

OLIN CORP  
Form 10-Q  
October 30, 2018  
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SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2018  
OR

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_  
Commission file number 1-1070

Olin Corporation  
(Exact name of registrant as specified in its charter)

Virginia 13-1872319  
(State or other jurisdiction of incorporation or organization) (I.R.S. Employer Identification No.)  
190 Carondelet Plaza, Suite 1530, Clayton, MO 63105  
(Address of principal executive offices) (Zip Code)

(314) 480-1400  
(Registrant's telephone number, including area code)

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

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

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

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

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

Exchange Act. "

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  
" No x

As of September 30, 2018, 166,835,332 shares of the registrant's common stock were outstanding.

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## Part I — Financial Information

## Item 1. Financial Statements.

## OLIN CORPORATION AND CONSOLIDATED SUBSIDIARIES

## Condensed Balance Sheets

(In millions, except per share data)

(Unaudited)

	September 30, 2018	December 31, 2017	September 30, 2017
<b>ASSETS</b>			
Current assets:			
Cash and cash equivalents	\$ 156.7	\$ 218.4	\$ 255.9
Receivables, net	1,009.2	733.2	729.5
Income taxes receivable	12.8	16.9	15.9
Inventories, net	724.4	682.6	689.5
Other current assets	35.2	48.1	27.1
Total current assets	1,938.3	1,699.2	1,717.9
Property, plant and equipment (less accumulated depreciation of \$2,651.2, \$2,333.1 and \$2,222.8)	3,456.7	3,575.8	3,579.2
Deferred income taxes	24.8	36.4	141.1
Other assets	1,159.6	1,208.4	1,215.6
Intangible assets, net	528.3	578.5	592.9
Goodwill	2,119.6	2,120.0	2,119.8
Total assets	\$ 9,227.3	\$ 9,218.3	\$ 9,366.5
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>			
Current liabilities:			
Current installments of long-term debt	\$ 0.9	\$ 0.7	\$ 81.7
Accounts payable	709.4	669.8	613.5
Income taxes payable	22.1	9.4	9.6
Accrued liabilities	341.3	274.4	294.5
Total current liabilities	1,073.7	954.3	999.3
Long-term debt	3,336.4	3,611.3	3,663.5
Accrued pension liability	589.6	635.9	618.7
Deferred income taxes	548.6	511.2	1,055.5
Other liabilities	756.1	751.9	731.0
Total liabilities	6,304.4	6,464.6	7,068.0
Commitments and contingencies			
Shareholders' equity:			
Common stock, par value \$1 per share: authorized, 240.0 shares; issued and outstanding, 166.8, 167.1 and 166.4 shares	166.8	167.1	166.4
Additional paid-in capital	2,276.9	2,280.9	2,267.7
Accumulated other comprehensive loss	(571.3)	(484.6)	(470.0)
Retained earnings	1,050.5	790.3	334.4
Total shareholders' equity	2,922.9	2,753.7	2,298.5
Total liabilities and shareholders' equity	\$ 9,227.3	\$ 9,218.3	\$ 9,366.5

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



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## OLIN CORPORATION AND CONSOLIDATED SUBSIDIARIES

## Condensed Statements of Operations

(In millions, except per share data)

(Unaudited)

	Three Months		Nine Months Ended	
	Ended September 30,		September 30,	
	2018	2017	2018	2017
Sales	\$1,872.4	\$1,554.9	\$5,311.1	\$4,648.5
Operating expenses:				
Cost of goods sold	1,441.7	1,349.3	4,431.1	4,154.7
Selling and administration	110.8	91.1	321.6	268.8
Restructuring charges	3.3	9.2	13.7	25.9
Acquisition-related costs	0.4	1.1	1.0	12.5
Other operating (expense) income	(1.7 )	—	6.4	(0.1 )
Operating income	314.5	104.2	550.1	186.5
Earnings (losses) of non-consolidated affiliates	0.4	0.5	(20.2 )	1.5
Interest expense	59.2	53.1	184.0	158.0
Interest income	0.3	0.4	1.1	1.0
Non-operating pension income	5.4	8.4	16.2	25.5
Income before taxes	261.4	60.4	363.2	56.5
Income tax provision (benefit)	66.3	7.7	88.6	(3.7 )
Net income	\$195.1	\$52.7	\$274.6	\$60.2
Net income per common share:				
Basic	\$1.17	\$0.32	\$1.64	\$0.36
Diluted	\$1.16	\$0.31	\$1.63	\$0.36
Dividends per common share	\$0.20	\$0.20	\$0.60	\$0.60
Average common shares outstanding:				
Basic	167.0	166.3	167.1	166.0
Diluted	168.6	168.5	168.9	168.2

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

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## OLIN CORPORATION AND CONSOLIDATED SUBSIDIARIES

## Condensed Statements of Comprehensive Income (Loss)

(In millions)

(Unaudited)

	Three Months		Nine Months	
	Ended		Ended	
	September 30,	September 30,	September 30,	September 30,
	2018	2017	2018	2017
Net income	\$195.1	\$52.7	\$274.6	\$60.2
Other comprehensive income (loss), net of tax:				
Foreign currency translation adjustments, net	(2.0 )	9.8	(15.7 )	31.7
Unrealized (losses) gains on derivative contracts, net	(3.6 )	1.3	(6.1 )	(4.4 )
Amortization of prior service costs and actuarial losses, net	7.5	4.3	21.0	12.7
Total other comprehensive income (loss), net of tax	1.9	15.4	(0.8 )	40.0
Comprehensive income	\$197.0	\$68.1	\$273.8	\$100.2

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

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## OLIN CORPORATION AND CONSOLIDATED SUBSIDIARIES

## Condensed Statements of Shareholders' Equity

(In millions, except per share data)

(Unaudited)

	Common Stock Shares Issued	Par Value	Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Retained Earnings	Total Shareholders' Equity
Balance at January 1, 2017	165.4	\$ 165.4	\$ 2,243.8	\$ (510.0 )	\$ 373.8	\$ 2,273.0
Net income	—	—	—	—	60.2	60.2
Other comprehensive income	—	—	—	40.0	—	40.0
Dividends paid:						
Common stock (\$0.60 per share)	—	—	—	—	(99.6 )	(99.6 )
Common stock issued for:						
Stock options exercised	1.0	1.0	17.5	—	—	18.5
Other transactions	—	—	1.7	—	—	1.7
Stock-based compensation	—	—	4.7	—	—	4.7
Balance at September 30, 2017	166.4	\$ 166.4	\$ 2,267.7	\$ (470.0 )	\$ 334.4	\$ 2,298.5
Balance at January 1, 2018	167.1	\$ 167.1	\$ 2,280.9	\$ (484.6 )	\$ 790.3	\$ 2,753.7
Income tax reclassification adjustment	—	—	—	(85.9 )	85.9	—
Net income	—	—	—	—	274.6	274.6
Other comprehensive loss	—	—	—	(0.8 )	—	(0.8 )
Dividends paid:						
Common stock (\$0.60 per share)	—	—	—	—	(100.3 )	(100.3 )
Common stock repurchased and retired	(0.5 )	(0.5 )	(16.3 )	—	—	(16.8 )
Common stock issued for:						
Stock options exercised	0.2	0.2	3.0	—	—	3.2
Other transactions	—	—	1.5	—	—	1.5
Stock-based compensation	—	—	7.8	—	—	7.8
Balance at September 30, 2018	166.8	\$ 166.8	\$ 2,276.9	\$ (571.3 )	\$ 1,050.5	\$ 2,922.9

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



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## OLIN CORPORATION AND CONSOLIDATED SUBSIDIARIES

## Condensed Statements of Cash Flows

(In millions)

(Unaudited)

	Nine Months Ended September 30,	
	2018	2017
Operating Activities		
Net income	\$274.6	\$60.2
Adjustments to reconcile net income to net cash and cash equivalents provided by (used for) operating activities:		
Losses (earnings) of non-consolidated affiliates	20.2	(1.5 )
Losses on disposition of property, plant and equipment	1.9	0.4
Stock-based compensation	9.2	6.4
Depreciation and amortization	451.0	411.4
Deferred income taxes	44.0	(17.5 )
Qualified pension plan contributions	(1.3 )	(1.2 )
Qualified pension plan income	(11.1 )	(20.3 )
Change in:		
Receivables	(280.1 )	(48.5 )
Income taxes receivable/payable	17.1	10.6
Inventories	(44.5 )	(46.7 )
Other current assets	4.5	3.1
Accounts payable and accrued liabilities	110.1	92.9
Other assets	(2.0 )	7.7
Other noncurrent liabilities	(3.8 )	(13.6 )
Other operating activities	(3.5 )	11.7
Net operating activities	586.3	455.1
Investing Activities		
Capital expenditures	(274.5 )	(210.0 )
Payments under long-term supply contracts	—	(209.4 )
Proceeds from disposition of property, plant and equipment	2.9	0.1
Net investing activities	(271.6 )	(419.3 )
Financing Activities		
Long-term debt:		
Borrowings	570.0	2,035.0
Repayments	(823.7 )	(1,907.4 )
Common stock repurchased and retired	(16.8 )	—
Stock options exercised	3.2	18.5
Dividends paid	(100.3 )	(99.6 )
Debt issuance costs	(8.5 )	(11.2 )
Net financing activities	(376.1 )	35.3
Effect of exchange rate changes on cash and cash equivalents	(0.3 )	0.3
Net (decrease) increase in cash and cash equivalents	(61.7 )	71.4
Cash and cash equivalents, beginning of period	218.4	184.5
Cash and cash equivalents, end of period	\$156.7	\$255.9
Cash paid for interest and income taxes:		

Interest, net	\$153.9	\$138.7
Income taxes, net of refunds	\$31.9	\$11.2
Non-cash investing activities:		
Decrease in capital expenditures included in accounts payable and accrued liabilities	\$7.0	\$25.0

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

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OLIN CORPORATION AND CONSOLIDATED SUBSIDIARIES

Notes to Condensed Financial Statements  
(Unaudited)

DESCRIPTION OF BUSINESS

Olin Corporation (Olin) is a Virginia corporation, incorporated in 1892, having its principal executive offices in Clayton, MO. We are a manufacturer concentrated in three business segments: Chlor Alkali Products and Vinyls, Epoxy and Winchester. The Chlor Alkali Products and Vinyls segment manufactures and sells chlorine and caustic soda, ethylene dichloride (EDC) and vinyl chloride monomer, methyl chloride, methylene chloride, chloroform, carbon tetrachloride, perchloroethylene, trichloroethylene and vinylidene chloride, hydrochloric acid, hydrogen, bleach products and potassium hydroxide. The Epoxy segment produces and sells a full range of epoxy materials, including allyl chloride, epichlorohydrin, liquid epoxy resins, solid epoxy resins and downstream products such as differentiated epoxy resins and additives. The Winchester segment produces and sells sporting ammunition, reloading components, small caliber military ammunition and components, and industrial cartridges.

We have prepared the condensed financial statements included herein, without audit, pursuant to the rules and regulations of the U.S. Securities and Exchange Commission (SEC). The preparation of the financial statements requires estimates and assumptions that affect amounts reported and disclosed in the financial statements and related notes. In our opinion, these financial statements reflect all adjustments (consisting only of normal accruals), which are necessary to present fairly the results for interim periods. Certain information and footnote disclosures normally included in financial statements prepared in accordance with generally accepted accounting principles have been condensed or omitted pursuant to such rules and regulations; however, we believe that the disclosures are appropriate. We recommend that you read these condensed financial statements in conjunction with the financial statements, accounting policies and the notes thereto and Management's Discussion and Analysis of Financial Condition and Results of Operations included in our Annual Report on Form 10-K for the year ended December 31, 2017. Certain reclassifications were made to prior year amounts to conform to the 2018 presentation.

ACCOUNTING POLICIES

Revenue Recognition

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2014-09, "Revenue from Contracts with Customers" (ASU 2014-09), which amends Accounting Standards Codification (ASC) 605 "Revenue Recognition" and creates a new topic, ASC 606 "Revenue from Contracts with Customers" (ASC 606). Subsequent to the issuance of ASU 2014-09, ASC 606 was amended by various updates that amend and clarify the impact and implementation of the aforementioned update. We adopted these updates on January 1, 2018 using the modified retrospective transition method. The cumulative effect of applying the updates did not have a material impact on our consolidated financial statements. The most significant impact the updates had was on our accounting policies and disclosures on revenue recognition.

We derive our revenues primarily from the manufacturing and delivery of goods to customers. Revenues are recognized on sales of goods at the time when control of those goods is transferred to our customers at an amount that reflects the consideration to which we expect to be entitled in exchange for those goods. We primarily sell our goods directly to customers, and to a lesser extent, through distributors. Payment terms are typically 30 to 90 days from date of invoice. Our contracts do not typically have a significant financing component. Right to payment is determined at the point in time in which control has transferred to the customer.

A performance obligation is a promise in a contract to transfer a distinct good to the customer. At contract inception, we assess the goods promised in our contracts with customers and identify a performance obligation for each promise to transfer to the customer a good (or bundle of goods) that is distinct. A contract's transaction price is based on the price stated in the contract and allocated to each distinct performance obligation and revenue is recognized when the performance obligation is satisfied. The majority of our contracts have a single distinct performance obligation or multiple performance obligations which are distinct and represent individual promises within the contract. Substantially all of our performance obligations are satisfied at a single point in time, when control is transferred, which is generally upon shipment or delivery as stated in the contract terms.

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All taxes assessed by governmental authorities that are both imposed on and concurrent with our revenue-producing transactions and collected from our customers are excluded from the measurement of the transaction price. Shipping and handling fees billed to customers are included in revenue and are considered activities to fulfill the promise to transfer the good. Allowances for estimated returns, discounts and rebates are considered variable consideration, which may be constrained, and are estimated and recognized when sales are recorded. The estimates are based on various market data, historical trends and information from customers. Actual returns, discounts and rebates have not been materially different from estimates. For all contracts that have a duration of one year or less at contract inception, we do not adjust the promised amount of consideration for the effects of a significant financing component.

Substantially all of our revenue is derived from contracts with an original expected length of time of one year or less and for which we recognize revenue for the amount in which we have the right to invoice at the point in time in which control has transferred to the customer. However, a portion of our revenue is derived from long-term contracts which have contract periods that vary between one to multi-year. Certain of these contracts represent contracts with minimum purchase obligations, which can be substantially different than the actual revenue recognized. Such contracts consist of varying types of products across our chemical businesses. Certain contracts include variable volumes and/or variable pricing with pricing provisions tied to commodity, consumer price or other indices. The transaction price allocated to the remaining performance obligations related to our contracts was excluded from the disclosure of our remaining performance obligations based on the following practical expedients that we elected to apply: (i) contracts with index-based pricing or variable volume attributes in which such variable consideration is allocated entirely to a wholly unsatisfied performance obligation; and (ii) contracts with an original expected duration of one year or less.

Refer to the Note “Segment Information” for information regarding the disaggregation of revenue by primary geographical markets and major product lines.

## ACQUISITION

On October 5, 2015 (the Closing Date), we completed the acquisition (the Acquisition) from DowDuPont Inc. (DowDuPont) (f/k/a The Dow Chemical Company) of its U.S. Chlor Alkali and Vinyl, Global Chlorinated Organics and Global Epoxy businesses (collectively, the Acquired Business), whose operating results are included in the accompanying financial statements since the Closing Date.

We incurred costs related to the integration of the Acquired Business which consisted of advisory, legal, accounting and other professional fees of \$0.4 million and \$1.1 million for the three months ended September 30, 2018 and 2017, respectively, and \$1.0 million and \$12.5 million for the nine months ended September 30, 2018 and 2017, respectively.

## RESTRUCTURING CHARGES

On March 21, 2016, we announced that we had made the decision to close a combined total of 433,000 tons of chlor alkali capacity across three separate locations. Associated with this action, we have permanently closed our Henderson, NV chlor alkali plant with 153,000 tons of capacity and have reconfigured the site to manufacture bleach and distribute caustic soda and hydrochloric acid. Also, the capacity of our Niagara Falls, NY chlor alkali plant has been reduced from 300,000 tons to 240,000 tons and the chlor alkali capacity at our Freeport, TX facility was reduced by 220,000 tons. This 220,000 ton reduction was entirely from diaphragm cell capacity. For the three months ended September 30, 2018 and 2017, we recorded pretax restructuring charges of \$3.3 million and \$8.8 million respectively, for employee severance and related benefit costs, facility exit costs and lease and other contract termination costs related to these actions. For the nine months ended September 30, 2018 and 2017, we recorded pretax restructuring charges of \$12.4 million and \$23.7 million, respectively, for employee severance and related benefit costs, employee relocation costs, facility exit costs and lease and other contract termination costs related to these actions. We expect to

incur additional restructuring charges through 2020 of approximately \$14 million related to these capacity reductions.

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On December 12, 2014, we announced that we had made the decision to permanently close the portion of the Becancour, Canada chlor alkali facility that has been shut down since late June 2014. This action reduced the facility's chlor alkali capacity by 185,000 tons. Subsequent to the shut down, the plant predominantly focuses on bleach and hydrochloric acid, which are value-added products, as well as caustic soda. For the three months ended September 30, 2018 and 2017, we recorded pretax restructuring charges of zero and \$0.4 million, respectively, for facility exit costs related to this action. For the nine months ended September 30, 2018 and 2017, we recorded pretax restructuring charges of \$1.3 million and \$2.2 million, respectively, for facility exit costs related to this action. We expect to incur additional restructuring charges through 2018 of less than \$1 million related to the shut down of this portion of the facility.

On November 3, 2010, we announced that we made the decision to relocate the Winchester centerfire pistol and rifle ammunition manufacturing operations from East Alton, IL to Oxford, MS. Consistent with this decision in 2010, we initiated an estimated \$110 million five-year project, which included approximately \$80 million of capital spending. The capital spending was partially financed by \$31 million of grants provided by the State of Mississippi and local governments. During 2016, the final rifle ammunition production equipment relocation was completed.

The following table summarizes the 2018 and 2017 activities by major component of these restructuring actions and the remaining balances of accrued restructuring costs as of September 30, 2018 and 2017:

	Employee severance and related benefit costs (\$ in millions)	Lease and other contract termination costs	Employee relocation costs	Facility exit costs	Total
Balance at January 1, 2017	\$3.4	\$ 7.5	\$ —	\$ 1.8	\$12.7
Restructuring charges:					
First quarter	—	5.7	0.2	2.3	8.2
Second quarter	—	5.8	0.1	2.6	8.5
Third quarter	—	7.0	—	2.2	9.2
Amounts utilized	(3.0 )	(4.6 )	(0.3 )	(8.8 )	(16.7 )
Balance at September 30, 2017	\$0.4	\$ 21.4	\$ —	\$ 0.1	\$21.9
Balance at January 1, 2018	\$1.8	\$ 3.3	\$ —	\$ —	\$5.1
Restructuring charges:					
First quarter	—	0.4	—	3.6	4.0
Second quarter	0.1	3.7	—	2.6	6.4
Third quarter	0.3	0.3	—	2.7	3.3
Amounts utilized	(1.8 )	(1.6 )	—	(7.9 )	(11.3 )
Balance at September 30, 2018	\$0.4	\$ 6.1	\$ —	\$ 1.0	\$7.5

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The following table summarizes the cumulative restructuring charges of these 2016, 2014 and 2010 restructuring actions by major component through September 30, 2018:

	Chlor Alkali Products and Vinyls	Capacity Reductions	Winchester	Total
	(\$ in millions)			
Write-off of equipment and facility	\$3.5	\$ 78.1	\$ —	\$81.6
Employee severance and related benefit costs	2.7	5.9	14.7	23.3
Facility exit costs	5.9	30.7	2.3	38.9
Pension and other postretirement benefits curtailment	—	—	4.1	4.1
Employee relocation costs	—	1.7	6.0	7.7
Lease and other contract termination costs	5.3	40.0	—	45.3
Total cumulative restructuring charges	\$17.4	\$ 156.4	\$ 27.1	\$200.9

As of September 30, 2018, we have incurred cash expenditures of \$107.3 million and non-cash charges of \$86.1 million related to these restructuring actions. The remaining balance of \$7.5 million is expected to be paid out through 2020.

## ACCOUNTS RECEIVABLES

On December 20, 2016, we entered into a three-year, \$250.0 million Receivables Financing Agreement with PNC Bank, National Association, as administrative agent (Receivables Financing Agreement). Under the Receivables Financing Agreement, our eligible trade receivables are used for collateralized borrowings and continue to be serviced by us. In addition, the Receivables Financing Agreement incorporates the leverage and coverage covenants that are contained in the senior revolving credit facility. As of September 30, 2018, \$418.0 million of our trade receivables were pledged as collateral and we had \$180.0 million drawn under the agreement. As of September 30, 2017, we had \$70.0 million additional borrowing capacity under the Receivables Financing Agreement. As of December 31, 2017, \$340.9 million of our trade receivables were pledged as collateral and \$249.7 million was drawn under the agreement.

