension asset allocation is reviewed and actively managed based on the funded status of the plan. Based on the current funded status of the plan, our pension asset investment allocation guidelines are to invest 83% in fixed income securities and 17% in equity securities. The plan keeps a minimal amount of cash available to fund benefit payments. These investments may include funds of multiple asset investment strategies and funds of hedge funds.

The fair values of pension plan assets at December 31, 2018 and 2017, by asset category, are as follows:

(In millions)	Fair Value of Plan Assets at December 31, 2018 Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total Investments (at Fair Value)
Asset category				
Cash	$3.7	$ —	$ —	$ 3.7
Other	—	—	4.6	4.6
Total	$3.7	$ —	$ 4.6	8.3
Investments measured at NAV:				
Common collective funds:				
United States equity				14.9
International equity				14.9
Global equity				8.5
Fixed income				387.8
Total common collective funds				426.1
Total investments at fair value				$ 434.4

(In millions)	Fair Value of Plan Assets at December 31, 2017 Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total Investments (at Fair Value)
Asset category				
Cash	$4.3	$ —	$ —	$ 4.3
Other	—	—	5.1	5.1
Total	$4.3	$ —	$ 5.1	9.4
Investments measured at NAV:				
Common collective funds:				
United States equity				19.2
International equity				19.4
Global equity				9.6
Fixed income				427.1
Total common collective funds				$ 475.3
Total investments at fair value				$ 484.7

Pension Plan Assets

Other assets are primarily insurance contracts for international plans. The U.S. equity common collective funds are predominately invested in equity securities actively traded in public markets. The international and global equity common collective funds have broadly diversified investments across economic sectors and focus on low volatility, long-term investments. The fixed income common collective funds consist primarily of publicly traded United States fixed interest obligations (principally investment grade bonds and government securities).

Level 1 assets are valued based on quoted market prices. Level 2 investments are valued based on quoted market prices and/or other market data for the same or comparable instruments and transactions of the underlying fixed income investments. The insurance contracts included in the other asset category are valued at the transacted price. Common collective funds are valued at the net asset value of units held by the fund at year end. The unit value is determined by the total value of fund assets divided by the total number of units of the fund owned.

The estimated future benefit payments for our pension and health care plans are as follows:

(In millions)	Pension Benefits	Health Care Benefits
2019	$ 38.3	$ 0.9
2020	37.7	0.8
2021	38.2	0.8
2022	36.2	0.7
2023	35.9	0.7
2024 through 2028	162.4	2.5

We currently estimate that 2019 employer contributions will be $4.3 million to all qualified and non-qualified pension plans and $0.9 million to all healthcare benefit plans.

PolyOne sponsors various voluntary retirement savings plans (RSP). Under the provisions of the plans, eligible employees receive defined Company contributions and are eligible for Company matching contributions based on their eligible earnings contributed to the plan. In addition, we may make discretionary contributions to the plans for eligible employees based on a specific percentage of each employee’s compensation.

Following are our contributions to the RSP:

(In millions)	2018	2017	2016
Retirement savings match	$10.1	$9.1	$8.2
Retirement benefit contribution	—	1.6	4.0
Total contributions	$10.1	$10.7	$12.2

Note 11 — COMMITMENTS AND CONTINGENCIES

Environmental — We have been notified by federal and state environmental agencies and by private parties that we may be a potentially responsible party (PRP) in connection with the environmental investigation and remediation of certain sites. While government agencies frequently assert that PRPs are jointly and severally liable at these sites, in our experience, the interim and final allocations of liability costs are generally made based on the relative contribution of waste. We may also initiate corrective and preventive environmental projects of our own to ensure safe and lawful activities at our operations. We believe that compliance with current governmental regulations at all levels will not have a material adverse effect on our financial position, results of operations or cash flows.

In September 2007, the United States District Court for the Western District of Kentucky in the case of Westlake Vinyls, Inc. v. Goodrich Corporation, et al., held that PolyOne must pay the remediation costs at the former Goodrich Corporation Calvert City facility (now largely owned and operated by Westlake Vinyls), together with certain defense costs of Goodrich Corporation. The rulings also provided that PolyOne can seek indemnification for contamination attributable to Westlake Vinyls.

Following the Court rulings, the parties to the litigation agreed to settle all claims regarding past environmental costs incurred at the site. The settlement agreement provides a mechanism to pursue allocation of future remediation costs at the Calvert City site to Westlake Vinyls. We will adjust our accrual, in the future, consistent with any such future allocation of costs. Additionally, we continue to pursue available insurance coverage related to this matter and recognize gains as we receive reimbursement.

The environmental obligation at the site arose as a result of an agreement between The B.F.Goodrich Company (n/k/a Goodrich Corporation) and our predecessor, The Geon Company, at the time of the initial public offering in 1993. Under the agreement, The Geon Company agreed to indemnify Goodrich Corporation for certain environmental costs at the site. Neither PolyOne nor The Geon Company ever operated the facility.

Since 2009, PolyOne, along with respondents Westlake Vinyls, Inc., and Goodrich Corporation, have worked with the United States Environmental Protection Agency (USEPA) on the investigation of contamination at the site as well as evaluation of potential remedies to address the contamination. The USEPA issued its Record of Decision (ROD) in September 2018, selecting a remedy consistent with our accrual assumptions. In October 2018, the USEPA sent a letter to the respondents inviting negotiation of an agreement to conduct the remedial design; that negotiation is ongoing. Our current reserve of $103.3 million is consistent with the USEPA's estimates contained in the ROD.

On March 13, 2013, PolyOne acquired Spartech Corporation (Spartech). One of Spartech's subsidiaries, Franklin-Burlington Plastics, Inc. (Franklin-Burlington), operated a plastic resin compounding facility in Kearny, New Jersey, located adjacent to the Passaic River. The USEPA requested that companies located in the area of the lower Passaic

River, including Franklin-Burlington, cooperate in an investigation of contamination of approximately 17 miles of the lower Passaic River Study Area (the LPRSA). In response, Franklin-Burlington and approximately 70 other companies (collectively, the Cooperating Parties) agreed, pursuant to an Administrative Order on Consent (AOC) with the USEPA, to assume responsibility for development of a Remedial Investigation and Feasibility Study of the LPRSA. Franklin-Burlington has not admitted to any liability or agreed to bear any other costs for remediation or natural resource damage.

In 2015, the Cooperating Parties submitted to the USEPA a remedial investigation report and feasibility study for the LPRSA, and are currently engaged in technical discussions with the USEPA to revise and finalize those documents. Neither of those documents contemplates who is responsible for remediation or how such costs might be allocated to PRPs. In March 2016, the USEPA issued a ROD selecting a remedy for an eight-mile portion of the LPRSA at an estimated and discounted cost of $1.4 billion. On March 31, 2016, the USEPA sent a Notice of Potential Liability to over 100 companies, including Franklin-Burlington, and several municipalities for this eight-mile portion. In September 2016, the USEPA reached an agreement with Occidental Chemical Corporation (OCC), which orders OCC to perform the remedial design for the lower eight mile portion of the Passaic River. In September 2017, the USEPA sent a letter to over 80 companies, including Franklin-Burlington, indicating that the USEPA would engage the recipients in an allocation process for the lower eight miles of the LPRSA, and has engaged a third-party allocator as part of that process. Along with other parties, Franklin-Burlington is participating in the development of this allocation process with the allocator retained by the USEPA, and this process is expected to continue into at least 2019. On June 30, 2018, OCC, independent of the USEPA, filed suit against over 100 named entities, including Franklin-Burlington, seeking contribution for past and future costs associated with the remediation of the lower eight-mile portion of the LPRSA.

Based on the currently available information, we have not identified evidence that Franklin-Burlington contributed any of the primary contaminants of concern to the lower Passaic River. A timeline as to when an allocation of the remedial costs may be determined is not yet known and any allocation to Franklin-Burlington has not been determined. As a result of these uncertainties, we are unable to estimate a liability related to this matter and, as of December 31, 2018, we have not accrued for costs of remediation related to the lower Passaic River.

The Consolidated Balance Sheets include accruals totaling $114.1 million and $117.1 million as of December 31, 2018 and 2017, respectively, based on our estimates of probable future environmental expenditures relating to previously contaminated sites. These undiscounted amounts are included in Accrued expenses and other current liabilities and Other non-current liabilities on the accompanying Consolidated Balance Sheets. The accruals represent our best estimate of probable future costs that we can reasonably estimate, based upon currently available information and technology and our view of the most likely remedy. Depending upon the results of future testing, completion and results of remedial investigation and feasibility studies, the ultimate remediation alternatives undertaken, changes in regulations, technology development, new information, newly discovered conditions and other factors, it is reasonably possible that we could incur additional costs in excess of the amount accrued at December 31, 2018. However, such additional costs, if any, cannot be currently estimated.

The following table details the changes in the environmental accrued liabilities:

(In millions)	2018	2017	2016
Balance at beginning of the year	$117.1	$117.3	$119.9
Environmental expenses	23.2	14.8	8.3
Net cash payments	(26.0)	(15.2)	(11.0)
Currency translation and other	(0.2)	0.2	0.1
Balance at end of year	$114.1	$117.1	$117.3

The environmental expenses noted in the table above are included in Cost of sales in the accompanying Consolidated Statements of Income (Loss), as are insurance recoveries received for previously incurred environmental costs. We received insurance recoveries of $4.3 million, $9.1 million and $6.1 million in 2018, 2017 and 2016, respectively. Such insurance recoveries are recognized as a gain when received.

Other Litigation — We are involved in various pending or threatened claims, lawsuits and administrative proceedings, all arising from the ordinary course of business concerning commercial, product liability, employment and

environmental matters that seek remedies or damages. We believe that the probability is remote that losses in excess of the amounts we have accrued would be materially adverse to our financial position, results of operations or cash flows.

Note 12 — INCOME TAXES

Income from continuing operations, before income taxes is summarized below based on the geographic location of the operation to which such earnings are attributable.

Income from continuing operations, before income taxes consists of the following:

(In millions)	2018	2017	2016
Domestic	$86.3	$105.6	$129.1
Foreign	110.9	106.7	97.5
Income from continuing operations, before income taxes	$197.2	$212.3	$226.6

A summary of income tax expense from continuing operations is as follows:

(In millions)	2018	2017	2016
Current income tax expense (benefit):			
Domestic - GILTI and U.S. tax reform transition tax	$3.7	$24.0	$—
Domestic - other	10.2	(11.2)	27.8
Foreign	27.3	27.3	22.5
Total current income tax expense	$41.2	$40.1	$50.3
Deferred income tax (benefit) expense:			
Domestic - U.S. tax reform, tax effect on net deferred tax liabilities	$(6.8)	$(20.1)	$—
Domestic - other	22.1	27.4	6.0
Foreign	(20.1)	(8.7)	4.1
Total deferred income tax (benefit) expense	$(4.8)	$(1.4)	$10.1
Total income tax expense	$36.4	$38.7	$60.4

Within the Total deferred income tax benefit, Foreign, was a benefit of $9.3 million and $9.5 million for the year ended December 31, 2018 and 2017, respectively. These benefits related to a 2017 European legal entity realignment.

The Tax Cuts and Jobs Act (TCJA) was enacted on December 22, 2017. Among other things, effective in 2018, the TCJA reduced the US federal corporate tax rate from 35% to 21%, exempts from U.S. federal income taxation dividends from certain foreign corporations to their U.S. shareholders, eliminates or reduces the effect of various federal tax deductions and creates new taxes on certain outbound payments and future foreign earnings generated after 2017. The TCJA required U.S. companies to pay a one-time transition tax on earnings of foreign corporate subsidiaries that were at least ten-percent owned by such U.S. companies and that were previously deferred from U.S. taxation.

As of December 31, 2018, we had completed our accounting for the tax effects of the enactment of the TCJA. In compliance with the one-year measurement period of the SEC's Staff Accounting Bulletin 118 (SAB 118) (issued December 22, 2017), we have finalized the effects of the TCJA on our existing deferred income tax balances, the one-time transition tax and, as discussed below, the impact the TCJA had on our indefinite reinvestment assertion pursuant to Accounting Principles Board 23 (APB 23). These finalized effects are included as components of income tax expense from continuing operations and are noted in the following tabular reconciliation.

As of December 31, 2018, we had completed our analysis with respect to the impact of the TCJA on our continuing assertion that our foreign earnings are indefinitely reinvested pursuant to APB 23 of Accounting Standards Codification 740-30 (ASC 740-30). APB 23 provides guidance that US companies do not need to recognize tax effects on foreign earnings that are indefinitely reinvested. Our assertion has changed with respect to certain earnings of foreign affiliates in certain countries, which resulted in a recognition of tax liabilities. As of December 31, 2018, and noted in the Repatriation of certain foreign earnings from prior and current periods line in the following tabular reconciliation, we recognized an impact of 4.5% to our provision from a decision to repatriate prior year earnings after completing our analysis with respect to the TCJA and 1.2% pertaining to our decision to repatriate certain current year earnings. The rest of our foreign earnings are indefinitely reinvested pursuant to APB 23 and our policy. No deferred income taxes were recorded on outside basis differences as it was not practicable to determine the provision impact, if any, due to the complexities associated with this calculation.

We elected to recognize the resulting tax on the global intangible low-taxed income (GILTI) as a period expense in the period the tax is incurred.