Olin also has trade accounts receivable factoring arrangements (AR Facilities) and pursuant to the terms of the AR Facilities, certain of our subsidiaries may sell their accounts receivable up to a maximum of \$315.0 million. We will continue to service the outstanding accounts sold. These receivables qualify for sales treatment under ASC 860 “Transfers and Servicing” and, accordingly, the proceeds are included in net cash provided by operating activities in the condensed statements of cash flows. The following table summarizes the AR Facilities activity:

	September 30, 2018	September 30, 2017
	(\$ in millions)	
Balance at beginning of year	\$182.3	\$126.1
Gross receivables sold	1,199.8	1,224.1
Payments received from customers on sold accounts	(1,247.7)	(1,162.9)
Balance at end of period	\$134.4	\$187.3

The factoring discount paid under the AR Facilities is recorded as interest expense on the condensed statements of operations. The factoring discount was \$1.1 million and \$1.4 million for the three months ended September 30, 2018 and 2017, respectively, and \$3.9 million and \$2.9 million for the nine months ended September 30, 2018 and 2017, respectively. The agreements are without recourse and therefore no recourse liability has been recorded as of



September 30, 2018.

Receivables, net includes \$120.0 million of insurance recoveries for environmental costs incurred and expensed in prior periods, which was collected in October 2018.

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## ALLOWANCE FOR DOUBTFUL ACCOUNTS RECEIVABLES

We evaluate the collectibility of accounts receivable based on a combination of factors. We estimate an allowance for doubtful accounts as a percentage of net sales based on historical bad debt experience. This estimate is periodically adjusted when we become aware of a specific customer's inability to meet its financial obligations (e.g., bankruptcy filing) or as a result of changes in the overall aging of accounts receivable. While we have a large number of customers that operate in diverse businesses and are geographically dispersed, a general economic downturn in any of the industry segments in which we operate could result in higher than expected defaults, and, therefore, the need to revise estimates for the provision for doubtful accounts could occur.

Allowance for doubtful accounts receivable consisted of the following:

	September 30,	
	2018	2017
	(\$ in millions)	
Balance at beginning of year	\$ 12.3	\$ 10.1
Provisions charged	1.6	1.3
Foreign currency translation adjustment	(0.4 )	—
Balance at end of period	\$ 13.5	\$ 11.4

Provisions charged (credited) to operations were \$0.3 million and \$(0.8) million for the three months ended September 30, 2018 and 2017, respectively.

## INVENTORIES

Inventories consisted of the following:

	September 30,		September 30,
	2018	2017	2017
	(\$ in millions)		
Supplies	\$ 63.7	\$ 66.1	\$ 60.3
Raw materials	70.1	75.3	85.4
Work in process	155.9	127.8	120.6
Finished goods	493.6	462.6	470.7
	783.3	731.8	737.0
LIFO reserve	(58.9 )	(49.2 )	(47.5 )
Inventories, net	\$ 724.4	\$ 682.6	\$ 689.5

Inventories are valued at the lower of cost and net realizable value. For U.S. inventories, inventory costs are determined principally by the last-in, first-out (LIFO) method of inventory accounting while for international inventories, inventory costs are determined principally by the first-in, first-out (FIFO) method of inventory accounting. Cost for other inventories has been determined principally by the average-cost method (primarily operating supplies, spare parts and maintenance parts). Elements of costs in inventories included raw materials, direct labor and manufacturing overhead. Inventories under the LIFO method are based on annual estimates of quantities and costs as of year-end; therefore, the condensed financial statements at September 30, 2018 reflect certain estimates relating to inventory quantities and costs at December 31, 2018. The replacement cost of our inventories would have been approximately \$58.9 million, \$49.2 million and \$47.5 million higher than reported at September 30, 2018, December 31, 2017 and September 30, 2017, respectively.



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## OTHER ASSETS

Included in other assets were the following:

	September 30, 2018	December 31, 2017	September 30, 2017
	(\$ in millions)		
Investments in non-consolidated affiliates	\$8.3	\$ 28.5	\$ 28.2
Deferred debt issuance costs	2.1	2.5	2.7
Tax-related receivables	4.9	10.2	13.1
Derivative contracts	1.6	3.6	3.7
Supply contracts	1,108.9	1,137.1	1,146.3
Other	33.8	26.5	21.6
Other assets	\$1,159.6	\$ 1,208.4	\$ 1,215.6

For the nine months ended September 30, 2018, we recorded a \$21.5 million non-cash impairment charge related to an adjustment to the value of our 9.1% limited partnership interest in Bay Gas Storage Company, Ltd. (BayGas). BayGas owns, leases and operates underground gas storage and related pipeline facilities which are used to provide storage in the McIntosh, AL area and delivery of natural gas. The general partner, Sempra Energy (Sempra), announced in the second quarter 2018 its plan to sell several assets including its 90.9% interest in BayGas. In connection with this decision, Sempra recorded an impairment charge related to BayGas adjusting the related assets' carrying values to an estimated fair value. We recorded a reduction in our investment in the non-consolidated affiliate for the proportionate share of the non-cash impairment charge. Olin has no other non-consolidated affiliates.

In connection with the Acquisition, Olin and DowDuPont entered into arrangements for the long-term supply of ethylene by DowDuPont to Olin, pursuant to which, among other things, Olin made upfront payments in order to receive ethylene at producer economics and for certain reservation fees and for the option to obtain additional ethylene at producer economics. During 2016, we exercised one of the options to reserve additional ethylene at producer economics. In September 2017, DowDuPont's new Texas 9 ethylene cracker in Freeport, TX became operational. As a result, during the three months ended September 30, 2017, a payment of \$209.4 million was made in connection with this option which increased the value of the long-term asset.

On February 27, 2017, we exercised the remaining option to reserve additional ethylene at producer economics from DowDuPont. In connection with the exercise of this option, we also secured a long-term customer arrangement. As a result, an additional payment will be made to DowDuPont of between \$440 million and \$465 million on or about the fourth quarter of 2020. During 2017, as a result of DowDuPont's new Texas 9 ethylene cracker becoming operational, Olin recognized a long-term asset and other liabilities of \$389.2 million, which represents the present value of the additional estimated payment. The discounted amount of \$51.8 million will be recorded as interest expense through the fourth quarter of 2020. For the three and nine months ended September 30, 2018, interest expense of \$4.0 million and \$11.9 million, respectively, was recorded for accretion on the 2020 payment discount.

Amortization expense of \$9.4 million and \$6.3 million for the three months ended September 30, 2018 and 2017, respectively, and \$28.2 million and \$18.9 million for the nine months ended September 30, 2018 and 2017, respectively, was recognized within cost of goods sold related to these supply contracts and is reflected in depreciation and amortization on the condensed statements of cash flows. The long-term supply contracts are monitored for impairment each reporting period.

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## GOODWILL AND INTANGIBLE ASSETS

Changes in the carrying value of goodwill were as follows:

	Chlor Alkali Products and Vinyls (\$ in millions)	Epoxy	Total
Balance at January 1, 2017	\$1,831.3	\$286.7	\$2,118.0
Foreign currency translation adjustment	1.4	0.4	1.8
Balance at September 30, 2017	\$1,832.7	\$287.1	\$2,119.8
Balance at January 1, 2018	\$1,832.9	\$287.1	2,120.0
Foreign currency translation adjustment	(0.3 )	(0.1 )	(0.4 )
Balance at September 30, 2018	\$1,832.6	\$287.0	\$2,119.6

Intangible assets consisted of the following:

	September 30, 2018			December 31, 2017			September 30, 2017		
	Gross Amount	Accumulated Amortization	Net	Gross Amount	Accumulated Amortization	Net	Gross Amount	Accumulated Amortization	Net
	(\$ in millions)								
Customers, customer contracts and relationships	\$676.2	\$ (199.9 )	\$476.3	\$679.5	\$ (163.6 )	\$515.9	\$678.0	\$ (150.9 )	\$527.1
Trade name	7.0	(4.3 )	2.7	7.1	(3.2 )	3.9	7.1	(2.9 )	4.2
Acquired technology	85.6	(36.6 )	49.0	86.1	(27.7 )	58.4	85.8	(24.5 )	61.3
Other	2.3	(2.0 )	0.3	2.3	(2.0 )	0.3	2.3	(2.0 )	0.3
Total intangible assets	\$771.1	\$ (242.8 )	\$528.3	\$775.0	\$ (196.5 )	\$578.5	\$773.2	\$ (180.3 )	\$592.9

## EARNINGS PER SHARE

Basic and diluted net income per share are computed by dividing net income by the weighted-average number of common shares outstanding. Diluted net income per share reflects the dilutive effect of stock-based compensation.

	Three Months		Nine Months	
	Ended September 30, 2018	Ended September 30, 2017	Ended September 30, 2018	Ended September 30, 2017
	(In millions, except per share data)			
Computation of Income per Share				
Net income	\$195.1	\$52.7	\$274.6	\$60.2
Basic shares	167.0	166.3	167.1	166.0
Basic net income per share	\$1.17	\$0.32	\$1.64	\$0.36
Diluted shares:				
Basic shares	167.0	166.3	167.1	166.0
Stock-based compensation	1.6	2.2	1.8	2.2
Diluted shares	168.6	168.5	168.9	168.2
Diluted net income per share	\$1.16	\$0.31	\$1.63	\$0.36

The computation of dilutive shares from stock-based compensation does not include 2.4 million and 1.6 million shares for the three months ended September 30, 2018 and 2017, respectively, and 2.4 million and 1.6 million shares for the nine months ended September 30, 2018 and 2017, respectively, as their effect would have been anti-dilutive.

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## ENVIRONMENTAL

We are party to various government and private environmental actions associated with past manufacturing facilities and former waste disposal sites. Environmental provisions (credited) charged to income, which are included in cost of goods sold, were as follows:

	Three Months Ended September 30, 2018		Nine Months Ended September 30, 2017	
	2018	2017	2018	2017
	(\$ in millions)			
Provisions (credited) charged to income	\$(0.8 )	\$1.8	\$5.9	\$6.2
Insurance recoveries for costs incurred and expensed	(110.0 )	—	(110.0 )	—
Environmental (income) expense	\$(110.8)	\$1.8	\$(104.1)	\$6.2

During the third quarter of 2018, we settled certain disputes with respect to insurance coverage for costs at various environmental remediation sites for \$120.0 million. Environmental income (expense) for both the three and nine months ended September 30, 2018 include insurance recoveries for environmental costs incurred and expensed in prior periods of \$110.0 million. The recoveries are reduced by estimated liabilities of \$10.0 million associated with claims by subsequent owners of certain of the settled environmental sites. The condensed balance sheets included reserves for future environmental expenditures to investigate and remediate known sites amounting to \$129.0 million, \$131.6 million and \$135.3 million at September 30, 2018, December 31, 2017 and September 30, 2017, respectively, of which \$109.0 million, \$111.6 million and \$118.3 million, respectively, were classified as other noncurrent liabilities.

Environmental exposures are difficult to assess for numerous reasons, including the identification of new sites, developments at sites resulting from investigatory studies, advances in technology, changes in environmental laws and regulations and their application, changes in regulatory authorities, the scarcity of reliable data pertaining to identified sites, the difficulty in assessing the involvement and financial capability of other Potentially Responsible Parties (PRPs), our ability to obtain contributions from other parties and the lengthy time periods over which site remediation occurs. It is possible that some of these matters (the outcomes of which are subject to various uncertainties) may be resolved unfavorably to us, which could materially adversely affect our financial position or results of operations.

## COMMITMENTS AND CONTINGENCIES

We, and our subsidiaries, are defendants in various legal actions (including proceedings based on alleged exposures to asbestos) incidental to our past and current business activities. As of September 30, 2018, December 31, 2017 and September 30, 2017, our condensed balance sheets included accrued liabilities for these legal actions of \$14.8 million, \$24.8 million and \$15.9 million, respectively. These liabilities do not include costs associated with legal representation. In addition to the aforementioned legal actions, we are party to a dispute relating to a contract at our Plaquemine, LA facility. The other party to the contract has filed a demand for arbitration alleging, among other things, that Olin breached the related agreement and claiming damages in excess of the amount Olin believes it is obligated to pay under the contract. Any additional losses related to this contract dispute are not currently estimable because of unresolved questions of fact and law.

Based on our analysis, and considering the inherent uncertainties associated with litigation, we do not believe that it is reasonably possible that these legal actions will materially adversely affect our financial position, cash flows or results of operations.

During the ordinary course of our business, contingencies arise resulting from an existing condition, situation or set of circumstances involving an uncertainty as to the realization of a possible gain contingency. In certain instances such as environmental projects, we are responsible for managing the cleanup and remediation of an environmental site. There exists the possibility of recovering a portion of these costs from other parties. We account for gain contingencies in accordance with the provisions of ASC 450 "Contingencies" and, therefore, do not record gain contingencies and recognize income until it is earned and realizable.



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SHAREHOLDERS' EQUITY

On April 26, 2018, our board of directors authorized a share repurchase program for the purchase of shares of common stock at an aggregate price of up to \$500.0 million. This program will terminate upon the purchase of \$500.0 million of our common stock. For the nine months ended September 30, 2018, 0.5 million shares were repurchased and retired at a cost of \$16.8 million. As of September 30, 2018, we had repurchased a total of \$16.8 million of our common stock, representing 0.5 million shares, and \$483.2 million of common stock remained authorized to be repurchased.

We issued 0.2 million and 1.0 million shares representing stock options exercised for the nine months ended September 30, 2018 and 2017, respectively, with a total value of \$3.2 million and \$18.5 million, respectively.

In February 2018, the FASB issued ASU 2018-02, "Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income" (ASU 2018-02) which amends ASC 220 "Income Statement—Reporting Comprehensive Income." This update allows a reclassification from accumulated other comprehensive loss to retained earnings for the stranded tax effects resulting from the U.S. Tax Cuts and Jobs Act (the 2017 Tax Act) during each fiscal year or quarter in which the effect of the lower tax rate is recorded. We adopted this update in March 2018 and reclassified \$85.9 million related to the provisional deferred gain resulting from the 2017 Tax Act from accumulated other comprehensive loss to retained earnings.

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The following table represents the activity included in accumulated other comprehensive loss:

	Unrealized			Accumulated Other Comprehensive Loss
	Foreign Currency Translation Adjustment (net of taxes)	Gains (Losses) Derivative Contracts (net of taxes)	Pension and Other Postretirement Benefits (net of taxes)	
	(\$ in millions)			
Balance at January 1, 2017	\$ (24.1)	\$ 12.8	\$ (498.7 )	\$ (510.0 )
Unrealized gains (losses):				
First quarter	8.3	(3.1 )	—	5.2
Second quarter	28.1	(3.7 )	—	24.4
Third quarter	16.0	3.2	—	\$ 19.2
Reclassification adjustments into income (gains) losses:				
First quarter	—	(0.1 )	6.6	6.5
Second quarter	—	(2.3 )	6.8	4.5
Third quarter	—	(1.2 )	6.8	\$ 5.6
Tax (provision) benefit:				
First quarter	(2.3 )	1.2	(2.7 )	(3.8 )
Second quarter	(12.2 )	2.3	(2.3 )	(12.2 )
Third quarter	(6.2 )	(0.7 )	(2.5 )	\$ (9.4 )
Net change	31.7	(4.4 )	12.7	40.0
Balance at September 30, 2017	\$7.6	\$ 8.4	\$ (486.0 )	\$ (470.0 )
Balance at January 1, 2018	\$7.6	\$ 11.1	\$ (503.3 )	\$ (484.6 )
Unrealized gains (losses):				
First quarter	12.4	2.1	—	14.5
Second quarter	(26.1 )	(0.4 )	—	(26.5 )
Third quarter	(2.0 )	(2.6 )	—	(4.6 )
Reclassification adjustments into income (gains) losses:				
First quarter	—	(2.3 )	9.4	7.1
Second quarter	—	(2.7 )	9.1	6.4
Third quarter	—	(2.2 )	9.2	7.0
Tax benefit (provision):				
First quarter	—	0.1	(4.0 )	(3.9 )
Second quarter	—	0.7	(1.0 )	(0.3 )
Third quarter	—	1.2	(1.7 )	(0.5 )
Net change	(15.7 )	(6.1 )	21.0	(0.8 )
Income tax reclassification adjustment	15.3	2.4	(103.6 )	(85.9 )
Balance at September 30, 2018	\$7.2	\$ 7.4	\$ (585.9 )	\$ (571.3 )

Net income and cost of goods sold included reclassification adjustments for realized gains and losses on derivative contracts from accumulated other comprehensive loss.

Net income and non-operating pension income included the amortization of prior service costs and actuarial losses from accumulated other comprehensive loss.



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## SEGMENT INFORMATION

We define segment results as income (loss) before interest expense, interest income, other operating income (expense), non-operating pension income and income taxes, and includes the operating results of non-consolidated affiliates. Consistent with the guidance in ASC 280 "Segment Reporting," we have determined it is appropriate to include the operating results of non-consolidated affiliates in the relevant segment financial results. We have three operating segments: Chlor Alkali Products and Vinyls, Epoxy and Winchester. The three operating segments reflect the organization used by our management for purposes of allocating resources and assessing performance. Chlorine used in our Epoxy segment is transferred at cost from the Chlor Alkali Products and Vinyls segment. Sales and profits are recognized in the Chlor Alkali Products and Vinyls segment for all caustic soda generated and sold by Olin. Sales are attributed to geographic areas based on customer location.

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2018	2017	2018	2017
Sales:	(\$ in millions)			
Chlor Alkali Products and Vinyls	\$1,051.1	\$881.2	\$3,005.9	\$2,583.2
Epoxy	647.3	489.9	1,794.4	1,549.5
Winchester	174.0	183.8	510.8	515.8
Total sales	\$1,872.4	\$1,554.9	\$5,311.1	\$4,648.5
Income (loss) before taxes:				
Chlor Alkali Products and Vinyls	\$210.8	\$129.7	\$490.7	\$270.0
Epoxy	31.1	(1.7 )	33.8	(11.0 )
Winchester	10.3	17.2	34.1	61.3
Corporate/other:				
Environmental income (expense)	110.8	(1.8 )	104.1	(6.2 )
Other corporate and unallocated costs	(42.7 )	(28.4 )	(124.5 )	(87.6 )
Restructuring charges	(3.3 )	(9.2 )	(13.7 )	(25.9 )
Acquisition-related costs	(0.4 )	(1.1 )	(1.0 )	(12.5 )
Other operating (expense) income	(1.7 )	—	6.4	(0.1 )
Interest expense	(59.2 )	(53.1 )	(184.0 )	(158.0 )
Interest income	0.3	0.4	1.1	1.0
Non-operating pension income	5.4	8.4	16.2	25.5
Income before taxes	\$261.4	\$60.4	\$363.2	\$56.5

Earnings (losses) of non-consolidated affiliates are included in the Chlor Alkali Products and Vinyls segment results consistent with management's monitoring of the operating segments. The earnings of non-consolidated affiliates were \$0.4 million and \$0.5 million for the three months ended September 30, 2018 and 2017, respectively, and \$1.5 million for the nine months ended September 30, 2017. The losses of non-consolidated affiliates were \$20.2 million for the nine months ended September 30, 2018, which reflect a \$21.5 million non-cash impairment charge recorded during the second quarter.

Environmental income (expense) for both the three and nine months ended September 30, 2018 included insurance recoveries for costs incurred and expensed in prior periods of \$110.0 million. Environmental income (expense) is included in cost of goods sold in the condensed statements of operations.

Other operating (expense) income for both the three and nine months ended September 30, 2018 included a \$1.7 million loss on the sale of land. For the nine months ended September 30, 2018, we recognized an insurance recovery of \$8.0 million in other operating (expense) income for a second quarter 2017 business interruption at our Freeport,

TX vinyl chloride monomer facility.