A reconciliation of the applicable U.S. federal statutory tax rate to the consolidated effective income tax rate from continuing operations along with a description of significant or unusual reconciling items is included below.

	2018	2017	2016
Federal statutory income tax rate	21.0 %	35.0 %	35.0 %
Foreign tax rate differential:			
Asia	0.2	(1.2)	(1.2)
Europe	(6.0)	(8.6)	(2.7)
Canada and Mexico	—	(1.3)	(1.7)
Total foreign tax rate differential:	(5.8)	(11.1)	(5.6)
State and local tax, net	2.8	1.4	2.1
Tax on GILTI	1.5	—	—
Repatriation on certain foreign earnings from prior and current periods	5.7	0.4	—
Tax benefits on certain foreign investments	—	(6.8)	(1.9)
Domestic production activities deduction	(0.7)	(1.9)	(1.5)
Amended prior period tax returns and corresponding favorable audit adjustments	—	(3.6)	(1.3)
Net impact of uncertain tax positions	(0.4)	2.2	(1.1)
Changes in valuation allowances	(1.8)	0.7	0.4
U.S. tax reform, transition tax	0.8	11.3	—
U.S. tax reform, tax effect on net deferred tax liabilities	(3.5)	(9.5)	—
Other	(1.1)	0.1	0.6
Effective income tax rate	18.5 %	18.2 %	26.7 %

The effective tax rates for all periods differed from the applicable U.S. federal statutory tax rate as a result of permanent items, state and local income taxes, differences in foreign tax rates and certain unusual items. Permanent items primarily consist of income or expense not taxable or deductible. Significant or unusual items impacting the effective income tax rate are described below.

2018 Significant items

The increase in the Repatriation on certain foreign earnings from prior and current periods line item resulted from a decision to repatriate certain foreign earnings from current and prior periods.

The benefit reflected in the Changes in valuation allowances line resulted from the realizability of a deferred tax asset for one of our foreign entities.

2017 Significant items

The increase in the Foreign tax rate differential line item in the table above, compared to 2016, primarily related to a European legal entity realignment.

Tax benefits on certain foreign investments decreased the effective tax rate by 6.8% ($14.4 million) related to distributions from foreign subsidiaries with net foreign tax credits.

Components of our deferred tax assets (liabilities) as of December 31, 2018 and 2017 were as follows:

(In millions)	2018	2017
Deferred tax assets:		
Pension and other post-retirement benefits	$8.2	$7.3
Employment costs	20.1	22.0
Environmental reserves	29.0	29.4
Net operating loss carryforwards	48.8	42.3
Other, net	39.8	20.0
Gross deferred tax assets	$145.9	$121.0
Valuation allowances	(15.2)	(21.4)
Total deferred tax assets, net of valuation allowances	$130.7	$99.6
Deferred tax liabilities:		
Property, plant and equipment	$(33.9)	$(20.7)
Goodwill and intangibles	(101.5)	(98.7)
Other, net	(14.4)	(1.0)
Total deferred tax liabilities	$(149.8)	$(120.4)
Net deferred tax (liabilities) assets	$(19.1)	$(20.8)
Consolidated Balance Sheets:		
Non-current deferred income tax assets	$50.2	$19.5
Non-current deferred income tax liabilities	$(69.3)	$(40.3)

As of December 31, 2018, we had gross state net operating loss carryforwards of $151.7 million that expire between 2019 and 2033. Various foreign subsidiaries have gross net operating loss carryforwards totaling $152.3 million that expire between 2019 and 2037 with limited exceptions that have indefinite carryforward periods. Total tax valuation allowances decreased $6.2 million from the prior year primarily due to the ability to realize net operating loss carryforwards at a certain foreign entity based on expected future profitability. We have provided valuation allowances of $15.1 million against certain foreign and state net operating loss carryforwards that are expected to expire prior to utilization.

We decided to repatriate certain current and prior year foreign earnings, which we have received in 2018 or will receive in the future, for which the provision impact (5.7%) has been included in the tabular rate reconciliation and in Other, net deferred tax liabilities ($8.2 million) above. No provision has been made for income taxes on the undistributed earnings of certain consolidated non-U.S. subsidiaries, primarily in Europe, of approximately $350 million as of December 31, 2018 as these amounts, consistent with our policy, continue to be indefinitely reinvested.

We made worldwide income tax payments of $46.5 million and received refunds of $29.9 million in 2018. We made worldwide income tax payments of $56.5 million and $50.3 million in 2017 and 2016, respectively, and received refunds of $6.7 million and $2.4 million in 2017 and 2016, respectively.

The Company records provisions for uncertain tax positions in accordance with ASC Topic 740, Income Taxes. A reconciliation of unrecognized tax benefits is as follows:

	Unrecognized Tax Benefits		
(In millions)	2018	2017	2016
Balance as of January 1,	$18.6	$7.9	$11.3
Increases as a result of positions taken during current year	1.3	9.2	0.3
Increases as a result of positions taken for prior years	1.1	1.8	1.2
Balance related to acquired businesses	—	—	—
Reductions for tax positions of prior years	(2.8)	(0.3)	—
Decreases as a result of lapse of statute of limitations	(0.2)	(0.2)	(4.2)

Decreases relating to settlements with taxing authorities	(1.4)	—	(0.3)
Other, net	0.1	0.2	(0.4)
Balance as of December 31,	$16.7	$18.6	$7.9

We recognize interest and penalties related to uncertain tax positions in the provision for income taxes. As of December 31, 2018 and 2017, we had $2.5 million and $3.9 million accrued for interest and penalties, respectively.

Although the timing and outcome of tax settlements are uncertain, it is reasonably possible that during the next twelve months a reduction in unrecognized tax benefits may occur up to $1.2 million based on the outcome of tax examinations and the expiration of statutes of limitations.

If all unrecognized tax benefits were recognized, the net impact on the provision for income tax expense would be a benefit of $10.9 million.

The Company is currently being audited by federal, state and foreign taxing jurisdictions. With the exception of amended tax returns for 2004 to 2012, which are limited in scope to foreign tax credits, we are no longer subject to U.S. federal income tax examinations for periods preceding 2013. With limited exceptions, we are no longer subject to state tax and foreign tax examinations for periods preceding 2013.

For the income tax benefit associated with the July 19, 2017 sale of DSS, refer to Note 3, Discontinued Operations.

Note 13 — SHARE-BASED COMPENSATION

Share-based compensation cost is based on the value of the portion of share-based payment awards that are ultimately expected to vest during the period. Share-based compensation cost recognized in the accompanying Consolidated Statements of Income (Loss) includes compensation cost for share-based payment awards based on the grant date fair value estimated in accordance with the provision of FASB ASC Topic 718, Compensation — Stock Compensation. Share-based compensation expense is based on awards expected to vest and therefore has been reduced for estimated forfeitures.