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Three Months Ended

September 30, 2018

Chlor

Alkali

Products Epoxy Winchester Total

and

Vinyls

Primary geographical markets: (\$ in millions)

United States	\$682.8	\$209.1	\$155.5	\$1,047.4
Europe	40.1	289.3	1.8	331.2
Other foreign	328.2	148.9	16.7	493.8
Total Sales	\$1,051.1	\$647.3	\$174.0	\$1,872.4

Nine Months Ended

September 30, 2018

Chlor

Alkali

Products Epoxy Winchester Total

and

Vinyls

Primary geographical markets: (\$ in millions)

United States	\$1,956.0	\$589.9	\$460.2	\$3,006.1
Europe	136.2	763.0	7.0	906.2
Other foreign	913.7	441.5	43.6	1,398.8
Total Sales	\$3,005.9	\$1,794.4	\$510.8	\$5,311.1

Three Months Ended

September 30, 2017

Chlor

Alkali

Products Epoxy Winchester Total

and

Vinyls

Primary geographical markets: (\$ in millions)

United States	\$589.5	\$159.8	\$166.5	\$915.8
Europe	31.6	206.8	2.5	240.9
Other foreign	260.1	123.3	14.8	398.2
Total Sales	\$881.2	\$489.9	\$183.8	\$1,554.9

Nine Months Ended

September 30, 2017

Chlor

Alkali

Products Epoxy Winchester Total

and

Vinyls

Primary geographical markets: (\$ in millions)

United States	\$1,706.6	\$488.0	\$463.8	\$2,658.4
Europe	92.7	685.1	8.2	786.0

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Other foreign	783.9	376.4	43.8	1,204.1
Total Sales	\$2,583.2	\$1,549.5	\$ 515.8	\$4,648.5

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	Three Months		Nine Months	
	Ended September 30,		Ended September 30,	
	2018	2017	2018	2017
Major product lines:	(\$ in millions)			
Chlor Alkali Products and Vinyls				
Caustic soda	\$539.2	\$442.7	\$1,571.1	\$1,272.5
Chlorine, chlorine derivatives and other co-products	511.9	438.5	1,434.8	1,310.7
Total Chlor Alkali Products and Vinyls	1,051.1	881.2	3,005.9	2,583.2
Epoxy				
Phenolics and allylics	345.6	227.1	891.8	759.1
Epoxy resins	301.7	262.8	902.6	790.4
Total Epoxy	647.3	489.9	1,794.4	1,549.5
Winchester				
Commercial	118.2	128.8	335.3	364.2
Military and law enforcement	55.8	55.0	175.5	151.6
Total Winchester	174.0	183.8	510.8	515.8
Total Sales	\$1,872.4	\$1,554.9	\$5,311.1	\$4,648.5

## STOCK-BASED COMPENSATION

Stock-based compensation granted includes stock options, performance stock awards, restricted stock awards and deferred directors' compensation. Stock-based compensation expense was as follows:

	Three Months		Nine Months	
	Ended September 30,		Ended September 30,	
	2018	2017	2018	2017
	(\$ in millions)			
Stock-based compensation	\$4.1	\$3.0	\$15.0	\$14.5
Mark-to-market adjustments	(1.4 )	2.6	(5.7 )	3.9
Total expense	\$2.7	\$5.6	\$9.3	\$18.4

The fair value of each stock option granted, which typically vests ratably over three years, but not less than one year, was estimated on the date of grant, using the Black-Scholes option-pricing model with the following weighted-average assumptions:

	2018		2017	
Grant date				
Dividend yield	2.43	%	2.69	%
Risk-free interest rate	2.72	%	2.06	%
Expected volatility	32	%	34	%
Expected life (years)	6.0		6.0	
Weighted-average grant fair value (per option)	\$8.89		\$7.78	
Weighted-average exercise price	\$32.94		\$29.82	
Shares granted	927,000		1,621,000	

Dividend yield was based on our current dividend yield as of the option grant date. Risk-free interest rate was based on zero coupon U.S. Treasury securities rates for the expected life of the options. Expected volatility was based on our historical stock price movements, as we believe that historical experience is the best available indicator of the



expected volatility. Expected life of the option grant was based on historical exercise and cancellation patterns, as we believe that historical experience is the best estimate of future exercise patterns.

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DEBT

On January 19, 2018, Olin issued \$550.0 million aggregate principal amount of 5.00% senior notes due February 1, 2030 (2030 Notes), which were registered under the Securities Act of 1933, as amended. Interest on the 2030 Notes began accruing from January 19, 2018 and is paid semi-annually beginning on August 1, 2018. Proceeds from the 2030 Notes were used to redeem \$550.0 million of debt under the \$1,375.0 million term loan facility (Term Loan Facility).

For the nine months ended September 30, 2018, we recognized interest expense of \$2.6 million for the write-off of unamortized deferred debt issuance costs related to the redemption of \$550.0 million of debt under the Term Loan Facility. For the nine months ended September 30, 2018, we paid debt issuance costs of \$8.5 million for the issuance of the 2030 Notes.

On March 9, 2017, we entered into a five-year \$1,975.0 million senior credit facility, which amended and restated the existing \$1,850.0 million senior credit facility. Pursuant to the agreement, the aggregate principal amount under the term loan facility was increased to \$1,375.0 million, and the aggregate commitments under the senior revolving credit facility were increased from \$500.0 million to \$600.0 million (Senior Revolving Credit Facility and, together with the Term Loan Facility, the Senior Credit Facility). At September 30, 2018, we had \$596.5 million available under our \$600.0 million Senior Revolving Credit Facility because we had issued \$3.5 million of letters of credit. In March 2017, we drew the entire \$1,375.0 million term loan and used the proceeds to redeem the remaining balance of the existing \$1,350.0 million term loan facility of \$1,282.5 million and a portion of the \$800.0 million Sumitomo Credit Facility (Sumitomo Credit Facility). The maturity date for the Senior Credit Facility was extended from October 5, 2020 to March 9, 2022. The \$600.0 million Senior Revolving Credit Facility includes a \$100.0 million letter of credit subfacility. The Term Loan Facility includes amortization payable in equal quarterly installments at a rate of 5.0% per annum for the first two years, increasing to 7.5% per annum for the following year and to 10.0% per annum for the last two years. In connection with the \$550.0 million prepayment of the Term Loan Facility in January 2018, the required quarterly installments of the Term Loan Facility were eliminated.

Under the Senior Credit Facility, we may select various floating rate borrowing options. The actual interest rate paid on borrowings under the Senior Credit Facility is based on a pricing grid which is dependent upon the leverage ratio as calculated under the terms of the applicable facility for the prior fiscal quarter. The facility includes various customary restrictive covenants, including restrictions related to the ratio of debt to earnings before interest expense, taxes, depreciation and amortization (leverage ratio) and the ratio of earnings before interest expense, taxes, depreciation and amortization to interest expense (coverage ratio). Compliance with these covenants is determined quarterly based on the operating cash flows. We were in compliance with all covenants and restrictions under all our outstanding credit agreements as of September 30, 2018, and no event of default had occurred that would permit the lenders under our outstanding credit agreements to accelerate the debt if not cured. In the future, our ability to generate sufficient operating cash flows, among other factors, will determine the amounts available to be borrowed under these facilities. As of September 30, 2018, there were no covenants or other restrictions that would have limited our ability to borrow under these facilities.

On March 9, 2017, Olin issued \$500.0 million aggregate principal amount of 5.125% senior notes due September 15, 2027 (2027 Notes), which were registered under the Securities Act of 1933, as amended. Interest on the 2027 Notes began accruing from March 9, 2017 and is paid semi-annually beginning on September 15, 2017. Proceeds from the 2027 Notes were used to redeem the remaining balance of the Sumitomo Credit Facility.

For the nine months ended September 30, 2017, we recognized interest expense of \$2.7 million for the write-off of unamortized deferred debt issuance costs related to the issuance of the Senior Credit Facility and the repayment of the Sumitomo Credit Facility. For the nine months ended September 30, 2017, we paid debt issuance costs of \$11.2

million relating to the Senior Credit Facility and the 2027 Notes.

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CONTRIBUTING EMPLOYEE OWNERSHIP PLAN

The Contributing Employee Ownership Plan (CEOP) is a defined contribution plan available to essentially all domestic employees. We provide a contribution to an individual retirement contribution account maintained with the CEOP equal to an amount of between 5.0% and 7.5% of the employee's eligible compensation. The defined contribution plan expense for the three months ended September 30, 2018 and 2017 was \$6.7 million and \$7.0 million, respectively, and for the nine months ended September 30, 2018 and 2017 was \$22.0 million and \$22.4 million, respectively.

Company matching contributions are invested in the same investment allocation as the employee's contribution. Our matching contributions for eligible employees for the three months ended September 30, 2018 and 2017 was \$3.9 million and \$3.0 million, respectively, and for the nine months ended September 30, 2018 and 2017 was \$11.3 million and \$8.7 million, respectively.

PENSION PLANS AND RETIREMENT BENEFITS

We sponsor domestic and foreign defined benefit pension plans for eligible employees and retirees. Most of our domestic employees participate in defined contribution plans. However, a portion of our bargaining hourly employees continue to participate in our domestic qualified defined benefit pension plans under a flat-benefit formula. Our funding policy for the qualified defined benefit pension plans is consistent with the requirements of federal laws and regulations. Our foreign subsidiaries maintain pension and other benefit plans, which are consistent with local statutory practices.

Our domestic qualified defined benefit pension plan provides that if, within three years following a change of control of Olin, any corporate action is taken or filing made in contemplation of, among other things, a plan termination or merger or other transfer of assets or liabilities of the plan, and such termination, merger, or transfer thereafter takes place, plan benefits would automatically be increased for affected participants (and retired participants) to absorb any plan surplus (subject to applicable collective bargaining requirements).

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We also provide certain postretirement healthcare (medical) and life insurance benefits for eligible active and retired domestic employees. The healthcare plans are contributory with participants' contributions adjusted annually based on medical rates of inflation and plan experience.

	Pension Benefits		Other Postretirement Benefits	
	Three Months Ended September 30, 2018	Three Months Ended September 30, 2017	Three Months Ended September 30, 2018	Three Months Ended September 30, 2017
Components of Net Periodic Benefit (Income) Cost	(\$ in millions)			
Service cost	\$3.3	\$2.4	\$ 0.3	\$ 0.3
Interest cost	21.5	21.8	0.3	0.3
Expected return on plans' assets	(36.5)	(37.3)	—	—
Amortization of prior service cost	—	—	—	(0.6)
Recognized actuarial loss	8.6	6.8	0.6	0.6
Net periodic benefit (income) cost	\$(3.1)	\$(6.3)	\$ 1.2	\$ 0.6

  

	Pension Benefits		Other Postretirement Benefits	
	Nine Months Ended September 30, 2018	Nine Months Ended September 30, 2017	Nine Months Ended September 30, 2018	Nine Months Ended September 30, 2017
Components of Net Periodic Benefit (Income) Cost	(\$ in millions)			
Service cost	\$8.5	\$6.9	\$ 1.0	\$ 0.9
Interest cost	64.8	65.0	1.1	1.1
Expected return on plans' assets	(109.9)	(111.8)	—	—
Amortization of prior service cost	—	—	—	(1.9)
Recognized actuarial loss	25.9	20.2	1.8	1.9
Net periodic benefit (income) cost	\$(10.7)	\$(19.7)	\$ 3.9	\$ 2.0

We made cash contributions to our international qualified defined benefit pension plans of \$1.3 million and \$1.2 million for the nine months ended September 30, 2018 and 2017, respectively.

In March 2017, the FASB issued ASU 2017-07, "Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost" (ASU 2017-07) which amends ASC 715 "Compensation—Retirement Benefits." The adoption of ASU 2017-07 resulted in a change in our net periodic benefit (income) costs within operating income, which was offset by a corresponding change in non-operating pension income to reflect the impact of presenting the interest cost, expected return on plan assets, amortization of prior service cost and net actuarial loss components of net periodic benefit (income) costs outside of operating income. We adopted this update on January 1, 2018 using the retrospective method. For the three and nine months ended September 30, 2017, the adoption of ASU 2017-07 resulted in a reclassification of \$3.7 million and \$11.3 million, respectively, from cost of goods sold and \$4.7 million and \$14.2 million, respectively, from selling and administration to non-operating pension income reflecting the aforementioned reclassification on our condensed statements of operations. The service cost component of net periodic benefit (income) costs continue to be included in the same income statement line item as other employee

compensation costs arising from services rendered during the period.

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## INCOME TAXES

The effective tax rate for the three months ended September 30, 2018 included a benefit associated with stock-based compensation, a benefit associated with the estimated increase of the one-time 2017 Tax Act provisional tax benefit, a benefit associated with prior year tax positions, an expense from a net increase in the valuation allowance related to deferred tax assets in foreign jurisdictions and a benefit from the remeasurement of deferred taxes due to a decrease in our state effective tax rates. These factors resulted in a net \$0.5 million tax benefit. After giving consideration to these items, the effective tax rate for the three months ended September 30, 2018 of 25.6% was higher than the 21% U.S. federal statutory rate, primarily due to state taxes, foreign income taxes and U.S. minimum tax on foreign earnings, partially offset by favorable permanent salt depletion deductions. The effective tax rate for the three months ended September 30, 2017 included a benefit related to the remeasurement of deferred taxes due to a decrease in our state effective tax rates, a benefit associated with prior year tax positions and a benefit associated with stock-based compensation. These factors resulted in a net \$6.7 million tax benefit. After giving consideration to these items, the effective tax rate for the three months ended September 30, 2017 of 23.8% was lower than the 35% U.S. federal statutory rate, primarily due to favorable permanent salt depletion deductions.

The effective tax rate for the nine months ended September 30, 2018 included a benefit associated with stock-based compensation, a benefit from a change in tax contingencies, a benefit related to a foreign dividend payment, a benefit associated with the estimated increase of the one-time 2017 Tax Act provisional tax benefit, a benefit associated with prior year tax positions, an expense from a net increase in the valuation allowance related to deferred tax assets in foreign jurisdictions and a benefit from the remeasurement of deferred taxes due to a decrease in our state effective tax rates. These factors resulted in a net \$2.7 million tax benefit. After giving consideration to these items, the effective tax rate for the nine months ended September 30, 2018 of 25.1% was higher than the 21% U.S. federal statutory rate primarily due to state taxes, foreign income taxes and U.S. minimum tax on foreign earnings, partially offset by favorable permanent salt depletion deductions. The effective tax rate for the nine months ended September 30, 2017 included a benefit related to an agreement reached with the Internal Revenue Service (IRS) for the years 2008 and 2010 to 2012 tax examinations, a benefit related to the remeasurement of deferred taxes due to a decrease in our state effective tax rates, a benefit associated with stock-based compensation and a benefit associated with prior year tax positions. These factors resulted in a net \$17.7 million tax benefit. After giving consideration to these items, the effective tax rate for the nine months ended September 30, 2017 of 24.8% was lower than the 35% U.S. federal statutory rate, primarily due to favorable permanent salt depletion deductions.

The 2017 Tax Act was enacted on December 22, 2017 and included a broad range of provisions impacting the taxation of businesses. Included within the provisions, the 2017 Tax Act reduces the U.S. federal corporate tax rate from 35% to 21%, requires companies to pay a one-time transition tax on unremitted earnings of foreign subsidiaries that were previously tax deferred and transitions the U.S. from a worldwide tax system to a modified territorial tax system.

The SEC Staff issued Accounting Bulletin No. 118, "Income Tax Accounting Implications of the Tax Cuts and Jobs Act" (SAB 118), which provides guidance on accounting for the tax effects of the 2017 Tax Act. SAB 118 provides a measurement period of up to one year from the 2017 Tax Act's enactment date for companies to complete the accounting under ASC 740 "Income Taxes" (ASC 740). In accordance with SAB 118, to the extent that a company's accounting for certain income tax effects of the 2017 Tax Act is incomplete but it is able to determine a reasonable estimate, it must record a provisional estimate in the financial statements. If a company cannot determine a provisional estimate to be included in the financial statements, it should continue to apply ASC 740 on the basis of the provisions of the tax laws that were in effect immediately before the enactment of the 2017 Tax Act.

At September 30, 2018, we have not completed our accounting for the tax effects of the 2017 Tax Act. The impact of the 2017 Tax Act is expected to require further adjustments in 2018 due to anticipated additional guidance from the

U.S. Department of the Treasury, changes in our assumptions, completion of 2017 foreign tax returns and further information and interpretations that become available. As of September 30, 2018 we have substantially completed our U.S. tax return and accounted for updates to estimates of significant items including: (1) the effects on our existing deferred tax balances, (2) the remeasurement of deferred taxes on foreign unremitted earnings and (3) the one-time transition tax. We will make adjustments to these provisional estimates as new information becomes available during the one year measurement period. Our analyses of the 2017 Tax Act will continue throughout fourth quarter 2018 and will be completed when we file our remaining 2017 tax returns.



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In connection with our initial analysis of the 2017 Tax Act, we recognized a provisional deferred tax benefit of \$437.9 million at December 31, 2017. This benefit included: (1) a provisional \$315.8 million deferred tax benefit to reflect the reduction of the U.S. corporate tax rate from 35% to 21% and (2) a provisional \$122.1 million deferred tax benefit to reflect an estimated reduction of \$162.6 million in our deferred tax liability on unremitted foreign earnings partially offset by an estimate of the one-time transition tax of \$40.5 million. We utilized existing U.S. federal net operating loss carryforwards and foreign tax credits to fully offset the cash tax impact of the one-time transition tax liability.

For the three and nine months ended September 30, 2018, we decreased the provisional deferred tax benefit by \$0.4 million and \$0.1 million, respectively, as a result of additional guidance issued by the IRS.

For the three and nine months ended September 30, 2018, we increased the provisional deferred tax benefit as a result of the estimated impact of filing the 2017 U.S. and foreign tax returns by \$4.6 million and \$2.9 million, respectively.

A provision of the 2017 Tax Act establishes a minimum tax on certain foreign earnings (i.e. global intangible low-taxed income or GILTI). We have not yet completed our analysis of the GILTI tax rules and are still evaluating whether to make a policy election to treat the GILTI tax as a period expense or to provide U.S. deferred taxes on certain foreign differences between the financial statement and tax basis of foreign assets and liabilities. At September 30, 2018 and December 31, 2017, we did not record a deferred tax liability for these differences. We will continue to analyze the impact of GILTI as more guidance is issued and a decision will be made during 2018 on whether to treat the GILTI as a period cost or a deferred tax item.

As of September 30, 2018, we had \$33.3 million of gross unrecognized tax benefits, which would have a net \$32.4 million impact on the effective tax rate, if recognized. As of September 30, 2017, we had \$35.0 million of gross unrecognized tax benefits, of which \$33.5 million would have impacted the effective tax rate, if recognized. The amount of unrecognized tax benefits was as follows:

	September 30,	
	2018	2017
	(\$ in millions)	
Balance at beginning of year	\$36.3	\$38.4
Increases for prior year tax positions	—	4.9
Decreases for prior year tax positions	(4.6 )	(9.2 )
Increases for current year tax positions	1.6	2.0
Settlement with taxing authorities	—	(1.0 )
Reductions due to statute of limitations	—	(0.1 )
Balance at end of period	\$33.3	\$35.0

As of September 30, 2018, we believe it is reasonably possible that our total amount of unrecognized tax benefits will decrease by approximately \$6.9 million over the next twelve months. The anticipated reduction primarily relates to settlements with taxing authorities and the expiration of federal, state and foreign statutes of limitation.

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We operate globally and file income tax returns in numerous jurisdictions. Our tax returns are subject to examination by various federal, state and local tax authorities. None of our U.S. federal income tax returns are currently under examination by the IRS. We believe we have adequately provided for all tax positions; however, amounts asserted by taxing authorities could be greater than our accrued position. For our primary tax jurisdictions, the tax years that remain subject to examination are as follows:

	Tax Years
U.S. federal income tax	2013 - 2017
U.S. state income tax	2006 - 2017
Canadian federal income tax	2012 - 2017
Brazil	2014 - 2017
Germany	2015 - 2017
China	2014 - 2017
The Netherlands	2014 - 2017

## DERIVATIVE FINANCIAL INSTRUMENTS

We are exposed to market risk in the normal course of our business operations due to our purchases of certain commodities, our ongoing investing and financing activities and our operations that use foreign currencies. The risk of loss can be assessed from the perspective of adverse changes in fair values, cash flows and future earnings. We have established policies and procedures governing our management of market risks and the use of financial instruments to manage exposure to such risks. ASC 815 “Derivatives and Hedging” (ASC 815) requires an entity to recognize all derivatives as either assets or liabilities in the condensed balance sheets and measure those instruments at fair value. In accordance with ASC 815, we designate derivative contracts as cash flow hedges of forecasted purchases of commodities and forecasted interest payments related to variable-rate borrowings and designate certain interest rate swaps as fair value hedges of fixed-rate borrowings. We do not enter into any derivative instruments for trading or speculative purposes.

Energy costs, including electricity and natural gas, and certain raw materials used in our production processes are subject to price volatility. Depending on market conditions, we may enter into futures contracts, forward contracts, commodity swaps and put and call option contracts in order to reduce the impact of commodity price fluctuations. The majority of our commodity derivatives expire within one year.

We actively manage currency exposures that are associated with net monetary asset positions, currency purchases and sales commitments denominated in foreign currencies and foreign currency denominated assets and liabilities created in the normal course of business. We enter into forward sales and purchase contracts to manage currency risk to offset our net exposures, by currency, related to the foreign currency denominated monetary assets and liabilities of our operations. At September 30, 2018, we had outstanding forward contracts to buy foreign currency with a notional value of \$166.2 million and to sell foreign currency with a notional value of \$126.0 million. All of the currency derivatives expire within one year and are for U.S. dollar (USD) equivalents. The counterparties to the forward contracts are large financial institutions; however, the risk of loss to us in the event of nonperformance by a counterparty could be significant to our financial position or results of operations. At December 31, 2017, we had outstanding forward contracts to buy foreign currency with a notional value of \$135.5 million and to sell foreign currency with a notional value of \$97.7 million. At September 30, 2017, we had outstanding forward contracts to buy foreign currency with a notional value of \$106.1 million and to sell foreign currency with a notional value of \$94.1 million.

Cash flow hedges

For derivative instruments that are designated and qualify as a cash flow hedge, the change in fair value of the derivative is recognized as a component of other comprehensive income (loss) until the hedged item is recognized in earnings. Gains and losses on the derivatives representing hedge ineffectiveness are recognized currently in earnings.