Equity and Performance Incentive Plans

The PolyOne Corporation 2017 Equity and Incentive Compensation Plan reserved 2.5 million common shares for the award of a variety of share-based compensation alternatives, including non-qualified stock options, incentive stock options, restricted stock, restricted stock units (RSUs), performance shares, performance units and stock appreciation rights (SARs). It is anticipated that all share-based grants and awards that are earned and exercised will be issued from PolyOne common shares that are held in treasury.

Share-based compensation is included in Selling and administrative expense in the accompanying Consolidated Statements of Income (Loss). A summary of compensation expense by type of award follows:

(In millions)	2018	2017	2016
Stock appreciation rights	$4.4	$4.2	$3.3
Performance shares	0.6	0.6	—
Restricted stock units	5.9	5.3	4.4
Total share-based compensation	$10.9	$10.1	$7.7

Stock Appreciation Rights

During the years ended December 31, 2018, 2017 and 2016, the total number of SARs granted were 0.3 million, 0.5 million and 0.5 million, respectively. Awards vest in one-third increments upon the later of the attainment of time-based vesting over a three-year service period and stock price targets. Awards granted in 2018, 2017 and 2016 are subject to an appreciation cap of 200% of the base price. SARs have contractual terms of ten years from the date of the grant.

The SARs were valued using a Monte Carlo simulation method as the vesting is dependent on the achievement of certain stock price targets. The SARs have time and market-based vesting conditions but vest no earlier than their three year graded vesting schedule. The expected term is an output from the Monte Carlo model, and are derived from employee exercise assumptions that are based on PolyOne historical exercise experience. The expected volatility was determined based on the average weekly volatility for our common shares for the contractual life of the awards. The expected dividend assumption was determined based upon PolyOne's dividend yield at the time of grant. The risk-free rate of return was based on available yields on U.S. Treasury bills of the same duration as the contractual life of the awards. Forfeitures were estimated at 3% per year based on our historical experience.

The following is a summary of the weighted average assumptions related to the grants issued during 2018, 2017 and 2016:

	2018	2017	2016
Expected volatility	41.0%	41.0%	41.0%
Expected dividends	1.67%	1.58%	1.92%

Expected term (in years)	6.5	6.5	6.7
Risk-free rate	3.06%	2.72%	1.90%
Value of SARs granted	$14.82	$12.01	$8.29

A summary of SAR activity for 2018 is presented below:

Stock Appreciation Rights

(In millions, except per share data)	Shares	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding as of January 1, 2018	1.8	$ 28.62	6.85	$ 27.0
Granted	0.3	41.89		
Exercised	(0.3)	21.83		
Forfeited or expired	—	37.31		
Outstanding as of December 31, 2018	1.8	$ 32.14	6.77	$ 4.0
Vested and exercisable as of December 31, 2018	1.0	$ 28.83	5.67	$ 3.5

The total intrinsic value of SARs exercised during 2018, 2017 and 2016 was $6.5 million, $7.6 million and $2.8 million, respectively. As of December 31, 2018, there was $2.7 million of total unrecognized compensation cost related to SARs, which is expected to be recognized over the weighted average remaining vesting period of 23 months.

Restricted Stock Units

RSUs represent contingent rights to receive one common share at a future date provided certain vesting criteria are met.

During 2018, 2017 and 2016, the total number of RSUs granted were 0.2 million, 0.3 million and 0.2 million, respectively. These RSUs, which vest on the third anniversary of the grant date, were granted to executives and other key employees. Compensation expense is measured on the grant date using the quoted market price of our common shares and is recognized on a straight-line basis over the requisite service period.

As of December 31, 2018, 0.6 million RSUs remain unvested with a weighted-average grant date fair value of $34.80. Unrecognized compensation cost for RSUs at December 31, 2018 was $8.1 million, which is expected to be recognized over the weighted average remaining vesting period of 21 months.

Note 14 — SEGMENT INFORMATION

Operating income is the primary measure that is reported to our chief operating decision maker (CODM) for purposes of allocating resources to the segments and assessing their performance. Operating income at the segment level does not include: corporate general and administrative expenses that are not allocated to segments; intersegment sales and profit eliminations; charges related to specific strategic initiatives such as the consolidation of operations; restructuring activities, including employee separation costs resulting from personnel reduction programs, plant closure and phase-in costs; executive separation agreements; share-based compensation costs; asset impairments; environmental remediation costs, along with related gains from insurance recoveries, and other liabilities for facilities no longer owned or closed in prior years; gains and losses on the divestiture of joint ventures and equity investments; actuarial gains and losses associated with our pension and other post-retirement benefit plans; and certain other items that are not included in the measure of segment profit or loss that is reported to and reviewed by our CODM. These costs are included in Corporate and eliminations.

Segment assets are primarily customer receivables, inventories, net property, plant and equipment, intangible assets and goodwill. Intersegment sales are generally accounted for at prices that approximate those for similar transactions with unaffiliated customers. Corporate and eliminations assets and liabilities primarily include cash, debt, pension and other employee benefits, environmental liabilities, retained assets and liabilities of discontinued operations, and other unallocated corporate assets and liabilities. The accounting policies of each segment are consistent with those described in Note 1, Description of Business and Summary of Significant Accounting Policies.

PolyOne has four reportable segments. Previously, PolyOne had five reportable segments. However, as a result of the divestiture of DSS, we have removed DSS as a separate operating segment and its results are presented as a discontinued operation. Historical information has been retrospectively adjusted to reflect these changes.

The following is a description of each of our four reportable segments.

Color, Additives and Inks

Color, Additives and Inks is a leading provider of specialized custom color and additive concentrates in solid and liquid form for thermoplastics, dispersions for thermosets, as well as specialty inks, plastisols, and vinyl slush molding solutions. Color and additive solutions include an innovative array of colors, special effects and performance-enhancing and eco-friendly solutions. When combined with polymer resins, our solutions help customers achieve differentiated

specialized colors and effects targeted at the demands of today’s highly design-oriented consumer and industrial end markets. Our additive concentrates encompass a wide variety of performance and process enhancing characteristics and are commonly categorized by the function that they perform, including UV light stabilization and blocking, antimicrobial, anti-static, blowing or foaming, antioxidant, lubricant, oxygen and visible light blocking and productivity enhancement. Our colorant and additives concentrates are used in a broad range of polymers, including those used in medical and pharmaceutical devices, food packaging, personal care and cosmetics, transportation, building products, wire and cable markets. We also provide custom-formulated liquid systems that meet a variety of customer needs and chemistries, including polyester, vinyl, natural rubber and latex, polyurethane and silicone. Our offerings also include proprietary inks and latexes for diversified markets such as recreational and athletic apparel, construction and filtration, outdoor furniture and healthcare. Our liquid polymer coatings and additives are largely based on vinyl and are used in a variety of markets, including building and construction, consumer, healthcare, industrial, packaging, textiles, appliances, transportation, and wire and cable. Color, Additives and Inks has manufacturing, sales and service facilities located throughout North America, South America, Europe and Asia.