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We had the following notional amounts of outstanding commodity contracts that were entered into to hedge forecasted purchases:

	September 30, 2018	December 31, 2017	September 30, 2017
	(\$ in millions)		
Natural gas	\$ 65.6	\$ 39.2	\$ 38.4
Copper	48.9	45.2	42.1
Zinc	8.3	8.4	8.0

As of September 30, 2018, the counterparties to these commodity contracts were Wells Fargo Bank, N.A. (Wells Fargo), Citibank, Merrill Lynch Commodities, Inc. and JPMorgan Chase Bank, National Association, all of which are major financial institutions.

We use cash flow hedges for certain raw material and energy costs such as copper, zinc, lead, electricity and natural gas to provide a measure of stability in managing our exposure to price fluctuations associated with forecasted purchases of raw materials and energy used in our manufacturing process. At September 30, 2018, we had open positions in futures contracts through 2022. If all open futures contracts had been settled on September 30, 2018, we would have recognized a pretax gain of \$0.7 million.

If commodity prices were to remain at September 30, 2018 levels, approximately \$0.1 million of deferred gains would be reclassified into earnings during the next twelve months. The actual effect on earnings will be dependent on actual commodity prices when the forecasted transactions occur.

We use interest rate swaps as a means of minimizing cash flow fluctuations that may arise from volatility in interest rates of our variable-rate borrowings. In April 2016, we entered into three tranches of forward starting interest rate swaps whereby we agreed to pay fixed rates to the counterparties who, in turn, pay us floating rates on \$1,100.0 million, \$900.0 million, and \$400.0 million of our underlying floating-rate debt obligations. Each tranche's term length is for twelve months beginning on December 31, 2016, December 31, 2017 and December 31, 2018, respectively. The counterparties to the agreements are SMBC Capital Markets, Inc., Wells Fargo, PNC Bank, National Association and Toronto-Dominion Bank. These counterparties are large financial institutions; however, the risk of loss to us in the event of nonperformance by a counterparty could be significant to our financial position or results of operations. We have designated the swaps as cash flow hedges of the risk of changes in interest payments associated with our variable-rate borrowings. Accordingly, the outstanding swap agreements have been recorded at their fair market value of \$9.2 million and are included in other current assets and other assets on the accompanying condensed balance sheet as of September 30, 2018, with the corresponding gain deferred as a component of other comprehensive loss. For the three months ended September 30, 2018 and 2017, \$2.5 million and \$1.2 million, respectively, and for the nine months ended September 30, 2018 and 2017, \$5.9 million and \$1.7 million, respectively, of income was recorded to interest expense on the accompanying condensed statements of operations related to these swap agreements.

At September 30, 2018, we had open interest rate swaps designated as cash flow hedges with maximum terms through 2019. If all open interest rate swap contracts had been settled on September 30, 2018, we would have recognized a pretax gain of \$9.2 million.

If interest rates were to remain at September 30, 2018 levels, \$5.8 million of deferred gains would be reclassified into earnings during the next twelve months. The actual effect on earnings will be dependent on actual interest rates when the forecasted transactions occur.



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Fair value hedges

We use interest rate swaps as a means of managing interest expense and floating interest rate exposure to optimal levels. For derivative instruments that are designated and qualify as a fair value hedge, the gain or loss on the derivative as well as the offsetting loss or gain on the hedged item attributable to the hedged risk are recognized in current earnings. We include the gain or loss on the hedged items (fixed-rate borrowings) in the same line item, interest expense, as the offsetting loss or gain on the related interest rate swaps. As of September 30, 2018, December 31, 2017 and September 30, 2017, the total notional amounts of our interest rate swaps designated as fair value hedges were \$500.0 million.

In April 2016, we entered into interest rate swaps on \$250.0 million of our underlying fixed-rate debt obligations, whereby we agreed to pay variable rates to the counterparties who, in turn, pay us fixed rates. The counterparties to these agreements are Toronto-Dominion Bank and SMBC Capital Markets, Inc., both of which are major financial institutions.

In October 2016, we entered into interest rate swaps on an additional \$250.0 million of our underlying fixed-rate debt obligations, whereby we agreed to pay variable rates to the counterparties who, in turn, pay us fixed rates. The counterparties to these agreements are PNC Bank, National Association and Wells Fargo, both of which are major financial institutions.

We have designated the April 2016 and October 2016 interest rate swap agreements as fair value hedges of the risk of changes in the value of fixed-rate debt due to changes in interest rates for a portion of our fixed-rate borrowings. Accordingly, the swap agreements have been recorded at their fair market value of \$47.8 million and are included in other long-term liabilities on the accompanying condensed balance sheet as of September 30, 2018, with a corresponding decrease in the carrying amount of the related debt. For the three and nine months ended September 30, 2018, \$0.6 million and \$0.9 million, respectively, of expense and for the three and nine months ended September 30, 2017, \$0.5 million and \$2.4 million, respectively, of income was recorded to interest expense on the accompanying condensed statements of operations related to these swap agreements.

Financial statement impacts

We present our derivative assets and liabilities in our condensed balance sheets on a net basis whenever we have a legally enforceable master netting agreement with the counterparty to our derivative contracts. We use these agreements to manage and substantially reduce our potential counterparty credit risk.

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The following table summarizes the location and fair value of the derivative instruments on our condensed balance sheets. The table disaggregates our net derivative assets and liabilities into gross components on a contract-by-contract basis before giving effect to master netting arrangements:

	September 30, 2018	December 31, 2017	September 30, 2017
	(\$ in millions)		
Asset Derivatives:			
Other current assets			
Derivatives designated as hedging instruments:			
Interest rate contracts - gains	\$7.6	\$ 6.9	\$ 5.0
Commodity contracts - gains	2.2	11.4	7.8
Commodity contracts - losses	—	(0.1 )	(0.4 )
Derivatives not designated as hedging instruments:			
Foreign exchange contracts - gains	0.3	2.0	0.5
Foreign exchange contracts - losses	(0.1 )	(1.0 )	(0.3 )
Total other current assets	10.0	19.2	12.6
Other assets			
Derivatives designated as hedging instruments:			
Interest rate contracts - gains	1.6	3.6	3.7
Total other assets	1.6	3.6	3.7
Total Asset Derivatives <sup>(1)</sup>	\$11.6	\$ 22.8	\$ 16.3
Liability Derivatives:			
Accrued liabilities			
Derivatives designated as hedging instruments:			
Commodity contracts - losses	3.7	3.8	2.6
Commodity contracts - gains	(3.0 )	—	—
Derivatives not designated as hedging instruments:			
Foreign exchange contracts - losses	2.6	—	0.6
Foreign exchange contracts - gains	(0.4 )	—	(0.5 )
Total accrued liabilities	2.9	3.8	2.7
Other liabilities			
Derivatives designated as hedging instruments:			
Interest rate contracts - losses	47.8	28.1	23.9
Commodity contracts - losses	0.9	—	—
Commodity contracts - gains	(0.1 )	—	—
Total other liabilities	48.6	28.1	23.9
Total Liability Derivatives <sup>(1)</sup>	\$51.5	\$ 31.9	\$ 26.6

(1) Does not include the impact of cash collateral received from or provided to counterparties.

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The following table summarizes the effects of derivative instruments on our condensed statements of operations:

		Amount of (Loss) Gain			
		Three Months Ended September 30, 2018		Nine Months Ended September 30, 2017	
Location of (Loss) Gain		2018	2017	2018	2017
Derivatives – Cash Flow Hedges					
Recognized in other comprehensive income (effective portion):					
Commodity contracts	————	\$(2.9)	\$2.9	\$(5.4)	\$(4.5)
Interest rate contracts	————	0.3	0.3	4.5	0.9
		\$(2.6)	\$3.2	\$(0.9)	\$(3.6)
Reclassified from accumulated other comprehensive loss into income (effective portion):					
Interest rate contracts	Interest expense	\$2.5	\$1.2	\$5.9	\$1.7
Commodity contracts	Cost of goods sold	(0.3 )	—	1.3	1.9
		\$2.2	\$1.2	\$7.2	\$3.6
Derivatives – Fair Value Hedges					
Interest rate contracts	Interest expense	\$(0.6)	\$0.5	\$(0.9)	\$2.5
Derivatives Not Designated as Hedging Instruments					
Foreign exchange contracts	Selling and administration	\$0.3	\$(0.2)	\$(0.3)	\$0.4

The ineffective portion of changes in fair value resulted in zero charged or credited to earnings for the three and nine months ended September 30, 2018 and 2017.

## Credit risk and collateral

By using derivative instruments, we are exposed to credit and market risk. If a counterparty fails to fulfill its performance obligations under a derivative contract, our credit risk will equal the fair value gain in a derivative. Generally, when the fair value of a derivative contract is positive, this indicates that the counterparty owes us, thus creating a repayment risk for us. When the fair value of a derivative contract is negative, we owe the counterparty and, therefore, assume no repayment risk. We minimize the credit (or repayment) risk in derivative instruments by entering into transactions with high-quality counterparties. We monitor our positions and the credit ratings of our counterparties, and we do not anticipate nonperformance by the counterparties.

Based on the agreements with our various counterparties, cash collateral is required to be provided when the net fair value of the derivatives, with the counterparty, exceeds a specific threshold. If the threshold is exceeded, cash is either provided by the counterparty to us if the value of the derivatives is our asset, or cash is provided by us to the counterparty if the value of the derivatives is our liability. As of September 30, 2018, December 31, 2017 and September 30, 2017, this threshold was not exceeded. In all instances where we are party to a master netting agreement, we offset the receivable or payable recognized upon payment of cash collateral against the fair value amounts recognized for derivative instruments that have also been offset under such master netting agreements.



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FAIR VALUE MEASUREMENTS

Fair value is defined as the price at which an asset could be exchanged in a current transaction between knowledgeable, willing parties or the amount that would be paid to transfer a liability to a new obligor, not the amount that would be paid to settle the liability with the creditor. Where available, fair value is based on observable market prices or parameters or derived from such prices or parameters. Where observable prices or inputs are not available, valuation models are applied. These valuation techniques involve some level of management estimation and judgment, the degree of which is dependent on the price transparency for the instruments or market and the instruments' complexity.

Assets and liabilities recorded at fair value in the condensed balance sheets are categorized based upon the level of judgment associated with the inputs used to measure their fair value. Hierarchical levels, defined by ASC 820 "Fair Value Measurements and Disclosures" (ASC 820) are directly related to the amount of subjectivity associated with the inputs to fair valuation of these assets and liabilities, and are as follows:

Level 1 — Inputs were unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date.

Level 2 — Inputs (other than quoted prices included in Level 1) were either directly or indirectly observable for the asset or liability through correlation with market data at the measurement date and for the duration of the instrument's anticipated life.

Level 3 — Inputs reflected management's best estimate of what market participants would use in pricing the asset or liability at the measurement date. Consideration was given to the risk inherent in the valuation technique and the risk inherent in the inputs to the model.

We are required to separately disclose assets and liabilities measured at fair value on a recurring basis, from those measured at fair value on a nonrecurring basis. Nonfinancial assets measured at fair value on a nonrecurring basis are intangible assets and goodwill, which are reviewed for impairment annually in the fourth quarter and/or when circumstances or other events indicate that impairment may have occurred.

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Determining which hierarchical level an asset or liability falls within requires significant judgment. We evaluate our hierarchy disclosures each quarter. The following table summarizes the assets and liabilities measured at fair value in the condensed balance sheets:

	Fair Value Measurements			Total
	Level 1	Level 2	Level 3	
Balance at September 30, 2018				
Assets	(\$ in millions)			
Interest rate swaps	\$—	\$9.2	\$—	\$—
Commodity contracts	—	2.2	—	2.2
Foreign exchange contracts	—	0.2	—	0.2
Liabilities				
Interest rate swaps	\$—	\$47.8	\$—	\$—
Commodity contracts	—	1.5	—	1.5
Foreign exchange contracts	—	2.2	—	2.2
Balance at December 31, 2017				
Assets				
Interest rate swaps	\$—	\$10.5	\$—	\$—
Commodity contracts	—	11.3	—	11.3
Foreign exchange contracts	—	1.0	—	1.0
Liabilities				
Interest rate swaps	\$—	\$28.1	\$—	\$—
Commodity contracts	—	3.8	—	3.8
Balance at September 30, 2017				
Assets				
Interest rate swaps	\$—	\$8.7	\$—	\$—
Commodity contracts	—	7.4	—	7.4
Foreign exchange contracts	—	0.2	—	0.2
Liabilities				
Interest rate swaps	\$—	\$23.9	\$—	\$—
Commodity contracts	—	2.6	—	2.6
Foreign exchange contracts	—	0.1	—	0.1

For the nine months ended September 30, 2018, there were no transfers into or out of Level 1, Level 2 or Level 3.

**Interest Rate Swaps**

Interest rate swap financial instruments were valued using the “income approach” valuation technique. This method used valuation techniques to convert future amounts to a single present amount. The measurement was based on the value indicated by current market expectations about those future amounts. We use interest rate swaps as a means of managing interest expense and floating interest rate exposure to optimal levels.

**Commodity Forward Contracts**

Commodity contract financial instruments were valued primarily based on prices and other relevant information observable in market transactions involving identical or comparable assets or liabilities including both forward and spot prices for commodities. We use commodity derivative contracts for certain raw materials and energy costs such as copper, zinc, lead, electricity and natural gas to provide a measure of stability in managing our exposure to price fluctuations.

### Foreign Currency Contracts

Foreign currency contract financial instruments were valued primarily based on relevant information observable in market transactions involving identical or comparable assets or liabilities including both forward and spot prices for currencies. We enter into forward sales and purchase contracts to manage currency risk resulting from purchase and sale commitments denominated in foreign currencies.

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## Financial Instruments

The carrying values of cash and cash equivalents, accounts receivable and accounts payable approximated fair values due to the short-term maturities of these instruments. The fair value of our long-term debt was determined based on current market rates for debt of similar risk and maturities. The following table summarizes the fair value measurements of debt and the actual debt recorded on our condensed balance sheets:

	Fair Value Measurements			Amount recorded on balance sheets
	Level 1	Level 2	Level 3	
	(\$ in millions)			
Balance at September 30, 2018	\$—\$3,331.9	\$153.0	\$3,484.9	\$3,337.3
Balance at December 31, 2017	—3,758.0	153.0	3,911.0	3,612.0
Balance at September 30, 2017	—3,920.5	153.0	4,073.5	3,745.2

## Nonrecurring Fair Value Measurements

In addition to assets and liabilities that are recorded at fair value on a recurring basis, we record assets and liabilities at fair value on a nonrecurring basis as required by ASC 820. There were no assets measured at fair value on a nonrecurring basis as of September 30, 2018, December 31, 2017 and September 30, 2017.

## SUPPLEMENTAL GUARANTOR FINANCIAL INFORMATION

In October 2015, Blue Cube Spinco LLC (the Issuer) issued \$720.0 million aggregate principal amount of 9.75% senior notes due October 15, 2023 (2023 Notes) and \$500.0 million aggregate principal amount of 10.00% senior notes due October 15, 2025 (2025 Notes and, together with the 2023 Notes, the Notes). During 2016, the Notes were registered under the Securities Act of 1933, as amended. The Issuer was formed on March 13, 2015 as a wholly owned subsidiary of DowDuPont and upon closing of the Acquisition became a 100% owned subsidiary of Olin (the Parent Guarantor). The Exchange Notes are fully and unconditionally guaranteed by the Parent Guarantor.

The following condensed consolidating financial information presents the condensed consolidating balance sheets as of September 30, 2018, December 31, 2017 and September 30, 2017, the related condensed consolidating statements of operations, comprehensive income (loss) for each of the three and nine months ended September 30, 2018 and 2017, and the related statements of cash flows for the nine months ended September 30, 2018 and 2017, of (a) the Parent Guarantor, (b) the Issuer, (c) the non-guarantor subsidiaries, (d) elimination entries necessary to consolidate the Parent Guarantor with the Issuer and the non-guarantor subsidiaries and (e) Olin on a consolidated basis. Investments in consolidated subsidiaries are presented under the equity method of accounting.

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## CONDENSED CONSOLIDATING BALANCE SHEETS

September 30, 2018

(In millions)

(Unaudited)

	Parent Guarantor	Issuer	Subsidiary Non-Guarantor	Eliminations	Total
Assets					
Current assets:					
Cash and cash equivalents	\$ 23.1	\$—	\$ 133.6	\$—	\$ 156.7
Receivables, net	227.8	—	781.4	—	1,009.2
Intercompany receivables	—	—	2,402.8	(2,402.8 )	—
Income taxes receivable	10.0	—	2.8	—	12.8
Inventories, net	171.2	—	553.2	—	724.4
Other current assets	211.9	—	3.6	(180.3 )	35.2
Total current assets	644.0	—	3,877.4	(2,583.1 )	1,938.3
Property, plant and equipment, net	597.6	—	2,859.1	—	3,456.7
Investment in subsidiaries	6,862.8	4,192.8	—	(11,055.6 )	—
Deferred income taxes	—	1.0	31.1	(7.3 )	24.8
Other assets	23.6	—	1,136.0	—	1,159.6
Long-term receivables—affiliates	—	1,330.5	—	(1,330.5 )	—
Intangible assets, net	0.3	5.7	522.3	—	528.3
Goodwill	—	966.3	1,153.3	—	2,119.6
Total assets	\$ 8,128.3	\$ 6,496.3	\$ 9,579.2	\$(14,976.5 )	\$ 9,227.3
Liabilities and Shareholders' Equity					
Current liabilities:					
Current installments of long-term debt	\$ 0.9	\$—	\$ —	\$—	\$ 0.9
Accounts payable	72.3	—	640.9	(3.8 )	709.4
Intercompany payables	2,402.8	—	—	(2,402.8 )	—
Income taxes payable	0.4	—	21.7	—	22.1
Accrued liabilities	157.5	—	361.7	(177.9 )	341.3
Total current liabilities	2,633.9	—	1,024.3	(2,584.5 )	1,073.7
Long-term debt	1,347.6	1,808.8	180.0	—	3,336.4
Accrued pension liability	360.7	—	228.9	—	589.6
Deferred income taxes	16.1	4.1	535.7	(7.3 )	548.6
Long-term payables—affiliates	536.6	—	793.9	(1,330.5 )	—
Other liabilities	310.5	5.5	440.1	—	756.1
Total liabilities	5,205.4	1,818.4	3,202.9	(3,922.3 )	6,304.4
Commitments and contingencies					
Shareholders' equity:					
Common stock	166.8	—	14.6	(14.6 )	166.8
Additional paid-in capital	2,276.9	4,125.7	4,808.2	(8,933.9 )	2,276.9
Accumulated other comprehensive loss	(571.3 )	—	(6.3 )	6.3 )	(571.3 )
Retained earnings	1,050.5	552.2	1,559.8	(2,112.0 )	1,050.5
Total shareholders' equity	2,922.9	4,677.9	6,376.3	(11,054.2 )	2,922.9
Total liabilities and shareholders' equity	\$ 8,128.3	\$ 6,496.3	\$ 9,579.2	\$(14,976.5 )	\$ 9,227.3

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## CONDENSED CONSOLIDATING BALANCE SHEETS

December 31, 2017

(In millions)

(Unaudited)

	Parent Guarantor	Issuer	Subsidiary Non-Guarantor	Eliminations	Total
Assets					
Current assets:					
Cash and cash equivalents	\$ 57.1	\$—	\$ 161.3	\$—	\$218.4
Receivables, net	95.6	—	637.6	—	733.2
Intercompany receivables	—	—	2,093.2	(2,093.2 )	—
Income taxes receivable	11.7	—	6.3	(1.1 )	16.9
Inventories, net	155.4	—	527.2	—	682.6
Other current assets	206.2	—	5.3	(163.4 )	48.1
Total current assets	526.0	—	3,430.9	(2,257.7 )	1,699.2
Property, plant and equipment, net	544.4	—	3,031.4	—	3,575.8
Investment in subsidiaries	6,680.4	4,092.3	—	(10,772.7 )	—
Deferred income taxes	38.1	—	34.5	(36.2 )	36.4
Other assets	45.9	—	1,162.5	—	1,208.4
Long-term receivables—affiliates	—	2,132.1	—	(2,132.1 )	—
Intangible assets, net	0.3	5.7	572.5	—	578.5
Goodwill	—	966.3	1,153.7	—	2,120.0
Total assets	\$7,835.1	\$7,196.4	\$ 9,385.5	\$(15,198.7 )	\$9,218.3
Liabilities and Shareholders' Equity					
Current liabilities:					
Current installments of long-term debt	\$0.7	\$—	\$ —	\$—	\$0.7
Accounts payable	83.2	—	590.0	(3.4 )	669.8
Intercompany payables	2,093.2	—	—	(2,093.2 )	—
Income taxes payable	—	—	10.5	(1.1 )	9.4
Accrued liabilities	117.7	—	318.1	(161.4 )	274.4
Total current liabilities	2,294.8	—	918.6	(2,259.1 )	954.3
Long-term debt	839.4	2,522.2	249.7	—	3,611.3
Accrued pension liability	406.7	—	229.2	—	635.9
Deferred income taxes	—	3.0	544.4	(36.2 )	511.2
Long-term payables—affiliates	1,250.0	—	882.1	(2,132.1 )	—
Other liabilities	290.5	5.6	455.8	—	751.9
Total liabilities	5,081.4	2,530.8	3,279.8	(4,427.4 )	6,464.6
Commitments and contingencies					
Shareholders' equity:					
Common stock	167.1	—	14.6	(14.6 )	167.1
Additional paid-in capital	2,280.9	4,125.7	4,808.2	(8,933.9 )	2,280.9
Accumulated other comprehensive loss	(484.6 )	—	(4.6 )	4.6 )	(484.6 )
Retained earnings	790.3	539.9	1,287.5	(1,827.4 )	790.3
Total shareholders' equity	2,753.7	4,665.6	6,105.7	(10,771.3 )	2,753.7
Total liabilities and shareholders' equity	\$7,835.1	\$7,196.4	\$ 9,385.5	\$(15,198.7 )	\$9,218.3



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## CONDENSED CONSOLIDATING BALANCE SHEETS

September 30, 2017

(In millions)

(Unaudited)

	Parent Guarantor	Issuer	Subsidiary Non-Guarantor	Eliminations	Total
Assets					
Current assets:					
Cash and cash equivalents	\$ 36.9	\$—	\$ 219.0	\$—	\$255.9
Receivables, net	106.0	—	623.5	—	729.5
Intercompany receivables	—	—	1,948.4	(1,948.4 )	—
Income taxes receivable	13.4	—	4.6	(2.1 )	15.9
Inventories, net	172.2	—	517.3	—	689.5
Other current assets	180.5	—	5.0	(158.4 )	27.1
Total current assets	509.0	—	3,317.8	(2,108.9 )	1,717.9
Property, plant and equipment, net	513.0	—	3,066.2	—	3,579.2
Investment in subsidiaries	6,155.3	3,828.7	—	(9,984.0 )	—
Deferred income taxes	140.9	—	127.0	(126.8 )	141.1
Other assets	45.5	—	1,170.1	—	1,215.6
Long-term receivables—affiliates	—	2,174.0	—	(2,174.0 )	—
Intangible assets, net	0.3	5.7	586.9	—	592.9
Goodwill	—	966.3	1,153.5	—	2,119.8
Total assets	\$7,364.0	\$6,974.7	\$ 9,421.5	\$(14,393.7 )	\$9,366.5
Liabilities and Shareholders' Equity					
Current liabilities:					
Current installments of long-term debt	\$0.7	\$68.8	\$ 12.2	\$—	\$81.7
Accounts payable	69.6	—	548.3	(4.4 )	613.5
Intercompany payables	1,948.4	—	—	(1,948.4 )	—
Income taxes payable	—	—	11.7	(2.1 )	9.6
Accrued liabilities	146.0	—	305.0	(156.5 )	294.5
Total current liabilities	2,164.7	68.8	877.2	(2,111.4 )	999.3
Long-term debt	944.1	2,470.1	249.3	—	3,663.5
Accrued pension liability	405.7	—	213.0	—	618.7
Deferred income taxes	—	250.5	931.8	(126.8 )	1,055.5
Long-term payables—affiliates	1,267.2	—	906.8	(2,174.0 )	—
Other liabilities	283.8	5.6	441.6	—	731.0
Total liabilities	5,065.5	2,795.0	3,619.7	(4,412.2 )	7,068.0
Commitments and contingencies					
Shareholders' equity:					
Common stock	166.4	—	14.6	(14.6 )	166.4
Additional paid-in capital	2,267.7	4,125.7	4,808.2	(8,933.9 )	2,267.7
Accumulated other comprehensive loss	(470.0 )	—	(5.7 )	5.7 )	(470.0 )
Retained earnings	334.4	54.0	984.7	(1,038.7 )	334.4
Total shareholders' equity	2,298.5	4,179.7	5,801.8	(9,981.5 )	2,298.5
Total liabilities and shareholders' equity	\$7,364.0	\$6,974.7	\$ 9,421.5	\$(14,393.7 )	\$9,366.5





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## CONDENSED CONSOLIDATING STATEMENTS OF OPERATIONS

Three Months Ended September 30, 2018

(In millions)

(Unaudited)

	Parent Guarantor	Issuer	Subsidiary Non-Guarantor	Eliminations	Total
Sales	\$ 360.9	\$—	\$ 1,621.7	\$ (110.2 )	\$ 1,872.4
Operating expenses:					
Cost of goods sold	208.3	—	1,343.6	(110.2 )	1,441.7
Selling and administration	51.4	—	59.4	—	110.8
Restructuring charges	—	—	3.3	—	3.3
Acquisition-related costs	0.4	—	—	—	0.4
Other operating (expense) income	(3.5 )	—	1.8	—	(1.7 )
Operating income	97.3	—	217.2	—	314.5
Earnings of non-consolidated affiliates	0.4	—	—	—	0.4
Equity income in subsidiaries	122.2	85.2	—	(207.4 )	—
Interest expense	17.3	37.3	6.1	(1.5 )	59.2
Interest income	1.8	—	—	(1.5 )	0.3
Non-operating pension income (expense)	6.5	—	(1.1 )	—	5.4
Income before taxes	210.9	47.9	210.0	(207.4 )	261.4
Income tax provision (benefit)	15.8	(9.1 )	59.6	—	66.3
Net income	\$ 195.1	\$ 57.0	\$ 150.4	\$ (207.4 )	\$ 195.1

## CONDENSED CONSOLIDATING STATEMENTS OF OPERATIONS

Nine Months Ended September 30, 2018

(In millions)

(Unaudited)

	Parent Guarantor	Issuer	Subsidiary Non-Guarantor	Eliminations	Total
Sales	\$ 1,083.1	\$—	\$ 4,554.6	\$ (326.6 )	\$ 5,311.1
Operating expenses:					
Cost of goods sold	853.2	—	3,904.5	(326.6 )	4,431.1
Selling and administration	151.7	—	169.9	—	321.6
Restructuring charges	—	—	13.7	—	13.7
Acquisition-related costs	1.0	—	—	—	1.0
Other operating (expense) income	(0.9 )	—	7.3	—	6.4
Operating income	76.3	—	473.8	—	550.1
Losses of non-consolidated affiliates	(20.2 )	—	—	—	(20.2 )
Equity income in subsidiaries	249.1	195.5	—	(444.6 )	—
Interest expense	52.4	116.4	19.6	(4.4 )	184.0
Interest income	4.7	—	0.8	(4.4 )	1.1
Non-operating pension income (expense)	19.9	—	(3.7 )	—	16.2
Income before taxes	277.4	79.1	451.3	(444.6 )	363.2
Income tax provision (benefit)	2.8	(28.2 )	114.0	—	88.6
Net income	\$ 274.6	\$ 107.3	\$ 337.3	\$ (444.6 )	\$ 274.6



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## CONDENSED CONSOLIDATING STATEMENTS OF OPERATIONS

Three Months Ended September 30, 2017

(In millions)

(Unaudited)

	Parent Guarantor	Issuer	Subsidiary Non-Guarantor	Eliminations	Total
Sales	\$ 348.0	\$—	\$ 1,321.8	\$ (114.9 )	\$ 1,554.9
Operating expenses:					
Cost of goods sold	318.5	—	1,145.7	(114.9 )	1,349.3
Selling and administration	35.8	—	55.3	—	91.1
Restructuring charges	—	—	9.2	—	9.2
Acquisition-related costs	1.1	—	—	—	1.1
Other operating (expense) income	(2.6 )	—	2.6	—	—
Operating (loss) income	(10.0 )	—	114.2	—	104.2
Earnings of non-consolidated affiliates	0.5	—	—	—	0.5
Equity income in subsidiaries	54.5	54.7	—	(109.2 )	—
Interest expense	11.9	41.0	1.5	(1.3 )	53.1
Interest income	1.7	—	—	(1.3 )	0.4
Non-operating pension income (expense)	9.4	—	(1.0 )	—	8.4
Income before taxes	44.2	13.7	111.7	(109.2 )	60.4
Income tax (benefit) provision	(8.5 )	(15.0 )	31.2	—	7.7
Net income	\$ 52.7	\$ 28.7	\$ 80.5	\$ (109.2 )	\$ 52.7

## CONDENSED CONSOLIDATING STATEMENTS OF OPERATIONS

Nine Months Ended September 30, 2017

(In millions)

(Unaudited)

	Parent Guarantor	Issuer	Subsidiary Non-Guarantor	Eliminations	Total
Sales	\$ 1,000.9	\$—	\$ 3,976.9	\$ (329.3 )	\$ 4,648.5
Operating expenses:					
Cost of goods sold	897.6	—	3,586.4	(329.3 )	4,154.7
Selling and administration	113.9	—	154.9	—	268.8
Restructuring charges	—	—	25.9	—	25.9
Acquisition-related costs	12.5	—	—	—	12.5
Other operating (expense) income	(7.1 )	—	7.0	—	(0.1 )
Operating (loss) income	(30.2 )	—	216.7	—	186.5
Earnings of non-consolidated affiliates	1.5	—	—	—	1.5
Equity income in subsidiaries	72.9	94.0	—	(166.9 )	—
Interest expense	33.3	123.8	5.5	(4.6 )	158.0
Interest income	4.7	—	0.9	(4.6 )	1.0
Non-operating pension income (expense)	28.5	—	(3.0 )	—	25.5
Income (loss) before taxes	44.1	(29.8 )	209.1	(166.9 )	56.5
Income tax (benefit) provision	(16.1 )	(45.7 )	58.1	—	(3.7 )
Net income	\$ 60.2	\$ 15.9	\$ 151.0	\$ (166.9 )	\$ 60.2



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## CONDENSED CONSOLIDATING STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

Three Months Ended September 30, 2018

(In millions)

(Unaudited)

	Parent Guarantor	Issuer	Subsidiary Non-Guarantor	Eliminations	Total
Net income	\$ 195.1	\$57.0	\$ 150.4	\$ (207.4 )	\$195.1
Other comprehensive income (loss), net of tax:					
Foreign currency translation adjustments, net	—	—	(2.0 )	—	(2.0 )
Unrealized losses on derivative contracts, net	(3.6 )	—	—	—	(3.6 )
Amortization of prior service costs and actuarial losses, net	6.6	—	0.9	—	7.5
Total other comprehensive income (loss), net of tax	3.0	—	(1.1 )	—	1.9
Comprehensive income	\$ 198.1	\$57.0	\$ 149.3	\$ (207.4 )	\$197.0

## CONDENSED CONSOLIDATING STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

Nine Months Ended September 30, 2018

(In millions)

(Unaudited)

	Parent Guarantor	Issuer	Subsidiary Non-Guarantor	Eliminations	Total
Net income	\$ 274.6	\$107.3	\$ 337.3	\$ (444.6 )	\$274.6
Other comprehensive income (loss), net of tax:					
Foreign currency translation adjustments, net	—	—	(15.7 )	—	(15.7 )
Unrealized losses on derivative contracts, net	(6.1 )	—	—	—	(6.1 )
Amortization of prior service costs and actuarial losses, net	19.7	—	1.3	—	21.0
Total other comprehensive income (loss), net of tax	13.6	—	(14.4 )	—	(0.8 )
Comprehensive income	\$ 288.2	\$107.3	\$ 322.9	\$ (444.6 )	\$273.8

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## CONDENSED CONSOLIDATING STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

Three Months Ended September 30, 2017

(In millions)

(Unaudited)

	Parent Guarantor	Issuer	Subsidiary Non-Guarantor	Eliminations	Total
Net income	\$ 52.7	\$28.7	\$ 80.5	\$ (109.2 )	\$52.7
Other comprehensive income, net of tax:					
Foreign currency translation adjustments, net	—	—	9.8	—	9.8
Unrealized gains on derivative contracts, net	1.3	—	—	—	1.3
Amortization of prior service costs and actuarial losses, net	3.6	—	0.7	—	4.3
Total other comprehensive income, net of tax	4.9	—	10.5	—	15.4
Comprehensive income	\$ 57.6	\$28.7	\$ 91.0	\$ (109.2 )	\$68.1

## CONDENSED CONSOLIDATING STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

Nine Months Ended September 30, 2017

(In millions)

(Unaudited)

	Parent Guarantor	Issuer	Subsidiary Non-Guarantor	Eliminations	Total
Net income	\$ 60.2	\$15.9	\$ 151.0	\$ (166.9 )	\$60.2
Other comprehensive income, net of tax:					
Foreign currency translation adjustments, net	—	—	31.7	—	31.7
Unrealized losses on derivative contracts, net	(4.4 )	—	—	—	(4.4 )
Amortization of prior service costs and actuarial losses, net	11.6	—	1.1	—	12.7
Total other comprehensive income, net of tax	7.2	—	32.8	—	40.0
Comprehensive income	\$ 67.4	\$15.9	\$ 183.8	\$ (166.9 )	\$100.2

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## CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS

Nine Months Ended September 30, 2018

(In millions)

(Unaudited)

	Parent Guarantor	Issuer	Subsidiary Non-Guarantor	Eliminations	Total
Net operating activities	\$ 287.9	\$ —	\$ 298.4	\$ —	\$ 586.3
Investing Activities					
Capital expenditures	(110.5 )	—	(164.0 )	—	(274.5 )
Proceeds from disposition of property, plant and equipment	—	—	2.9	—	2.9
Distributions from consolidated subsidiaries, net	95.0	95.0	—	(190.0 )	—
Net investing activities	(15.5 )	95.0	(161.1 )	(190.0 )	(271.6 )
Financing Activities					
Long-term debt:					
Borrowings	550.0	—	20.0	—	570.0
Repayments	(20.6 )	(713.4 )	(89.7 )	—	(823.7 )
Common stock repurchased and retired	(16.8 )	—	—	—	(16.8 )
Stock options exercised	3.2	—	—	—	3.2
Dividends paid	(100.3 )	(95.0 )	(95.0 )	190.0	(100.3 )
Debt issuance costs	(8.5 )	—	—	—	(8.5 )
Intercompany financing activities	(713.4 )	713.4	—	—	—
Net financing activities	(306.4 )	(95.0 )	(164.7 )	190.0	(376.1 )
Effect of exchange rate changes on cash and cash equivalents	—	—	(0.3 )	—	(0.3 )
Net decrease in cash and cash equivalents	(34.0 )	—	(27.7 )	—	(61.7 )
Cash and cash equivalents, beginning of period	57.1	—	161.3	—	218.4
Cash and cash equivalents, end of period	\$ 23.1	\$ —	\$ 133.6	\$ —	\$ 156.7



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## CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS

Nine Months Ended September 30, 2017

(In millions)

(Unaudited)

	Parent Guarantor	Issuer	Subsidiary Non-Guarantor	Eliminations	Total
Net operating activities	\$ 290.3	\$ —	\$ 164.8	\$ —	—\$455.1
Investing Activities					
Capital expenditures	(64.5 )	—	(145.5 )	—	(210.0 )
Payments under long-term supply contracts	—	—	(209.4 )	—	(209.4 )
Proceeds from disposition of property, plant and equipment	—	—	0.1	—	0.1
Net investing activities	(64.5 )	—	(354.8 )	—	(419.3 )
Financing Activities					
Long-term debt:					
Borrowings	620.0	1,375.0	40.0	—	2,035.0
Repayments	(590.5 )	(1,316.9 )	—	—	(1,907.4 )
Stock options exercised	18.5	—	—	—	18.5
Dividends paid	(99.6 )	—	—	—	(99.6 )
Debt issuance costs	(8.3 )	(2.9 )	—	—	(11.2 )
Intercompany financing activities	(154.2 )	(55.2 )	209.4	—	—
Net financing activities	(214.1 )	—	249.4	—	35.3
Effect of exchange rate changes on cash and cash equivalents	—	—	0.3	—	0.3
Net increase in cash and cash equivalents	11.7	—	59.7	—	71.4
Cash and cash equivalents, beginning of period	25.2	—	159.3	—	184.5
Cash and cash equivalents, end of period	\$ 36.9	\$ —	\$ 219.0	\$ —	—\$255.9

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### Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

#### Business Background

We are a leading vertically-integrated global manufacturer and distributor of chemical products and a leading U.S. manufacturer of ammunition. Our operations are concentrated in three business segments: Chlor Alkali Products and Vinyls, Epoxy and Winchester. All of our business segments are capital intensive manufacturing businesses. Chlor Alkali Products and Vinyls operating rates are closely tied to the general economy. Each segment has a commodity element to it, and therefore, our ability to influence pricing is quite limited on the portion of the segment's business that is strictly commodity.

Our Chlor Alkali Products and Vinyls segment is a commodity business where all supplier products are similar and price is the major supplier selection criterion. We have little or no ability to influence prices in the large, global commodity markets. Our Chlor Alkali Products and Vinyls segment produces some of the most widely used chemicals in the world that can be upgraded into a wide variety of downstream chemical products used in many end-markets. Cyclical price swings, driven by changes in supply/demand, can be abrupt and significant and, given capacity in our Chlor Alkali Products and Vinyls segment, can lead to very significant changes in our overall profitability.

The Epoxy segment consumes products manufactured by the Chlor Alkali Products and Vinyls segment. The Epoxy segment's upstream and midstream products are predominately commodity markets. We have little or no ability to influence prices in these large, global commodity markets. While competitive differentiation exists through downstream customization and product development opportunities, pricing is extremely competitive with a broad range of competitors across the globe.

Winchester also has a commodity element to its business, but a majority of Winchester ammunition is sold as a branded consumer product where there are opportunities to differentiate certain offerings through innovative new product development and enhanced product performance. While competitive pricing versus other branded ammunition products is important, it is not the only factor in product selection.

#### Executive Summary

##### 2018 Overview

Net income was \$195.1 million and \$274.6 million for the three and nine months ended September 30, 2018, respectively, compared to net income of \$52.7 million and \$60.2 million, respectively, for the comparable prior year periods. The increase in results from the prior year was due to improved Chlor Alkali Products and Vinyls and Epoxy segment results, primarily due to higher product prices. Net income for the three and nine months ended September 30, 2018 also included insurance recoveries for environmental costs incurred and expensed in prior periods of \$110.0 million. These increases were partially offset by lower Winchester segment results and increased costs associated with the Information Technology Project. In 2017, we began a multi-year implementation of new enterprise resource planning, manufacturing and engineering systems, and related infrastructure (collectively, the Information Technology Project). Net income for the nine months ended September 30, 2018 also included a \$21.5 million non-cash impairment charge associated with our investment in a non-consolidated affiliate and an \$8.0 million pretax gain from an insurance recovery resulting from a second quarter 2017 Freeport, TX vinyl chloride monomer facility business interruption claim.

Chlor Alkali Products and Vinyls generated segment income of \$210.8 million and \$490.7 million for the three and nine months ended September 30, 2018, respectively. Chlor Alkali Products and Vinyls segment income was higher than in the comparable prior year periods due to increased caustic soda, chlorine, ethylene dichloride (EDC) and other

chlorine-derivatives pricing. Chlor Alkali Products and Vinyls 2018 segment income was negatively impacted by a less favorable product mix and higher costs, including raw material and freight costs, operating costs and depreciation and amortization expense. Chlor Alkali Products and Vinyls 2018 segment income for the nine months ended September 30, 2018 also benefited from lower ethylene costs associated with the acquisition of additional cost-based ethylene from DowDuPont in late September 2017 and was negatively impacted by a \$21.5 million non-cash impairment charge associated with our investment in a non-consolidated affiliate. Chlor Alkali Products and Vinyls 2017 segment income was negatively impacted by incremental costs to continue operations and unabsorbed fixed manufacturing costs associated with Hurricane Harvey. Chlor Alkali Products and Vinyls segment income included depreciation and amortization expense of \$122.3 million and \$106.8 million for the three months ended September 30, 2018 and 2017, respectively, and \$355.4 million and \$318.0 million for the nine months ended September 30, 2018 and 2017, respectively.

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For the nine months ended September 30, 2018, Chlor Alkali Products and Vinyls recorded a \$21.5 million non-cash impairment charge related to an adjustment to the value of our 9.1% limited partnership interest in Bay Gas Storage Company, Ltd. (BayGas). BayGas owns, leases and operates underground gas storage and related pipeline facilities which are used to provide storage in the McIntosh, AL area and delivery of natural gas. The general partner, Sempra Energy (Sempra), announced in the second quarter 2018 its plan to sell several assets including its 90.9% interest in BayGas. In connection with this decision, Sempra recorded an impairment charge related to BayGas adjusting the related assets' carrying values to an estimated fair value. We recorded a reduction in our investment in the non-consolidated affiliate for the proportionate share of the non-cash impairment charge. Olin has no other non-consolidated affiliates.

During 2017, North America caustic soda price contract indices increased \$140 per ton and the caustic soda export price indices increased approximately \$260 per metric ton creating positive pricing momentum entering 2018. During 2018, North America caustic soda price contract indices increased an additional \$65 per ton while the caustic soda export price indices decreased \$130 per metric ton. In the third quarter of 2018, both domestic and export price indices experienced declines. During August 2018, a caustic soda price increase of \$50 per ton was announced. This price increase is in the process of being implemented and while the extent to which this price increase is achieved is uncertain, the majority of the benefits, if realized, would impact fourth quarter 2018 and first quarter 2019 results.