Specialty Engineered Materials

Specialty Engineered Materials is a leading provider of specialty polymer formulations, services and solutions for designers, assemblers and processors of thermoplastic materials across a wide variety of markets and end-use applications. Our product portfolio, which we believe to be one of the most diverse in our industry, includes specialty formulated high-performance polymer materials that are manufactured using thermoplastic resins and elastomers, which are then combined with advanced polymer additives, reinforcement, filler, colorant and/or biomaterial technologies. We also have what we believe is the broadest composite platform of solutions, which include a full range of products from long glass and carbon fiber technology to thermoset and thermoplastic composites. These solutions meet a wide variety of unique customer requirements for light weighting. Our technical and market expertise enables us to expand the performance range and structural properties of traditional engineering-grade thermoplastic resins to meet evolving customer needs. Specialty Engineered Materials has manufacturing, sales and service facilities located throughout North America, Europe, and Asia. Our product development and application reach is further enhanced by the capabilities of our Innovation Centers in the United States, Germany and China, which produce and evaluate prototype and sample parts to help assess end-use performance and guide product development. Our manufacturing capabilities are targeted at meeting our customers’ demand for speed, flexibility and critical quality.

Performance Products and Solutions

Performance Products and Solutions is comprised of the Geon Performance Materials (Geon) and Producer Services business units. The Geon business delivers an array of products and services for vinyl molding and extrusion processors located in North America and Asia. The GeonTM brand name carries strong recognition globally. Geon's products are sold to manufacturers of durable plastic parts and consumer-oriented products. We also offer a wide range of services including materials testing, component analysis, custom formulation development, colorant and additive services, part design assistance, structural analysis, process simulations, mold design and flow analysis and extruder screw design. Vinyl is used across a broad range of markets and applications, including, but not limited to: healthcare, wire and cable, building and construction, consumer and recreational products and transportation and packaging. The Producer Services business unit offers contract manufacturing and outsourced polymer manufacturing services to resin producers and polymer marketers, primarily in the United States and Mexico, as well as its own proprietary formulations for certain applications. As a strategic and integrated supply chain partner, Producer Services offers resin producers a capital-efficient way to effectively develop custom products for niche markets by leveraging its extensive process technology expertise, broad manufacturing capabilities and geographic locations.

Distribution

The Distribution business distributes more than 4,000 grades of engineering and commodity grade resins, including PolyOne-produced solutions, principally to the North American, Central American and Asian markets. These products are sold to over 6,500 custom injection molders and extruders who, in turn, convert them into plastic parts that are sold to end-users in a wide range of industries. Representing over 25 major suppliers, we offer our customers a broad product portfolio, just-in-time delivery from multiple stocking locations and local technical support. Expansion in Central America and Asia have bolstered Distribution's ability to serve the specialized needs of customers globally.

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Financial information by reportable segment is as follows:

Year Ended December 31, 2018 (In millions)	Sales to External Customers	Intersegment Sales	Total Sales	Operating Income	Depreciation and Amortization	Capital Expenditures	Total Assets
Color, Additives and Inks	$ 1,040.6	$ 5.9	$ 1,046.5	$ 158.5	$ 44.3	$ 22.9	$ 1,235.1
Specialty Engineered Materials	593.6	52.2	645.8	72.3	23.2	25.2	596.2
Performance Products and Solutions	652.4	83.4	735.8	73.6	15.9	19.5	275.4
Distribution	1,246.8	18.6	1,265.4	71.5	0.7	0.1	249.0
Corporate and eliminations	—	(160.1)	(160.1)	(102.2)	4.4	8.3	367.6
Total	$ 3,533.4	$ —	$ 3,533.4	$ 273.7	$ 88.5	$ 76.0	$ 2,723.3

Year Ended December 31, 2017 (In millions)	Sales to External Customers	Intersegment Sales	Total Sales	Operating Income	Depreciation and Amortization	Capital Expenditures	Total Assets
Color, Additives and Inks	$ 877.7	$ 15.5	$ 893.2	$ 138.6	$ 41.2	$ 21.2	$ 1,146.8
Specialty Engineered Materials	574.8	49.5	624.3	75.5	21.1	23.4	545.1
Performance Products and Solutions	639.6	81.0	720.6	77.1	15.5	17.2	275.8
Distribution	1,137.8	16.8	1,154.6	72.6	0.8	0.5	250.9
Corporate and eliminations	—	(162.8)	(162.8)	(91.0)	4.2	9.3	486.7
Total	$ 3,229.9	$ —	$ 3,229.9	$ 272.8	$ 82.8	$ 71.6	$ 2,705.3

Year Ended December 31, 2016 (In millions)	Sales to External Customers	Intersegment Sales	Total Sales	Operating Income	Depreciation and Amortization	Capital Expenditures	Total Assets
Color, Additives and Inks	$ 778.9	$ 18.8	$ 797.7	$ 127.5	$ 40.2	$ 20.6	$ 923.8
Specialty Engineered Materials	516.4	49.4	565.8	81.1	18.3	19.4	542.8
Performance Products and Solutions	589.2	79.3	668.5	74.4	15.0	12.4	241.8
Distribution	1,054.1	16.9	1,071.0	68.2	0.7	0.2	207.0
Corporate and eliminations	—	(164.4)	(164.4)	(83.5)	4.0	13.0	386.5
Assets Held for Sale	—	—	—	—	25.8	18.6	433.9
Total	$ 2,938.6	$ —	$ 2,938.6	$ 267.7	$ 104.0	$ 84.2	$ 2,735.8

Our sales are primarily to customers in the United States, Canada, Mexico, Europe, South America and Asia, and the majority of our assets are located in these same geographic areas. The following is a summary of sales and long-lived assets based on the geographic areas where the sales originated and where the assets are located:

(In millions)	2018	2017	2016
Sales:			
United States	$2,030.4	$1,910.8	$1,767.8
Europe	549.9	455.7	415.2
Canada	255.0	251.1	237.7
Asia	346.4	313.4	266.9
Mexico	331.7	279.8	233.7
South America	20.0	19.1	17.3
Total Sales	$3,533.4	$3,229.9	$2,938.6
Long lived assets:			
United States	$290.0	$279.7	$268.3
Europe	116.4	97.0	86.6
Canada	10.7	8.2	7.2
Asia	58.9	56.2	44.6
Mexico	17.7	18.5	18.5
South America	1.7	2.0	1.1
Total Long lived assets	$495.4	$461.6	$426.3

Note 15 — DERIVATIVES AND HEDGING

We are exposed to market risks, such as changes in foreign currency exchange rates and interest rates. To manage the volatility related to these exposures we may enter into various derivative transactions. As of December 31, 2018, we had derivatives designated as net investment hedging and cash flow hedging instruments.

Net Investment Hedge

During October and December of 2018, as a means of mitigating the impact of currency fluctuations on our Euro investments in foreign entities, we executed a total of six cross currency swaps, in which we will pay fixed-rate interest in Euros and receive fixed-rate interest in U.S. dollars with a combined notional amount of 250.0 million Euros and which mature in March 2023. This effectively converts a portion of our U.S. Dollar denominated fixed-rate debt to Euro denominated fixed-rate debt. That conversion resulted in a benefit of $2.0 million for the year ended December 31, 2018, which was recognized within Interest expense, net within the Condensed Consolidated Statements of Income.

We designated the swaps as net investment hedges of our net investment in our European operations under ASU 2017-12 and applied the spot method to these hedges. For the year ended December 31, 2018, a $2.0 million gain was recognized within translation adjustments in AOCI, net of tax.

Cash Flow Hedging Instruments

In August 2018, we entered into two interest rate swaps with a combined notional amount of $150.0 million to manage the variability of cash flows in the interest rate payments associated with our existing LIBOR-based interest payments, effectively converting $150.0 million of our floating rate debt to a fixed rate. We began to receive floating rate interest payments based upon one month U.S. dollar LIBOR and in return are obligated to pay interest at a fixed rate of 2.732% until November 2022. We have designated these swap contracts as cash flow hedges pursuant to ASC 815, Derivatives and Hedging. For the year ended December 31, 2018, the amount of expense recognized within Interest expense, net in our Consolidated Statements of Income (Loss) was $0.3 million and $1.3 million of loss was recognized in AOCI, net of tax.

All of our derivative assets and liabilities measured at fair value are classified as Level 2 within the fair value hierarchy. We determine the fair value of our derivatives based on valuation methods, which project future cash flows and discount the future amounts present value using market based observable inputs, including interest rate curves and foreign currency rates. The fair value of derivative financial instruments recognized in the Condensed Consolidated

Balance Sheets is as follows:

(In millions)	Balance Sheet Location	December 31, 2018	December 31, 2017
Assets			
Cross Currency Swaps (Net Investment Hedge)	Other non-current assets	$ 2.6	$ —
Liabilities			
Interest Rate Swap (Fair Value Hedge)	Other non-current liabilities	$ 1.7	$ —

Note 16 — SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED)

	2018 Quarters				2017 Quarters			
(In millions, except per share data)	Fourth (2)	Third (3)	Second (4)	First (5)	Fourth(6)	Third (7)	Second (8)	First (9)
Sales	$834.0	$883.0	$914.8	$901.6	$800.6	$818.5	$814.1	$796.7
Gross Margin	165.0	184.9	196.5	198.5	169.3	179.5	187.9	182.2
Operating income	47.0	70.5	77.4	78.8	47.1	65.7	78.0	82.0
Net income from continuing operations	11.4	50.2	51.5	47.7	35.5	40.2	49.6	48.3
Net income from continuing operations attributable to PolyOne shareholders	$11.6	$50.2	$51.6	$47.7	$35.4	$40.2	$49.6	$48.3
Net income from continuing operations per common share attributable to PolyOne common shareholders: (1)								
Basic earnings per share	$0.15	$0.63	$0.65	$0.59	$0.44	$0.50	$0.61	$0.58
Diluted earnings per share	$0.15	$0.62	$0.64	$0.59	$0.43	$0.49	$0.60	$0.58

(1) Per share amounts for the quarter and the full year have been computed separately. The sum of the quarterly amounts may not equal the annual amounts presented because of differences in the average shares outstanding during each period.

(2) Included for the fourth quarter 2018 are: 1) mark-to-market pension and other post-retirement charge of $15.6 million, 2) environmental remediation costs of $3.9 million and 3) acquisition related costs and adjustments of $2.0 million.

(3) Included for the third quarter 2018 are: 1) environmental remediation costs of $7.5 million and 2) a gain related to the reimbursement of previously incurred environmental costs of $1.5 million.

(4) Included for the second quarter 2018 are: 1) environmental remediation costs of $8.7 million, 2) acquisition related costs and adjustments of $1.9 million and 3) a gain related to the reimbursement of previously incurred environmental costs of $1.6 million.

(5) Included for the first quarter 2018 are: 1) environmental remediation costs of $3.1 million and 2) acquisition related costs and adjustments of $1.9 million.

(6) Included for the fourth quarter 2017 are: 1) tax adjustments primarily associated with the Tax Cuts and Jobs Act of $10.7 million and 2) a mark-to-market pension and other post-retirement charge of $3.3 million.

(7) Included for the third quarter 2017 are: 1) acquisition related costs and adjustments of $2.6 million, 2) environmental remediation costs of $4.9 million and 3) a gain related to the reimbursement of previously incurred environmental costs of $2.5 million.

(8) Included for the second quarter 2017 are: 1) environmental remediation costs of $5.0 million and 2) a gain related to the reimbursement of previously incurred environmental costs of $3.8 million.

(9) Included for the first quarter 2017 are environmental remediation costs of $2.2 million.

Note 17 — SUBSEQUENT EVENTS

On January 2, 2019, the Company completed the acquisition of Fiber-Line for $120.2 million, subject to a working capital adjustment and contingent earn-out consideration over a two-year period. The Fiber-Line results will be reported in the Specialty Engineered Materials segment.

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ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure controls and procedures

PolyOne's management, with the participation of the Chief Executive Officer and the Chief Financial Officer, has evaluated the effectiveness of the design and operation of PolyOne's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934) as of December 31, 2018. Based on this evaluation, the Chief Executive Officer and the Chief Financial Officer have concluded that our disclosure controls and procedures were effective as of December 31, 2018.

Management's Annual Report On Internal Control Over Financial Reporting

The following report is provided by management in respect of PolyOne's internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934):

1. PolyOne's management is responsible for establishing and maintaining adequate internal control over financial reporting.

2. Under the supervision of and with participation of PolyOne's management, including the Chief Executive Officer and the Chief Financial Officer, we conducted an evaluation of the effectiveness of internal control over financial reporting as of December 31, 2018 based on the guidelines established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) (2013 Framework). Management believes that the COSO framework is a suitable framework for its evaluation of financial reporting because it is free from bias, permits reasonably consistent qualitative and quantitative measurements of PolyOne's internal control over financial reporting, is sufficiently complete so that those relevant factors that would alter a conclusion about the effectiveness of PolyOne's internal control over financial reporting are not omitted and is relevant to an evaluation of internal control over financial reporting.

3. Based on the results of our evaluation, management has concluded that such internal control over financial reporting was effective as of December 31, 2018. There were no material weaknesses in internal control over financial reporting identified by management. The results of management's assessment were reviewed with our Audit Committee.