Epoxy reported segment income of \$31.1 million and \$33.8 million for the three and nine months ended September 30, 2018, respectively. Epoxy segment results were higher than in the comparable prior year periods primarily due to higher product prices, partially offset by increased raw material costs, primarily benzene and propylene. Epoxy segment results for the nine months ended September 30, 2018 were negatively impacted by \$41.6 million of additional maintenance costs and unabsorbed fixed manufacturing costs associated with maintenance turnarounds, which were primarily associated with an approximately two-month planned maintenance turnaround at our production facilities in Freeport, TX. Epoxy 2017 segment results were negatively impacted by incremental costs to continue operations and unabsorbed fixed manufacturing costs associated with Hurricane Harvey. Epoxy segment income included depreciation and amortization expense of \$25.2 million and \$24.4 million for the three months ended September 30, 2018 and 2017, respectively, and \$77.0 million and \$69.6 million for the nine months ended September 30, 2018 and 2017, respectively.

Winchester reported segment income of \$10.3 million and \$34.1 million for the three and nine months ended September 30, 2018, respectively. Winchester segment income declined from the comparable prior year periods primarily due to increased commodity and other material costs, lower commercial sales volumes and a less favorable product mix. Winchester segment income included depreciation and amortization expense of \$4.9 million and \$4.8 million for the three months ended September 30, 2018 and 2017, respectively, and \$14.9 million and \$14.2 million for the nine months ended September 30, 2018 and 2017, respectively.

During the third quarter of 2018, we settled certain disputes with respect to insurance coverage for costs at various environmental remediation sites for \$120.0 million. We recorded a pretax gain of \$110.0 million to the environmental provision, which was net of estimated liabilities of \$10.0 million associated with claims by subsequent owners of certain of the settled environmental sites. We incurred legal fees of \$10.5 million and \$21.5 million for the three and nine months ended September 30, 2018, respectively, associated with these recovery actions. The \$120.0 million receivable for this settlement was collected in early October 2018.

For the nine months ended September 30, 2018, we made long-term debt repayments, net of long-term debt borrowings, of \$253.7 million. On January 19, 2018, Olin issued \$550.0 million aggregate principal amount of 5.00% senior notes due February 1, 2030 (2030 Notes), which were registered under the Securities Act of 1933, as amended. Proceeds from the 2030 Notes were used to redeem \$550.0 million of debt under the \$1,375.0 million Term Loan Facility. This prepayment of the Term Loan Facility eliminates the required quarterly installments under the Term

Loan Facility.

On April 26, 2018, our board of directors authorized a share repurchase program for the purchase of shares of common stock at an aggregate price of up to \$500.0 million. This program will terminate upon the purchase of \$500.0 million of our common stock. For the nine months ended September 30, 2018, 0.5 million shares were repurchased and retired at a cost of \$16.8 million.

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## Consolidated Results of Operations

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(\$ in millions, except per share data)			
Sales	\$1,872.4	\$1,554.9	\$5,311.1	\$4,648.5
Cost of goods sold	1,441.7	1,349.3	4,431.1	4,154.7
Gross margin	430.7	205.6	880.0	493.8
Selling and administration	110.8	91.1	321.6	268.8
Restructuring charges	3.3	9.2	13.7	25.9
Acquisition-related costs	0.4	1.1	1.0	12.5
Other operating (expense) income	(1.7 )	—	6.4	(0.1 )
Operating income	314.5	104.2	550.1	186.5
Earnings (losses) of non-consolidated affiliates	0.4	0.5	(20.2 )	1.5
Interest expense	59.2	53.1	184.0	158.0
Interest income	0.3	0.4	1.1	1.0
Non-operating pension income	5.4	8.4	16.2	25.5
Income before taxes	261.4	60.4	363.2	56.5
Income tax provision (benefit)	66.3	7.7	88.6	(3.7 )
Net income	\$195.1	\$52.7	\$274.6	\$60.2
Net income per common share:				
Basic	\$1.17	\$0.32	\$1.64	\$0.36
Diluted	\$1.16	\$0.31	\$1.63	\$0.36

## Three Months Ended September 30, 2018 Compared to Three Months Ended September 30, 2017

Sales for the three months ended September 30, 2018 were \$1,872.4 million compared to \$1,554.9 million in the same period last year, an increase of \$317.5 million, or 20%. Chlor Alkali Products and Vinyls sales increased by \$169.9 million, primarily due to increased caustic soda, chlorine, EDC and other chlorine-derivatives pricing. Epoxy sales increased by \$157.4 million primarily due to higher product prices and higher volumes. Winchester sales decreased by \$9.8 million primarily due to lower sales to commercial customers.

Gross margin increased \$225.1 million for the three months ended September 30, 2018 compared to the prior year period. Gross margin was positively impacted by insurance recoveries for environmental costs incurred and expensed in prior periods of \$110.0 million. Chlor Alkali Products and Vinyls gross margin increased by \$85.4 million, primarily due to higher product pricing, partially offset by increased raw material and freight costs. Epoxy gross margin increased \$36.2 million primarily due to higher product prices partially offset by increased raw material costs, primarily benzene and propylene. Both Chlor Alkali Products and Vinyls and Epoxy 2017 gross margins were negatively impacted by incremental costs to continue operations and unabsorbed fixed manufacturing costs associated with Hurricane Harvey. Winchester gross margin decreased \$7.0 million primarily due to increased commodity and other material costs, lower commercial sales volumes and a less favorable product mix. Gross margin as a percentage of sales increased to 23% in 2018 from 13% in 2017.

Selling and administration expenses for the three months ended September 30, 2018 were \$110.8 million, an increase of \$19.7 million from the prior year period. The increase was primarily due to higher legal and legal-related settlement expenses of \$9.2 million and higher incentive compensation expense of \$5.5 million. The increased legal and legal-related settlement expenses were primarily due to legal fees associated with the environmental recovery actions. Selling and administration expenses for the three months ended September 30, 2018 also included costs of \$7.5

million associated with the Information Technology Project compared to \$2.9 million for three months ended September 30, 2017. Selling and administration expenses as a percentage of sales were 6% in both 2018 and 2017.

Restructuring charges for the three months ended September 30, 2018 and 2017 of \$3.3 million and \$9.2 million, respectively, were primarily associated with the March 2016 closure of 433,000 tons of chlor alkali capacity across three separate locations.

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Acquisition-related costs of \$0.4 million and \$1.1 million for the three months ended September 30, 2018 and 2017, respectively, were related to the integration of the Acquired Business, and consisted of advisory, legal, accounting and other professional fees.

Other operating (expense) income for the three months ended September 30, 2018 included a \$1.7 million loss on the sale of land.

Interest expense increased by \$6.1 million for the three months ended September 30, 2018, primarily due to higher interest rates and \$4.0 million of accretion expense related to the 2020 ethylene payment discount, partially offset by a lower level of debt outstanding.

Non-operating pension income includes all components of pension and other postretirement income (costs) other than service costs. Non-operating pension income was lower for the three months ended September 30, 2018, primarily due to an increase in the amortization of actuarial losses.

The effective tax rate for the three months ended September 30, 2018 included a benefit associated with stock-based compensation, a benefit associated with the estimated increase of the one-time 2017 Tax Act provisional tax benefit, a benefit associated with prior year tax positions, an expense from a net increase in the valuation allowance related to deferred tax assets in foreign jurisdictions and a benefit from the remeasurement of deferred taxes due to a decrease in our state effective tax rates. These factors resulted in a net \$0.5 million tax benefit. After giving consideration to these items, the effective tax rate for the three months ended September 30, 2018 of 25.6% was higher than the 21% U.S. federal statutory rate, primarily due to state taxes, foreign income taxes and U.S. minimum tax on foreign earnings, partially offset by favorable permanent salt depletion deductions. The effective tax rate for the three months ended September 30, 2017 included a benefit related to the remeasurement of deferred taxes due to a decrease in our state effective tax rates, a benefit associated with prior year tax positions and a benefit associated with stock-based compensation. These factors resulted in a net \$6.7 million tax benefit. After giving consideration to these items, the effective tax rate for the three months ended September 30, 2017 of 23.8% was lower than the 35% U.S. federal statutory rate, primarily due to favorable permanent salt depletion deductions.

Nine Months Ended September 30, 2018 Compared to Nine Months Ended September 30, 2017

Sales for the nine months ended September 30, 2018 were \$5,311.1 million compared to \$4,648.5 million in the same period last year, an increase of \$662.6 million, or 14%. Chlor Alkali Products and Vinyls sales increased by \$422.7 million, primarily due to increased caustic soda, chlorine, EDC and other chlorine-derivatives pricing, partially offset by lower volumes and a less favorable product mix. Epoxy sales increased by \$244.9 million primarily due to higher product prices, partially offset by lower volumes. Winchester sales decreased by \$5.0 million primarily due to lower sales to commercial customers, partially offset by higher sales to military customers and law enforcement agencies.

Gross margin increased \$386.2 million for the nine months ended September 30, 2018 compared to the prior year. Gross margin was positively impacted by insurance recoveries for environmental costs incurred and expensed in prior periods of \$110.0 million. Chlor Alkali Products and Vinyls gross margin increased by \$251.9 million, primarily due to higher product pricing partially offset by increased raw material and freight costs and lower volumes and a less favorable product mix. Epoxy gross margin increased \$57.8 million primarily due to higher product prices partially offset by increased raw material costs, primarily benzene and propylene. Epoxy gross margin was also negatively impacted by the cost of an approximately two-month planned maintenance turnaround at our production facilities in Freeport, TX, which also reduced volumes. Both Chlor Alkali Products and Vinyls and Epoxy 2017 gross margins were also negatively impacted by incremental costs to continue operations and unabsorbed fixed manufacturing costs associated with Hurricane Harvey. Winchester gross margin decreased \$27.4 million primarily due to increased



commodity and other material costs, lower commercial sales volumes and a less favorable product mix and lower selling prices. Gross margin as a percentage of sales increased to 17% in 2018 from 11% in 2017.

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Selling and administration expenses for the nine months ended September 30, 2018 were \$321.6 million, an increase of \$52.8 million from the prior year. The increase was primarily due to higher legal and legal-related settlement expenses of \$18.5 million and increased incentive compensation expense of \$13.0 million, partially offset by lower stock-based compensation expense of \$9.1 million, which includes mark-to-market adjustments. The increased legal and legal-related settlement expenses were primarily due to legal fees associated with the environmental recovery actions. Selling and administration expenses for the nine months ended September 30, 2018 also included costs of \$25.5 million associated with the Information Technology Project compared to \$2.9 million for the nine months ended September 30, 2017. Selling and administration expenses as a percentage of sales were 6% in both 2018 and 2017.

Restructuring charges for the nine months ended September 30, 2018 and 2017 of \$13.7 million and \$25.9 million, respectively, were primarily associated with the March 2016 closure of 433,000 tons of chlor alkali capacity across three separate locations.

Acquisition-related costs of \$1.0 million and \$12.5 million for the nine months ended September 30, 2018 and 2017, respectively, were related to the integration of the Acquired Business, and consisted of advisory, legal, accounting and other professional fees.

Other operating (expense) income for the nine months ended September 30, 2018 included a \$1.7 million loss on the sale of land and an \$8.0 million insurance recovery for a second quarter 2017 business interruption at our Freeport, TX vinyl chloride monomer facility.

Earnings (losses) of non-consolidated affiliates decreased by \$21.7 million for the nine months ended September 30, 2018, which reflect a \$21.5 million non-cash impairment charge recorded during the second quarter.

Interest expense increased by \$26.0 million for the nine months ended September 30, 2018, primarily due to higher interest rates and \$11.9 million of accretion expense related to the 2020 ethylene payment discount, partially offset by a lower level of debt outstanding.

Non-operating pension income includes all components of pension and other postretirement income (costs) other than service costs. Non-operating pension income was lower for the nine months ended September 30, 2018, primarily due to an increase in the amortization of actuarial losses.

The effective tax rate for the nine months ended September 30, 2018 included a benefit associated with stock-based compensation, a benefit from a change in tax contingencies, a benefit related to a foreign dividend payment, a benefit associated with the estimated increase of the one-time 2017 Tax Act provisional tax benefit, a benefit associated with prior year tax positions, an expense from a net increase in the valuation allowance related to deferred tax assets in foreign jurisdictions and a benefit from the remeasurement of deferred taxes due to a decrease in our state effective tax rates. These factors resulted in a net \$2.7 million tax benefit. After giving consideration to these items, the effective tax rate for the nine months ended September 30, 2018 of 25.1% was higher than the 21% U.S. federal statutory rate primarily due to state taxes, foreign income taxes and U.S. minimum tax on foreign earnings, partially offset by favorable permanent salt depletion deductions. The effective tax rate for the nine months ended September 30, 2017 included a benefit related to an agreement reached with the Internal Revenue Service (IRS) for the years 2008 and 2010 to 2012 tax examinations, a benefit related to the remeasurement of deferred taxes due to a decrease in our state effective tax rates, a benefit associated with stock-based compensation and a benefit associated with prior year tax positions. These factors resulted in a net \$17.7 million tax benefit. After giving consideration to these items, the effective tax rate for the nine months ended September 30, 2017 of 24.8% was lower than the 35% U.S. federal statutory rate, primarily due to favorable permanent salt depletion deductions.



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## Segment Results

We define segment results as income (loss) before interest expense, interest income, other operating income (expense), non-operating pension income and income taxes, and includes the operating results of non-consolidated affiliates. Consistent with the guidance in Accounting Standards Codification (ASC) 280, "Segment Reporting," we have determined it is appropriate to include the operating results of non-consolidated affiliates in the relevant segment financial results. We have three operating segments: Chlor Alkali Products and Vinyls, Epoxy and Winchester. The three operating segments reflect the organization used by our management for purposes of allocating resources and assessing performance. Chlorine used in our Epoxy segment is transferred at cost from the Chlor Alkali Products and Vinyls segment. Sales and profits are recognized in the Chlor Alkali Products and Vinyls segment for all caustic soda generated and sold by Olin.

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2018	2017	2018	2017
Sales:	(\$ in millions)			
Chlor Alkali Products and Vinyls	\$1,051.1	\$881.2	\$3,005.9	\$2,583.2
Epoxy	647.3	489.9	1,794.4	1,549.5
Winchester	174.0	183.8	510.8	515.8
Total sales	\$1,872.4	\$1,554.9	\$5,311.1	\$4,648.5
Income (loss) before taxes:				
Chlor Alkali Products and Vinyls <sup>(1)</sup>	\$210.8	\$129.7	\$490.7	\$270.0
Epoxy	31.1	(1.7 )	33.8	(11.0 )
Winchester	10.3	17.2	34.1	61.3
Corporate/other:				
Environmental income (expense) <sup>(2)</sup>	110.8	(1.8 )	104.1	(6.2 )
Other corporate and unallocated costs <sup>(3)</sup>	(42.7 )	(28.4 )	(124.5 )	(87.6 )
Restructuring charges <sup>(4)</sup>	(3.3 )	(9.2 )	(13.7 )	(25.9 )
Acquisition-related costs <sup>(5)</sup>	(0.4 )	(1.1 )	(1.0 )	(12.5 )
Other operating (expense) income <sup>(6)</sup>	(1.7 )	—	6.4	(0.1 )
Interest expense <sup>(7)</sup>	(59.2 )	(53.1 )	(184.0 )	(158.0 )
Interest income	0.3	0.4	1.1	1.0
Non-operating pension income <sup>(8)</sup>	5.4	8.4	16.2	25.5
Income before taxes	\$261.4	\$60.4	\$363.2	\$56.5

Earnings (losses) of non-consolidated affiliates are included in the Chlor Alkali Products and Vinyls segment results consistent with management's monitoring of the operating segments. The earnings of non-consolidated affiliates were \$0.4 million and \$0.5 million for the three months ended September 30, 2018 and 2017, respectively, and \$1.5 million for the nine months ended September 30, 2017. The losses of non-consolidated affiliates were \$20.2 million for the nine months ended September 30, 2018, which reflect a \$21.5 million non-cash impairment charge recorded during the second quarter.

Environmental income (expense) for both the three and nine months ended September 30, 2018 included insurance recoveries for environmental costs incurred and expensed in prior periods of \$110.0 million. Environmental income (expense) is included in cost of goods sold in the condensed statements of operations.

Other corporate and unallocated costs for the three months ended September 30, 2018 and 2017 included \$7.5 million and \$2.9 million, respectively, and for the nine months ended September 30, 2018 and 2017 included \$25.5 million and \$2.9 million, respectively, of costs associated with the Information Technology Project.

- (4) Restructuring charges for the three and nine months ended September 30, 2018 and 2017 were primarily associated with the March 2016 closure of 433,000 tons of chlor alkali capacity across three separate locations.
- (5) Acquisition-related costs for the three and nine months ended September 30, 2018 and 2017 were related to the integration of the Acquired Business, and consisted of advisory, legal, accounting and other professional fees.

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(6) Other operating (expense) income for both the three and nine months ended September 30, 2018 included a \$1.7 million loss on the sale of land. Other operating (expense) income for the nine months ended September 30, 2018 also included an \$8.0 million insurance recovery for a second quarter 2017 business interruption at our Freeport, TX vinyl chloride monomer facility.

(7) Interest expense for the three and nine months ended September 30, 2018 included \$4.0 million and \$11.9 million, respectively, of accretion expense related to the 2020 ethylene payment discount.

(8) Non-operating pension income reflects the adoption of ASU 2017-07 and includes all components of pension and other postretirement income (costs) other than service costs, which are allocated to the operating segments based on their respective estimated census data. Operating segment results for 2017 have been restated to reflect this accounting change.

Chlor Alkali Products and Vinyls

Three Months Ended September 30, 2018 Compared to Three Months Ended September 30, 2017

Chlor Alkali Products and Vinyls sales for the three months ended September 30, 2018 were \$1,051.1 million compared to \$881.2 million for the same period in 2017, an increase of \$169.9 million, or 19%. The sales increase was primarily due to increased caustic soda, chlorine, EDC and other chlorine-derivatives pricing. Chlor Alkali Products and Vinyls sales volumes in the third quarter of 2017 were negatively impacted by lost sales associated with Hurricane Harvey.

Chlor Alkali Products and Vinyls segment income was \$210.8 million for the three months ended September 30, 2018 compared to \$129.7 million for the same period in 2017, an increase of \$81.1 million, or 63%. Chlor Alkali Products and Vinyls segment income was higher due to higher product prices (\$154.3 million). Partially offsetting this increase was a less favorable product mix (\$30.2 million), higher raw material and freight costs (\$28.1 million), higher operating costs (\$20.0 million), increased depreciation and amortization expense (\$15.6 million) and higher ethylene costs (\$3.3 million), due to higher ethane prices. Chlor Alkali Products and Vinyls 2017 segment income was negatively impacted by incremental costs to continue operations and unabsorbed fixed manufacturing costs associated with Hurricane Harvey (\$24.0 million). Chlor Alkali Products and Vinyls segment income included depreciation and amortization expense of \$122.3 million and \$106.8 million for the three months ended September 30, 2018 and 2017, respectively.

Nine Months Ended September 30, 2018 Compared to Nine Months Ended September 30, 2017

Chlor Alkali Products and Vinyls sales for the nine months ended September 30, 2018 were \$3,005.9 million compared to \$2,583.2 million for the same period in 2017, an increase of \$422.7 million, or 16%. The sales increase was primarily due to increased caustic soda, chlorine, EDC and other chlorine-derivatives pricing. The higher product prices were partially offset by lower volumes and a less favorable product mix. Chlor Alkali Products and Vinyls sales volumes in the third quarter of 2017 were negatively impacted by lost sales associated with Hurricane Harvey.

Chlor Alkali Products and Vinyls segment income was \$490.7 million for the nine months ended September 30, 2018 compared to \$270.0 million for the same period in 2017, an increase of \$220.7 million, or 82%. The increase in Chlor Alkali Products and Vinyls segment income was primarily due to higher product prices (\$428.7 million), lower ethylene costs associated with the acquisition of additional cost-based ethylene from DowDuPont in late September 2017, partially offset by higher ethane prices (\$17.4 million). Partially offsetting these increases were higher raw material and freight costs (\$102.7 million), lower volumes and a less favorable product mix (\$49.8 million), increased

operating costs (\$38.0 million) and increased depreciation and amortization expense (\$37.4 million). Chlor Alkali Products and Vinyls 2018 segment income was also negatively impacted by a non-cash impairment charge associated with our investment in a non-consolidated affiliate (\$21.5 million). Chlor Alkali Products and Vinyls 2017 segment income was negatively impacted by incremental costs to continue operations and unabsorbed fixed manufacturing costs associated with Hurricane Harvey (\$24.0 million). Chlor Alkali Products and Vinyls segment income included depreciation and amortization expense of \$355.4 million and \$318.0 million for the nine months ended September 30, 2018 and 2017, respectively.

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Epoxy

Three Months Ended September 30, 2018 Compared to Three Months Ended September 30, 2017

Epoxy sales for the three months ended September 30, 2018 were \$647.3 million compared to \$489.9 million for the same period in 2017, an increase of \$157.4 million, or 32%. The sales increase was primarily due to higher product prices (\$106.2 million) and increased volumes (\$55.2 million), partially offset by an unfavorable effect of foreign currency translation (\$4.0 million). Epoxy sales volumes in the third quarter of 2017 were negatively impacted by Hurricane Harvey.

Epoxy segment income was \$31.1 million for the three months ended September 30, 2018 compared to a segment loss of \$1.7 million for the same period in 2017, an increase in segment results of \$32.8 million. The increase in Epoxy segment results was primarily due to higher product prices (\$106.2 million). This increase was partially offset by higher raw material costs (\$76.7 million), primarily benzene and propylene, increased operating costs, including utilities (\$12.2 million), a less favorable product mix offsetting higher volumes (\$2.4 million) and higher depreciation and amortization expense (\$0.8 million). Additionally, Epoxy 2017 segment results were negatively impacted by incremental costs to continue operations and unabsorbed fixed manufacturing costs associated with Hurricane Harvey (\$18.7 million). A significant percentage of our Euro denominated sales are of products manufactured within Europe. As a result, the impact of foreign currency translation on revenue is primarily offset by the impact of foreign currency translation on raw materials and manufacturing costs also denominated in Euros. Epoxy segment income included depreciation and amortization expense of \$25.2 million and \$24.4 million for the three months ended September 30, 2018 and 2017, respectively.

Nine Months Ended September 30, 2018 Compared to Nine Months Ended September 30, 2017

Epoxy sales for the nine months ended September 30, 2018 were \$1,794.4 million compared to \$1,549.5 million for the same period in 2017, an increase of \$244.9 million, or 16%. The sales increase was primarily due to higher product prices (\$232.1 million) and a favorable effect of foreign currency translation (\$58.8 million), partially offset by lower volumes (\$46.0 million). Epoxy 2018 sales volumes were negatively impacted by lost sales associated with planned maintenance turnarounds, while 2017 Epoxy sales volumes were negatively impacted by Hurricane Harvey.

Epoxy segment income was \$33.8 million for the nine months ended September 30, 2018 compared to segment loss of \$11.0 million for the same period in 2017, an increase in segment results of \$44.8 million. The increase in Epoxy segment results was primarily due to higher product prices (\$232.1 million) and a favorable effect of foreign currency translation (\$2.8 million), primarily Euros. These increases were partially offset by higher raw material costs (\$115.1 million), primarily benzene and propylene. Epoxy results were also negatively impacted by higher maintenance costs and unabsorbed fixed manufacturing costs associated with turnarounds and outages (\$41.6 million), lower volumes and a less favorable product mix (\$23.9 million), increased operating costs, including utilities (\$20.8 million) and higher depreciation and amortization expense (\$7.4 million). Additionally, Epoxy 2017 segment results were negatively impacted by incremental costs to continue operations and unabsorbed fixed manufacturing costs associated with Hurricane Harvey (\$18.7 million). Epoxy segment income included depreciation and amortization expense of \$77.0 million and \$69.6 million for the nine months ended September 30, 2018 and 2017, respectively.

Winchester

Three Months Ended September 30, 2018 Compared to Three Months Ended September 30, 2017

Winchester sales were \$174.0 million for the three months ended September 30, 2018 compared to \$183.8 million for the same period in 2017, a decrease of \$9.8 million, or 5%. The sales decrease was primarily due to lower ammunition



sales to commercial customers (\$10.6 million), partially offset by higher sales to military customers and law enforcement agencies (\$0.8 million).

Winchester segment income was \$10.3 million for the three months ended September 30, 2018 compared to \$17.2 million for the same period in 2017, a decrease of \$6.9 million, or 40%. The decrease in segment income was due to higher commodity and other material costs (\$4.2 million), lower commercial sales and a less favorable product mix (\$3.8 million) and lower product prices (\$1.6 million). These decreases were partially offset by lower operating costs (\$2.7 million), including depreciation and amortization expense. Winchester segment income included depreciation and amortization expense of \$4.9 million and \$4.8 million for the three months ended September 30, 2018 and 2017, respectively.

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Nine Months Ended September 30, 2018 Compared to Nine Months Ended September 30, 2017

Winchester sales were \$510.8 million for the nine months ended September 30, 2018 compared to \$515.8 million for the same period in 2017, a decrease of \$5.0 million, or 1%. The sales decrease was primarily due to lower ammunition sales to commercial customers (\$28.9 million), partially offset by higher sales to military customers and law enforcement agencies (\$23.9 million).

Winchester segment income was \$34.1 million for the nine months ended September 30, 2018 compared to \$61.3 million for the same period in 2017, a decrease of \$27.2 million, or 44%. The decrease in segment income was due to higher commodity and other material costs (\$17.6 million), lower commercial sales and a less favorable product mix (\$6.5 million) and lower product prices (\$4.2 million). These decreases were partially offset by lower operating costs (\$1.1 million), including depreciation and amortization expense. Winchester segment income included depreciation and amortization expense of \$14.9 million and \$14.2 million for the nine months ended September 30, 2018 and 2017, respectively.

Corporate/Other

Three Months Ended September 30, 2018 Compared to Three Months Ended September 30, 2017

Credits to income for environmental investigatory and remedial activities were \$110.8 million for the three months ended September 30, 2018, which include \$110.0 million of insurance recoveries for environmental costs incurred and expensed in prior periods. Without these recoveries in 2018, credits (charges) to income for environmental investigatory and remedial activities would have been \$0.8 million for the three months ended September 30, 2018 compared with \$(1.8) million for the three months ended September 30, 2017. These credits (charges) related primarily to expected future investigatory and remedial activities associated with past manufacturing operations and former waste disposal sites.

For the three months ended September 30, 2018, other corporate and unallocated costs were \$42.7 million compared to \$28.4 million for the three months ended September 30, 2017, an increase of \$14.3 million. The increase was primarily due to higher legal and legal-related settlement expenses of \$9.9 million and higher costs associated with the Information Technology Project of \$4.6 million, partially offset by lower stock-based compensation expense of \$3.1 million, which includes mark-to-market adjustments. The higher legal and legal-related settlement expenses were primarily due to legal fees associated with environmental recovery actions.

Nine Months Ended September 30, 2018 Compared to Nine Months Ended September 30, 2017

Credits to income for environmental investigatory and remedial activities were \$104.1 million for the nine months ended September 30, 2018, which include \$110.0 million of insurance recoveries for environmental costs incurred and expensed in prior periods. Without these recoveries in 2018, charges to income for environmental investigatory and remedial activities would have been \$5.9 million for the nine months ended September 30, 2018 compared with \$6.2 million for the three months ended September 30, 2017. These charges related primarily to expected future investigatory and remedial activities associated with past manufacturing operations and former waste disposal sites.

For the nine months ended September 30, 2018, other corporate and unallocated costs were \$124.5 million compared to \$87.6 million for the nine months ended September 30, 2017, an increase of \$36.9 million. The increase was primarily due to higher costs associated with the Information Technology Project of \$22.6 million and higher legal and legal-related settlement expenses of \$21.2 million, partially offset by lower stock-based compensation expense of \$9.1 million, which includes mark-to-market adjustments. The higher legal and legal-related settlement expenses were primarily due to legal fees associated with environmental recovery actions.



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Outlook

Net income in 2018 is projected to be in the \$1.80 to \$2.05 per diluted share range, which includes pretax insurance recoveries for environmental costs incurred and expensed in prior periods of \$110 million, a pretax non-cash impairment charge associated with our investment in a non-consolidated affiliate of \$21.5 million and estimated pretax restructuring charges totaling approximately \$20 million. Net income in 2017 was \$3.26 per diluted share, which included a tax benefit of \$437.9 million from the 2017 Tax Act, pretax restructuring charges of \$37.6 million and pretax acquisition-related integration costs of \$12.8 million.

Fourth quarter 2018 earnings are forecast to decline compared to third quarter 2018, reflecting seasonally weaker demand for chlorine derivatives, epoxy resins and commercial ammunition, lower caustic soda pricing and higher raw material costs. We expect fourth quarter 2018 Chlor Alkali Products and Vinyls segment earnings to decline sequentially primarily due to decreased volumes due to normal seasonality, lower caustic soda pricing and increased ethylene costs from higher ethane pricing. These impacts are expected to be partially offset by higher EDC, chlorine and chlorine-derivatives pricing. We expect fourth quarter 2018 Epoxy segment earnings to decline compared to third quarter 2018 due to decreased volumes from normal seasonality. Winchester fourth quarter segment earnings are expected to decline sequentially in the fourth quarter which is the weakest seasonal period for commercial ammunition sales.

Chlor Alkali Products and Vinyls 2018 segment income is expected to increase compared to 2017 segment income of \$405.8 million reflecting higher caustic soda, chlorine, EDC and chlorine-derivatives pricing.

Epoxy 2018 segment results are expected to improve from the 2017 segment loss of \$11.8 million as increased volumes and higher product pricing are expected to more than offset higher raw material costs, primarily benzene and propylene, and higher maintenance turnaround expense.

Winchester 2018 segment income is expected to decline from the \$72.4 million of segment income achieved during 2017 primarily driven by higher commodity and other material costs, lower commercial ammunition sales, a less favorable product mix and lower selling prices. These decreases are expected to be partially offset by higher levels of military demand.

Other Corporate and Unallocated costs in 2018 are expected to be higher than 2017 Other Corporate and Unallocated costs of \$120.7 million due to higher costs associated with the Information Technology Project and increased legal and litigation costs. Costs associated with the Information Technology Project are estimated to be approximately \$50 million in 2018 compared to \$5.3 million in 2017. The higher legal and litigation costs are primarily due to legal fees associated with the environmental recovery actions.

Excluding the \$110.0 million of insurance recoveries, we anticipate full year 2018 environmental expenses in the \$8 million to \$10 million range compared to \$8.5 million in 2017.

We expect non-operating pension income in 2018 to be lower than the 2017 level by approximately \$10 million to \$15 million primarily due to higher Pension Benefit Guaranty Corporation fees associated with our domestic qualified defined benefit plan and increased amortization of deferred pension actuarial losses. Based on our plan assumptions and estimates, we will not be required to make any cash contributions to our domestic qualified defined benefit pension plan in 2018. We have several international qualified defined benefit pension plans for which we anticipate cash contributions of less than \$5 million in 2018.

In 2018, we currently expect our capital spending to be in the \$375 million to \$425 million range, including the investment associated with the Information Technology Project of approximately \$100 million. We expect 2018

depreciation and amortization expense to be in the \$590 million to \$610 million range.

We currently believe the 2018 effective tax rate will be approximately 25%, including the impact of the 2017 Tax Act.

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## Environmental Matters

Environmental provisions (credited) charged to income, which are included in costs of goods sold, were as follows:

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2018	2017	2018	2017
	(\$ in millions)			
Provisions (credited) charged to income	\$ (0.8 )	\$ 1.8	\$ 5.9	\$ 6.2
Insurance recoveries for costs incurred and expensed	(110.0 )	—	(110.0 )	—
Environmental (income) expense	\$ (110.8)	\$ 1.8	\$ (104.1)	\$ 6.2

During the third quarter of 2018, we settled certain disputes with respect to insurance coverage for costs at various environmental remediation sites for \$120.0 million. Environmental income (expense) for both the three and nine months ended September 30, 2018 include insurance recoveries for environmental costs incurred and expensed in prior periods of \$110.0 million. The recoveries are reduced by estimated liabilities of \$10.0 million associated with claims by subsequent owners of certain of the settled environmental sites.

Our liabilities for future environmental expenditures were as follows:

	September 30,	
	2018	2017
	(\$ in millions)	
Balance at beginning of year	\$ 131.6	\$ 137.3
Charges to income	5.9	6.2
Remedial and investigatory spending	(8.4 )	(8.7 )
Foreign currency translation adjustments	(0.1 )	0.5
Balance at end of period	\$ 129.0	\$ 135.3

Environmental investigatory and remediation activities spending was associated with former waste disposal sites and past manufacturing operations. Spending in 2018 for investigatory and remedial efforts, the timing of which is subject to regulatory approvals and other uncertainties, is estimated to be approximately \$15 million. Cash outlays for remedial and investigatory activities associated with former waste disposal sites and past manufacturing operations were not charged to income, but instead, were charged to reserves established for such costs identified and expensed to income in prior periods. Associated costs of investigatory and remedial activities are provided for in accordance with generally accepted accounting principles governing probability and the ability to reasonably estimate future costs. Our ability to estimate future costs depends on whether our investigatory and remedial activities are in preliminary or advanced stages. With respect to unasserted claims, we accrue liabilities for costs that, in our experience, we expect to incur to protect our interests against those unasserted claims. Our accrued liabilities for unasserted claims amounted to \$8.5 million at September 30, 2018. With respect to asserted claims, we accrue liabilities based on remedial investigation, feasibility study, remedial action and operation, maintenance and monitoring (OM&M) expenses that, in our experience, we expect to incur in connection with the asserted claims. Required site OM&M expenses are estimated and accrued in their entirety for required periods not exceeding 30 years, which reasonably approximates the typical duration of long-term site OM&M. Charges to income for investigatory and remedial efforts could be material to our operating results in 2018.

Our condensed balance sheets included liabilities for future environmental expenditures to investigate and remediate known sites amounting to \$129.0 million at September 30, 2018, \$131.6 million at December 31, 2017 and \$135.3 million at September 30, 2017, of which \$109.0 million, \$111.6 million and \$118.3 million, respectively, were

classified as other noncurrent liabilities. These amounts do not take into account any discounting of future expenditures or any consideration of insurance recoveries or advances in technology. These liabilities are reassessed periodically to determine if environmental circumstances have changed and/or remediation efforts and our estimate of related costs have changed. As a result of these reassessments, future charges to income may be made for additional liabilities.

Environmental exposures are difficult to assess for numerous reasons, including the identification of new sites, developments at sites resulting from investigatory studies, advances in technology, changes in environmental laws and

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regulations and their application, changes in regulatory authorities, the scarcity of reliable data pertaining to identified sites, the difficulty in assessing the involvement and financial capability of other Potentially Responsible Parties (PRPs), our ability to obtain contributions from other parties and the lengthy time periods over which site remediation occurs. It is possible that some of these matters (the outcomes of which are subject to various uncertainties) may be resolved unfavorably to us, which could materially adversely affect our financial position or results of operations.

Legal Matters and Contingencies

We, and our subsidiaries, are defendants in various legal actions (including proceedings based on alleged exposures to asbestos) incidental to our past and current business activities. As of September 30, 2018, December 31, 2017 and September 30, 2017, our condensed balance sheets included accrued liabilities for these legal actions of \$14.8 million, \$24.8 million and \$15.9 million, respectively. These liabilities do not include costs associated with legal representation. In addition to the aforementioned legal actions, we are party to a dispute relating to a contract at our Plaquemine, LA facility. The other party to the contract has filed a demand for arbitration alleging, among other things, that Olin breached the related agreement and claiming damages in excess of the amount Olin believes it is obligated to pay under the contract. Any additional losses related to this contract dispute are not currently estimable because of unresolved questions of fact and law.

Based on our analysis, and considering the inherent uncertainties associated with litigation, we do not believe that it is reasonably possible that these legal actions will materially adversely affect our financial position, cash flows or results of operations.

During the ordinary course of our business, contingencies arise resulting from an existing condition, situation or set of circumstances involving an uncertainty as to the realization of a possible gain contingency. In certain instances such as environmental projects, we are responsible for managing the cleanup and remediation of an environmental site. There exists the possibility of recovering a portion of these costs from other parties. We account for gain contingencies in accordance with the provisions of ASC 450 "Contingencies," and therefore, do not record gain contingencies and recognize income until it is earned and realizable.



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## Liquidity, Investment Activity and Other Financial Data

## Cash Flow Data

	Nine Months Ended September 30, 2018 2017	
Provided By (Used For)	(\$ in millions)	
Net operating activities	\$586.3	\$455.1
Capital expenditures	(274.5 )	(210.0 )
Payments under long-term supply contracts	—	(209.4 )
Net investing activities	(271.6 )	(419.3 )
Long-term debt (repayments) borrowings, net	(253.7 )	127.6
Common stock repurchased and retired	(16.8 )	—
Stock options exercised	3.2	18.5
Debt issuance costs	(8.5 )	(11.2 )
Net financing activities	(376.1 )	35.3

## Operating Activities

For the nine months ended September 30, 2018, cash provided by operating activities increased by \$131.2 million from the nine months ended September 30, 2017, primarily due to an increase in operating results partially offset by an increase in working capital. For the nine months ended September 30, 2018, working capital increased \$192.9 million compared to a decrease of \$11.4 million for the nine months ended September 30, 2017. The increased working capital from the prior year was primarily due to the \$120.0 million receivable of insurance recoveries for environmental costs, which was collected in October 2018. Receivables also increased from December 31, 2017 as a result of higher sales volumes and improved selling prices in the third quarter of 2018 compared to the fourth quarter of 2017 and a decrease in receivables sold under the accounts receivable factoring arrangement. Inventories increased \$44.5 million from December 31, 2017 due to normal seasonal activity and higher raw material costs. Accounts payable and accrued liabilities increased from December 31, 2017 by \$110.1 million, primarily due to higher raw material costs.

## Investing Activities

Capital spending of \$274.5 million for the nine months ended September 30, 2018 was \$64.5 million higher than the corresponding period in 2017, primarily due to the Information Technology Project. For the total year 2018, we expect our capital spending to be in the \$375 million to \$425 million range, which is expected to include \$100 million for the Information Technology Project. For the total year 2018, depreciation and amortization expense is forecast to be in the \$590 million to \$610 million range.

During 2017, we began a multi-year implementation of the Information Technology Project. The project is planned to standardize business processes across the chemicals businesses with the objective of maximizing cost effectiveness, efficiency and control across our global operations. The project is anticipated to be completed during 2020. Total capital spending is forecast to be \$250 million and associated expenses are forecast to be \$100 million. Our results for the nine months ended September 30, 2018 included \$54.2 million of capital spending and \$25.5 million of expenses associated with this project.

For the nine months ended September 30, 2017, a payment of \$209.4 million was made associated with long-term supply contracts to reserve additional ethylene at producer economics.

## Financing Activities

For the nine months ended September 30, 2018, we made long-term debt repayments, net of long-term debt borrowings, of \$253.7 million.

On January 19, 2018, Olin issued \$550.0 million aggregate principal amount of 5.00% senior notes due February 1, 2030 (2030 Notes), which were registered under the Securities Act of 1933, as amended. Interest on the 2030 Notes began accruing

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from January 19, 2018 and is paid semi-annually beginning on August 1, 2018. Proceeds from the 2030 Notes were used to redeem \$550.0 million of debt under the \$1,375.0 million Term Loan Facility.

For the nine months ended September 30, 2018, long-term debt repayments included \$713.4 million related to the \$1,375.0 million Term Loan Facility, \$89.7 million related to the Receivables Financing Agreement and \$20.0 million related to the \$600.0 million Senior Revolving Credit Facility.

For the nine months ended September 30, 2018, we paid debt issuance costs of \$8.5 million for the issuance of the 2030 Notes.

On March 9, 2017, we entered into the \$1,975.0 million Senior Credit Facility. Pursuant to the agreement, the aggregate principal amount under the Term Loan Facility was increased to \$1,375.0 million, and the aggregate commitments under the Senior Revolving Credit Facility were increased from \$500.0 million to \$600.0 million. In March 2017, we drew the entire \$1,375.0 million term loan and used the proceeds to redeem the remaining balance of the existing \$1,350.0 million term loan facility of \$1,282.5 million and a portion of the \$800.0 million Sumitomo Credit Facility (Sumitomo Credit Facility). The maturity date for the Senior Credit Facility was extended from October 5, 2020 to March 9, 2022.

In September 2017, we borrowed \$120.0 million under the Senior Revolving Credit Facility and \$40.0 million under the Receivables Financing Agreement and used the proceeds to fund a portion of the \$209.4 million payment to DowDuPont associated with a long-term ethylene supply contract to reserve additional ethylene at producer economics.

On March 9, 2017, Olin issued \$500.0 million aggregate principal amount of 5.125% senior notes due September 15, 2027 (2027 Notes), which were registered under the Securities Act of 1933, as amended. Interest on the 2027 Notes began accruing from March 9, 2017 and is paid semi-annually beginning on September 15, 2017. Proceeds from the 2027 Notes were used to redeem the remaining balance of the Sumitomo Credit Facility.

For the nine months ended September 30, 2017, we made long-term debt repayments of \$1,907.4 million, including \$1,282.5 million relating to the \$1,350.0 million term loan facility, \$590.0 million relating to the Sumitomo Credit Facility and \$34.4 million under the required quarterly installments of the \$1,375.0 million term loan facility.

For the nine months ended September 30, 2017, we paid debt issuance costs of \$11.2 million relating to the Senior Credit Facility and the 2027 Notes.