4. Ernst & Young LLP, who audited the consolidated financial statements of PolyOne for the year ended December 31, 2018, also issued an attestation report on PolyOne's internal control over financial reporting under Auditing Standard No. 2201 of the Public Company Accounting Oversight Board. This attestation report is set forth on page 31 of this Annual Report on Form 10-K and is incorporated by reference into this Item 9A.

Changes in internal control over financial reporting

There were no changes in the Company's internal control over financial reporting that occurred during the quarter ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Limitations in internal control over financial reporting

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.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information regarding PolyOne's directors, including the identification of the audit committee and audit committee financial experts, is incorporated by reference to the information contained in PolyOne's Proxy Statement with respect to the 2019 Annual Meeting of Shareholders (2019 Proxy Statement). Information concerning executive officers is contained in Part I of this Annual Report on Form 10-K under the heading "Executive Officers of the Registrant."

The information regarding Section 16(a) beneficial ownership reporting compliance is incorporated by reference to the material under the heading "Section 16(a) Beneficial Ownership Reporting Compliance" in the 2019 Proxy Statement.

The information regarding any changes in procedures by which shareholders may recommend nominees to PolyOne's Board of Directors is incorporated by reference to the information contained in the 2019 Proxy Statement.

PolyOne has adopted a code of ethics that applies to its principal executive officer, principal financial officer and principal accounting officer. PolyOne's code of ethics is posted under the Investor Relations tab of its website at www.polyone.com. PolyOne will post any amendments to, or waivers of, its code of ethics that apply to its principal executive officer, principal financial officer and principal accounting officer on its website.

ITEM 11. EXECUTIVE COMPENSATION

The information regarding executive officer and director compensation is incorporated by reference to the information contained in the 2019 Proxy Statement.

The information regarding compensation committee interlocks and insider participation and the compensation committee report is incorporated by reference to the information contained in the 2019 Proxy Statement.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED SHAREHOLDER MATTER

	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
Plan category	(a)	(b)	(c)
Equity compensation plans approved by security holders	1,797,702	$32.14	2,020,629
Equity compensation plans not approved by security holders	—	—	—
Total	1,797,702	$32.14	2,020,629

(1) In addition to options, warrants and rights, the PolyOne Corporation 2017 Equity and Incentive Compensation Plan (the 2017 EICP) authorizes the issuance of restricted stock, RSUs, performance shares and awards to Non-Employee Directors. The 2017 EICP limits the total number of shares that may be issued as one or more of these types of awards to 2.5 million.

The information regarding security ownership of certain beneficial owners is incorporated by reference to the information contained in the 2019 Proxy Statement.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information regarding certain relationships and related transactions and director independence is incorporated by reference to the information contained in the 2019 Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information regarding fees paid to and services provided by PolyOne's independent registered public accounting firm and the pre-approval policies and procedures of the audit committee is incorporated by reference to the information contained in the 2019 Proxy Statement.

PART IV

ITEM 15. EXHIBITS AND FINANACIAL STATEMENT SCHEDULES

(a)(1) Financial Statements:

The following consolidated financial statements of PolyOne Corporation are included in Item 8:

Consolidated Statements of Income (Loss) for the years ended December 31, 2018, 2017 and 2016

Consolidated Statements of Comprehensive Income (Loss) for the years ended December 31, 2018, 2017 and 2016

Consolidated Balance Sheets at December 31, 2018 and 2017

Consolidated Statements of Cash Flows for the years ended December 31, 2018, 2017 and 2016

Consolidated Statements of Shareholders' Equity for the years ended December 31, 2018, 2017 and 2016

Notes to Consolidated Financial Statements

All other schedules for which provision is made in Regulation S-X of the SEC are not required under the related instructions or are inapplicable and, therefore, have been omitted.

(a)(3) Exhibits:

Exhibit No.	Exhibit Description
2.1†	Asset Purchase Agreement, dated as of March 25, 2013, by and between PolyOne Corporation and Mexichem Specialty Resins Inc. (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed March 27, 2013, SEC File No. 1-16091)
2.2†	Equity Purchase Agreement dated June 29, 2017, by and among PolyOne Corporation, PolyOne Designed Structures and Solutions LLC and NLIN Plastics, LLC (incorporated by reference to Exhibit 2.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017, SEC File No. 1-16091)
3.1	Articles of Incorporation (incorporated by reference to Exhibit 3(i) to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2000, SEC File No. 1-16091)
3.2	Amendment to the Second Article of the Articles of Incorporation, as filed with the Ohio Secretary of State, November 25, 2003 (incorporated by reference to Exhibit 3.1a to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2003, SEC File No. 1-16091)
3.3	Regulations (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on July 17, 2009, SEC File No. 1-16091)
4.1	Indenture, dated February 28, 2013, between PolyOne Corporation and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on March 5, 2013, SEC File No. 1-16091)
10.1	Second Amended and Restated Credit Agreement, dated February 24, 2017, by and among PolyOne Corporation, the subsidiaries of PolyOne Corporation party thereto, Wells Fargo Capital Finance, LLC, as administrative agent, and the various lenders and other agents party thereto (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017, SEC File No. 1-16091)
10.2	Credit Agreement, dated November 12, 2015, by and among PolyOne Corporation, as borrower, Citibank, N.A., as administrative agent, each of Citigroup Global Markets Inc., Wells Fargo Securities LLC, Goldman, Sachs & Co., HSBC Securities (USA) Inc. and Morgan Stanley & Co. LLC, as joint-lead arrangers and joint-book managers, Jefferies Finance LLC, KeyBanc Capital Markets Inc. and SunTrust Robinson Humphrey, Inc., as co-managers, and several other commercial lending institutions that are parties thereto (incorporated by reference to Exhibit 10.6 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2015, SEC File No. 1-16091)
10.3	Amendment Agreement No. 1 to the Credit Agreement, dated as of June 15, 2016, among the Company, certain subsidiaries of the Company, Citibank, N.A., as administrative agent, and the additional lender party thereto (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30. 2016, SEC File No. 16091)
10.4	Amendment Agreement No. 2, dated August 3, 2016, by and among PolyOne Corporation, the subsidiaries of PolyOne Corporation party thereto, Citibank, N.A, as administrative agent, and the lenders party thereto (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on August 5, 2016, SEC File No. 1-16091)
10.5	Amendment Agreement No. 3, dated January 24, 2017, by and among PolyOne Corporation, the subsidiaries of PolyOne Corporation party thereto, Citibank, N.A., as administrative agent, and the lenders party thereto (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017, SEC File No. 1-16091)
10.6	Amendment Agreement No. 4, dated August 15, 2017, by and among PolyOne Corporation, the subsidiaries of PolyOne Corporation party thereto, Citibank, N.A., as administrative agent, and the lenders party thereto (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2017, SEC File No. 1-16091)
10.7	Amendment Agreement No. 5, dated April 11, 2018, by and among PolyOne Corporation, the subsidiaries of PolyOne Corporation party thereto, Citibank, N.A., as administrative agent, and the lenders party

	thereto (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018, SEC File No. 1-16091)
10.8	Amendment Agreement No. 6, dated November 9, 2018, by and among PolyOne Corporation, the subsidiaries of PolyOne Corporation party thereto, Citibank, N.A, as administrative agent, and the lenders party thereto (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on November 13, 2018, SEC File No. 1-16091)
10.9+	Form of 2011 Award Agreement under the 2010 Equity and Performance Incentive Plan (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2011, SEC File No. 1-16091)
10.10+	Amended and Restated PolyOne Corporation 2010 Equity and Performance Incentive Plan (incorporated by reference to Appendix B to the Company's definitive proxy statement on Schedule 14A filed on April 3, 2015, SEC File No. 1-16091)
10.11+	Amended and Restated PolyOne Senior Executive Annual Incentive Plan (incorporated by reference to Appendix C to the Company's definitive proxy statement on Schedule 14A filed on April 3, 2015, SEC File No. 1-16091)
10.12+	PolyOne 2017 Equity and Incentive Compensation Plan (incorporated by reference to Appendix B to the Company's definitive proxy statement on Schedule 14A filed on March 31, 2017, SEC File No. 1-16091)
10.13+	Form of Grant of Stock-Settled Stock Appreciation Rights under the 2010 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2010, SEC File No. 1-16091)
10.14+	Amended and Restated Deferred Compensation Plan for Non-Employee Directors (as amended and restated effective May 20, 2014) (incorporated by reference to Exhibit 10.7 of the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2014, SEC File No. 1-16091)
10.15+	Form of Management Continuity Agreement for Executive Officers prior to 2011 (incorporated by reference to Exhibit 10.13 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2007, SEC File No. 1-16091)

Exhibit No.	Exhibit Description
10.16+	Form of Management Continuity Agreement for Executive Officers after 2011 (incorporated by reference to Exhibit 10.12 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2013, SEC File No. 1-16091)
10.17+**	Schedule of Executive Officers with Management Continuity Agreements
10.18+	PolyOne Supplemental Retirement Benefit Plan (As Amended and Restated Effective January 1, 2014) (incorporated by reference to Exhibit 10.14 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2013, SEC file No. 1-16091)
10.19	Assumption of Liabilities and Indemnification Agreement, dated March 1, 1993, amended and restated by Amended and Restated Assumption of Liabilities and Indemnification Agreement, dated April 27, 1993 (incorporated by reference to Exhibit 10.14 to The Geon Company's Annual Report on Form 10-K for the fiscal year ended December 31, 1996, SEC File No. 1-11804)
10.20+	Executive Severance Plan, as amended and restated effective May 15, 2014 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2014, SEC File No. 1-16091)
10.21+	Form of 2012 Award Agreement under the PolyOne Corporation 2010 Equity and Performance Incentive Plan, as amended (incorporated by reference to Exhibit 10.38 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2012, SEC File No. 1-16091)
10.22+	Form of 2013 Award Agreement under the PolyOne Corporation 2010 Equity and Performance Incentive Plan, as amended (incorporated by reference to Exhibit 10.27 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2013, SEC File No. 1-16091)
10.23+	Form of Director and Officer Indemnification Agreement (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on July 5, 2006, SEC File No. 1-16091)
10.24+	Form of 2014 Award Agreement under the PolyOne Corporation 2010 Equity and Performance Incentive Plan, as amended (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2014, SEC File No. 1-16091)
21.1**	Subsidiaries of the Company
23.1**	Consent of Independent Registered Public Accounting Firm - Ernst & Young LLP
31.1**	Certification of Robert M. Patterson, Chairman, President and Chief Executive Officer, pursuant to SEC Rules 13a-14(a) and 15d-14(a), adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2**	Certification of Bradley C. Richardson, Executive Vice President and Chief Financial Officer, pursuant to SEC Rules 13a-14(a) and 15d-14(a), adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1**	Certification pursuant to 18 U.S.C. § 1350, adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, as signed by Robert M. Patterson, Chairman, President and Chief Executive Officer
32.2**	Certification pursuant to 18 U.S.C. § 1350, adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, as signed by Bradley C. Richardson, Executive Vice President and Chief Financial Officer
101 .INS**	XBRL Instance Document
101 .SCH**	XBRL Taxonomy Extension Schema Document
101 .CAL**	XBRL Taxonomy Extension Calculation Linkbase Document
101 .LAB**	XBRL Taxonomy Extension Label Linkbase Document
101 .PRE**	XBRL Taxonomy Extension Presentation Linkbase Document

101 .DEF** XBRL Taxonomy Definition Linkbase Document

+ Indicates management contract or compensatory plan, contract or arrangement in which one or more directors or executive officers of the Registrant may be participants

† The exhibits and schedules have been omitted pursuant to Item 601(b)(2) of Regulation S-K and will be provided to the Securities and Exchange Commission upon request.

** Filed herewith.

ITEM 16. FORM 10-K SUMMARY

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

POLYONE CORPORATION

February 19, 2019 BY: /S/ BRADLEY C. RICHARDSON
Bradley C. Richardson Executive Vice President, Chief Financial Officer
(Principal Financial and Accounting 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 the Registrant and in the capacities indicated and on the dates indicated.

Signature and Title		
/S/ ROBERT M. PATTERSON Robert M. Patterson	Chairman, President and Chief Executive Officer and Director (Principal Executive Officer)	Date: February 19, 2019
/S/ BRADLEY C. RICHARDSON Bradley C. Richardson	Executive Vice President, Chief Financial Officer (Principal Financial and Accounting Officer)	Date: February 19, 2019
/S/ ROBERT E. ABERNATHY Robert E. Abernathy	Director	Date: February 19, 2019
/S/ RICHARD H. FEARON Richard H. Fearon	Director	Date: February 19, 2019
/S/ GREGORY J. GOFF Gregory J. Goff	Director	Date: February 19, 2019
/S/ WILLIAM R. JELLISON William R. Jellison	Director	Date: February 19, 2019
/S/ SANDRA BEACH LIN Sandra Beach Lin	Director	Date: February 19, 2019
/S/ KIM ANN MINK Kim Ann Mink	Director	Date: February 19, 2019
/S/ WILLIAM H. POWELL	Director	

		Date: February 19, 2019
William H. Powell		
/S/ KERRY J. PREETE	Director	Date: February 19, 2019
Kerry J. Preete		
/S/ WILLIAM A. WULFSOHN	Director	Date: February 19, 2019
William A. Wulfsohn		