For the nine months ended September 30, 2018, we repurchased and retired 0.5 million shares with a total cost of \$16.8 million.

We issued 0.2 million and 1.0 million shares representing stock options exercised for the nine months ended September 30, 2018 and 2017, respectively, with a total value of \$3.2 million and \$18.5 million, respectively.

The percent of total debt to total capitalization decreased to 53.3% as of September 30, 2018 from 56.7% as of December 31, 2017 as a result of a lower level of debt outstanding.

In the first three quarters of 2018 and 2017, we paid a quarterly dividend of \$0.20 per share. Dividends paid for the nine months ended September 30, 2018 and 2017, were \$100.3 million and \$99.6 million, respectively. On October 25, 2018, our board of directors declared a dividend of \$0.20 per share on our common stock, payable on December 10, 2018 to shareholders of record on November 9, 2018.

The payment of cash dividends is subject to the discretion of our board of directors and will be determined in light of then-current conditions, including our earnings, our operations, our financial condition, our capital requirements and other factors deemed relevant by our board of directors. In the future, our board of directors may change our dividend policy, including the frequency or amount of any dividend, in light of then-existing conditions.

#### Liquidity and Other Financing Arrangements

Our principal sources of liquidity are from cash and cash equivalents, cash flow from operations and short-term borrowings under our Senior Revolving Credit Facility, accounts receivable factoring arrangement and Receivables Financing Agreement. Additionally, we believe that we have access to the debt and equity markets.

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The overall decrease in cash for the nine months ended September 30, 2018 primarily reflects our long-term debt repayments, net and capital spending, partially offset by our operating results. We believe, based on current and projected levels of cash flow from our operations, together with our cash and cash equivalents on hand and the availability to borrow under our Senior Revolving Credit Facility and Receivables Financing Agreement, we have sufficient liquidity to meet our short-term and long-term needs to make required payments of interest on our debt, fund our operating needs, fund working capital and capital expenditure requirements and comply with the financial ratios in our debt agreements.

On April 26, 2018, our board of directors authorized a share repurchase program for the purchase of shares of common stock at an aggregate price of up to \$500.0 million. This program will terminate upon the purchase of \$500.0 million of our common stock. For the nine months ended September 30, 2018, 0.5 million shares were repurchased and retired at a cost of \$16.8 million. As of September 30, 2018, we had repurchased a total of \$16.8 million of our common stock, representing 0.5 million shares, and \$483.2 million of common stock remained authorized to be repurchased.

On January 19, 2018, Olin issued \$550.0 million aggregate principal amount of 5.00% senior notes due February 1, 2030, which were registered under the Securities Act of 1933, as amended. Interest on the 2030 Notes began accruing from January 19, 2018 and is paid semi-annually beginning on August 1, 2018. Proceeds from the 2030 Notes were used to redeem \$550.0 million of debt under the Term Loan Facility.

On March 9, 2017, we entered into the \$1,975.0 million Senior Credit Facility. Pursuant to the agreement, the aggregate principal amount under the Term Loan Facility was increased to \$1,375.0 million, and the aggregate commitments under the Senior Revolving Credit Facility were increased from \$500.0 million to \$600.0 million. At September 30, 2018, we had \$596.5 million available under our \$600.0 million Senior Revolving Credit Facility because we had issued \$3.5 million of letters of credit. In March 2017, we drew the entire \$1,375.0 million term loan and used the proceeds to redeem the remaining balance of the existing \$1,350.0 million term loan facility of \$1,282.5 million and a portion of the \$800.0 million Sumitomo Credit Facility. The maturity date for the Senior Credit Facility was extended from October 5, 2020 to March 9, 2022. The \$600.0 million Senior Revolving Credit Facility includes a \$100.0 million letter of credit subfacility. The Term Loan Facility includes amortization payable in equal quarterly installments at a rate of 5.0% per annum for the first two years, increasing to 7.5% per annum for the following year and to 10.0% per annum for the last two years. In connection with the \$550.0 million prepayment of the Term Loan Facility in January 2018, the required quarterly installments of the Term Loan Facility were eliminated.

Under the Senior Credit Facility, we may select various floating-rate borrowing options. The actual interest rate paid on borrowings under the Senior Credit Facility is based on a pricing grid which is dependent upon the leverage ratio as calculated under the terms of the applicable facility for the prior fiscal quarter. The facility includes various customary restrictive covenants, including restrictions related to the ratio of debt to earnings before interest expense, taxes, depreciation and amortization (leverage ratio) and the ratio of earnings before interest expense, taxes, depreciation and amortization to interest expense (coverage ratio). Compliance with these covenants is determined quarterly based on the operating cash flows. We were in compliance with all covenants and restrictions under all our outstanding credit agreements as of September 30, 2018, and no event of default had occurred that would permit the lenders under our outstanding credit agreements to accelerate the debt if not cured. In the future, our ability to generate sufficient operating cash flows, among other factors, will determine the amounts available to be borrowed under these facilities. As of September 30, 2018, there were no covenants or other restrictions that would have limited our ability to borrow under these facilities.

On March 9, 2017, Olin issued \$500.0 million aggregate principal amount of 5.125% senior notes due September 15, 2027, which were registered under the Securities Act of 1933, as amended. Interest on the 2027 Notes began accruing from March 9, 2017 and is paid semi-annually beginning on September 15, 2017. Proceeds from the 2027 Notes were

used to redeem the remaining balance of the Sumitomo Credit Facility.

In connection with the Acquisition, Olin and DowDuPont entered into arrangements for the long-term supply of ethylene by DowDuPont to Olin, pursuant to which, among other things, Olin made upfront payments in order to receive ethylene at producer economics and for certain reservation fees and for the option to obtain additional future ethylene supply at producer economics. During 2016, we exercised one of the options to reserve additional ethylene at producer economics. In September 2017, DowDuPont's new Texas 9 ethylene cracker in Freeport, TX became operational. As a result, during the three months ended September 30, 2017, a payment of \$209.4 million was made in connection with this option. On February 27, 2017, we exercised the remaining option to reserve additional ethylene at producer economics from DowDuPont. In connection with the exercise of this option, we also secured a long-term customer arrangement. As a result, an additional payment will be made to DowDuPont of between \$440 million and \$465 million on or about the fourth quarter of 2020.

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On December 20, 2016, we entered into a three-year, \$250.0 million Receivables Financing Agreement with PNC Bank, National Association, as administrative agent. Under the Receivables Financing Agreement, our eligible trade receivables are used for collateralized borrowings and continue to be serviced by us. In addition, the Receivables Financing Agreement incorporates the leverage and coverage covenants that are contained in the Senior Revolving Credit Facility. As of September 30, 2018, \$418.0 million of our trade receivables were pledged as collateral and we had \$180.0 million drawn under the agreement. As of September 30, 2018, we had \$70.0 million additional borrowing capacity under the Receivables Financing Agreement. As of December 31, 2017, \$340.9 million of our trade receivables were pledged as collateral and \$249.7 million was drawn under the agreement.

Olin also has trade accounts receivable factoring arrangements (AR Facilities) and pursuant to the terms of the AR Facilities, certain of our subsidiaries may sell their accounts receivable up to a maximum of \$315.0 million. We will continue to service the outstanding accounts sold. These receivables qualify for sales treatment under ASC 860 and, accordingly, the proceeds are included in net cash provided by operating activities in the condensed statements of cash flows. The gross amount of receivables sold for the nine months ended September 30, 2018 and 2017 totaled \$1,199.8 million and \$1,224.1 million, respectively. The agreements are without recourse and therefore no recourse liability has been recorded as of September 30, 2018. As of September 30, 2018, December 31, 2017 and September 30, 2017, \$134.4 million, \$182.3 million and \$187.3 million, respectively, of receivables qualifying for sales treatment were outstanding and will continue to be serviced by us.

Cash flow from operations is variable as a result of both the seasonal and the cyclical nature of our operating results, which have been affected by seasonal and economic cycles in many of the industries we serve, such as the vinyls, urethanes, bleach, ammunition and pulp and paper. Cash flow from operations is affected by changes in chlorine, caustic soda and EDC selling prices caused by the changes in the supply/demand balance of these products, resulting in the Chlor Alkali Products and Vinyls segment having significant leverage on our earnings and cash flow. For example, assuming all other costs remain constant, internal consumption remains approximately the same and we are operating at full capacity, a \$10 selling price change per ton of chlorine equates to an approximate \$10 million annual change in our revenues and pretax profit, a \$10 selling price change per ton of caustic soda equates to an approximate \$30 million annual change in our revenues and pretax profit, and a \$0.01 selling price change per pound of EDC equates to an approximate \$20 million annual change in our revenues and pretax profit.

For the nine months ended September 30, 2018, cash provided by operating activities increased by \$131.2 million from the nine months ended September 30, 2017, primarily due to an increase in operating results partially offset by an increase in working capital. For the nine months ended September 30, 2018, working capital increased \$192.9 million compared to a decrease of \$11.4 million for the nine months ended September 30, 2017. The increased working capital from the prior year was primarily due to the \$120.0 million receivable of insurance recoveries for environmental costs, which was collected in October 2018. Receivables also increased from December 31, 2017 as a result of higher sales volumes and improved selling prices in the third quarter of 2018 compared to the fourth quarter of 2017 and a decrease in receivables sold under the accounts receivable factoring arrangement. Inventories increased \$44.5 million from December 31, 2017 due to normal seasonal activity and higher raw material costs. Accounts payable and accrued liabilities increased from December 31, 2017 by \$110.1 million, primarily due to higher raw material costs.

Capital spending of \$274.5 million for the nine months ended September 30, 2018 was \$64.5 million higher than the corresponding period in 2017, primarily due to the Information Technology Project. For the total year 2018, we expect our capital spending to be in the \$375 million to \$425 million range, which is expected to include \$100 million for the Information Technology Project. For the total year 2018, depreciation and amortization expense is forecast to be in the \$590 million to \$610 million range.

During 2017, we began a multi-year implementation of the Information Technology Project. The project is planned to standardize business processes across the chemicals businesses with the objective of maximizing cost effectiveness, efficiency and control across our global operations. The project is anticipated to be completed during 2020. Total capital spending is forecast to be \$250 million and associated expenses are forecast to be \$100 million. Our results for the nine months ended September 30, 2018 included \$54.2 million of capital spending and \$25.5 million of expenses associated with this project.

At September 30, 2018, we had total letters of credit of \$74.8 million outstanding, of which \$3.5 million were issued under our \$600.0 million Senior Revolving Credit Facility. The letters of credit were used to support certain long-term debt, certain workers compensation insurance policies, certain plant closure and post-closure obligations and certain international pension funding requirements.



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Our current debt structure is used to fund our business operations. As of September 30, 2018, we had long-term borrowings, including the current installment and capital lease obligations, of \$3,337.3 million, of which \$945.9 million was at variable rates. Commitments from banks under our Senior Revolving Credit Facility, Receivables Financing Agreement and AR Facilities are additional sources of liquidity.

In April 2016, we entered into three tranches of forward starting interest rate swaps whereby we agreed to pay fixed rates to the counterparties who, in turn, pay us floating rates on \$1,100.0 million, \$900.0 million, and \$400.0 million of our underlying floating-rate debt obligations. Each tranche's term length is for twelve months beginning on December 31, 2016, December 31, 2017, and December 31, 2018, respectively. The counterparties to the agreements are SMBC Capital Markets, Inc., Wells Fargo, PNC Bank, National Association and Toronto-Dominion Bank. These counterparties are large financial institutions; however, the risk of loss to us in the event of nonperformance by a counterparty could be significant to our financial position or results of operations. We have designated the swaps as cash flow hedges of the risk of changes in interest payments associated with our variable-rate borrowings. Accordingly, the outstanding swap agreements have been recorded at their fair market value of \$9.2 million and are included in other current assets and other assets on the accompanying condensed balance sheet as of September 30, 2018, with the corresponding gain deferred as a component of other comprehensive loss. For the three months ended September 30, 2018 and 2017, \$2.5 million and \$1.2 million, respectively, and for the nine months ended September 30, 2018 and 2017, \$5.9 million and \$1.7 million, respectively, of income was recorded to interest expense on the accompanying condensed statements of operations related to these swap agreements.

In April 2016, we entered into interest rate swaps on \$250.0 million of our underlying fixed-rate debt obligations, whereby we agreed to pay variable rates to the counterparties who, in turn, pay us fixed rates. The counterparties to these agreements are Toronto-Dominion Bank and SMBC Capital Markets, Inc., both of which are major financial institutions.

In October 2016, we entered into interest rate swaps on an additional \$250.0 million of our underlying fixed-rate debt obligations, whereby we agreed to pay variable rates to the counterparties who, in turn, pay us fixed rates. The counterparties to these agreements are PNC Bank, National Association and Wells Fargo, both of which are major financial institutions.

We have designated the April 2016 and October 2016 interest rate swap agreements as fair value hedges of the risk of changes in the value of fixed-rate debt due to changes in interest rates for a portion of our fixed-rate borrowings. Accordingly, the swap agreements have been recorded at their fair market value of \$47.8 million and are included in other long-term liabilities on the accompanying condensed balance sheet as of September 30, 2018, with a corresponding decrease in the carrying amount of the related debt. For the three and nine months ended September 30, 2018, \$0.6 million and \$0.9 million, respectively, of expense and for the three and nine months ended September 30, 2017, \$0.5 million and \$2.4 million, respectively, of income was recorded to interest expense on the accompanying condensed statements of operations related to these swap agreements.

## Off-Balance Sheet Arrangements

Non-cancelable operating leases and purchasing commitments are utilized in our normal course of business for our projected needs. We have supply contracts with various third parties for certain raw materials including ethylene, electricity, propylene and benzene. These agreements are maintained through long-term cost based contracts that provide us with a reliable supply of key raw materials.

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## New Accounting Standards

In August 2018, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2018-14, “Disclosure Framework—Changes to the Disclosure Requirements for Defined Benefit Plans” which amends ASC 715 “Compensation—Retirement Benefits.” This update includes adding, clarifying and removing various disclosure requirements related to defined benefit pension and other postretirement plans. This update is effective for fiscal years beginning after December 15, 2020, with earlier application permitted. The guidance in this update is applied on a retrospective basis to all periods presented. We are currently evaluating the effect of this update on our consolidated financial statements.

In August 2018, the FASB issued ASU 2018-13, “Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement” which amends ASC 820 “Fair Value Measurements.” This update includes adding, modifying and removing various disclosure requirements related to fair value measurements. This update is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years, with earlier application permitted. This update will be applied on a prospective basis for certain changes and retrospectively for other changes. We are currently evaluating the effect of this update on our consolidated financial statements.

In March 2018, the FASB issued ASU 2018-05, “Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118” (SAB 118) which amends ASC 740 “Income Taxes.” This update codifies the guidance in SAB 118. SAB 118, “Income Tax Accounting Implications of the Tax Cuts and Jobs Act,” has provided guidance for companies that have not completed their accounting for the income tax effects of the U.S. Tax Cuts and Jobs Act (the 2017 Tax Act) in the period of enactment, allowing for a measurement period of up to one year after the enactment date to finalize the recording of the related tax impacts. During 2017, we recognized a provisional deferred tax benefit of \$437.9 million, which was included as a component of income tax (benefit) provision. At September 30, 2018, we have not completed our accounting for the tax effects of the 2017 Tax Act. The impact of the 2017 Tax Act is expected to require further adjustments in 2018 due to anticipated additional guidance from the U.S. Department of the Treasury, changes in our assumptions, completion of 2017 foreign tax returns and further information and interpretations that become available. As of September 30, 2018, we substantially completed our 2017 U.S. tax return and accounted for updates to estimates of significant items including: (1) the effects on our existing deferred tax balances, (2) the remeasurement of deferred taxes on foreign unremitted earnings and (3) the one-time transition tax. We will make adjustments to these provisional estimates as new information becomes available during the one year measurement period. Our analyses of the 2017 Tax Act will continue throughout fourth quarter 2018 and will be completed when we file our remaining 2017 tax returns. Additional revisions to our estimates through the measurement period may have a material impact on our consolidated financial statements.

In February 2018, the FASB issued ASU 2018-02, “Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income” which amends ASC 220 “Income Statement—Reporting Comprehensive Income.” This update allows a reclassification from accumulated other comprehensive loss to retained earnings for the stranded tax effects resulting from the 2017 Tax Act during each fiscal year or quarter in which the effect of the lower tax rate is recorded. The update is effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years, with earlier application permitted. We adopted this update in March 2018 and reclassified \$85.9 million related to the provisional deferred gain resulting from the 2017 Tax Act from accumulated other comprehensive loss to retained earnings.

In August 2017, the FASB issued ASU 2017-12, “Targeted Improvements to Accounting for Hedge Activities” which amends Accounting Standards Codification (ASC) 815 “Derivatives and Hedging.” This update is intended to more closely align hedge accounting with companies’ risk management strategies, simplify the application of hedge accounting guidance, and increase transparency as to the scope and results of hedge programs. The update is effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years, with earlier

application permitted. We elected to early adopt this update on January 1, 2018. This update did not have a material impact on our consolidated financial statements.

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In March 2017, the FASB issued ASU 2017-07, “Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost” (ASU 2017-07) which amends ASC 715 “Compensation—Retirement Benefits.” This update requires the presentation of the service cost component of net periodic benefit (income) costs in the same income statement line item as other employee compensation costs arising from services rendered during the period. The update requires the presentation of the other components of the net periodic benefit income (costs) separately from the line item that includes the service cost and outside of any subtotal of operating income. The update is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. The guidance in this update is applied on a retrospective basis with earlier application permitted. We adopted this update on January 1, 2018 using the retrospective method. The adoption of ASU 2017-07 resulted in a change in our net periodic benefit (income) costs within operating income, which was offset by a corresponding change in non-operating pension income to reflect the impact of presenting the interest cost, expected return on plan assets and amortization of prior service cost and net actuarial loss components of net periodic benefit (income) costs outside of operating income. For the three and nine months ended September 30, 2017, the adoption of ASU 2017-07 resulted in a reclassification of \$3.7 million and \$11.3 million, respectively, from cost of goods sold and \$4.7 million and \$14.2 million, respectively, from selling and administration expenses to non-operating pension income reflecting the aforementioned reclassification on our consolidated statements of operations. The service cost component of net periodic benefit (income) costs continue to be included in the same income statement line item as other employee compensation costs arising from services rendered during the period.

In January 2017, the FASB issued ASU 2017-04, “Simplifying the Test for Goodwill Impairment” which amends ASC 350 “Intangibles—Goodwill and Other.” This update will simplify the measurement of goodwill impairment by eliminating Step 2 from the goodwill impairment test. This update will require an entity to perform its annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit’s fair value. The update does not modify the option to perform the qualitative assessment for a reporting unit to determine if the quantitative impairment test is necessary. This update is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. The guidance in this update is applied on a prospective basis with earlier application permitted. We plan to adopt this update on January 1, 2020 and do not expect the update to have a material impact on our consolidated financial statements.

In August 2016, the FASB issued ASU 2016-15, “Classification of Certain Cash Receipts and Cash Payments” which amends ASC 230 “Statement of Cash Flows.” This update will make eight targeted changes to how cash receipts and cash payments are presented and classified in the statement of cash flows. The update is effective for fiscal years beginning after December 15, 2017. The update will require adoption on a retrospective basis unless it is impracticable to apply, in which case it would be required to apply the amendments prospectively as of the earliest date practicable. We adopted this update on January 1, 2018. In connection with this update, we made an accounting policy election to apply the nature of the distribution approach when determining the proper classification of distributions received from equity method investments. The adoption of this update did not have a material impact on our consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02 “Leases,” (ASU 2016-02) which supersedes ASC 840 “Leases” and creates a new topic, ASC 842 “Leases.” Subsequent to the issuance of ASU 2016-02, ASC 842 was amended by various updates that amend and clarify the impact and implementation of the aforementioned update. These updates require lessees to recognize a lease liability and a lease asset for all leases, including operating leases, with a term greater than 12 months on its balance sheet. Upon initial application, the provisions of these updates are required to be applied using the modified retrospective method which requires retrospective adoption to each prior reporting period presented with the cumulative effect of adoption recorded to the earliest reporting period presented. An optional transition method can be utilized which requires retrospective adoption beginning on the date of adoption with the cumulative effect of initially applying these updates recognized at the date of initial adoption. These updates also

expand the required quantitative and qualitative disclosures surrounding leases. These updates are effective for fiscal years beginning after December 15, 2018 and interim periods within those fiscal years, with earlier application permitted. We expect to adopt these updates on January 1, 2019 using the optional transition method. We continue to evaluate the impact these updates will have on our consolidated financial statements. Based on the analysis conducted to date, we expect there will be an increase in assets and liabilities on the consolidated balance sheets at adoption due to the recording of right-of-use assets and corresponding lease liabilities, which may be material. We believe the updates will also have an impact on our accounting policies, internal controls and disclosures related to leases.

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In May 2014, the FASB issued ASU 2014-09 “Revenue from Contracts with Customers” (ASU 2014-09), which amends ASC 605 “Revenue Recognition” and creates a new topic, ASC 606 “Revenue from Contracts with Customers” (ASC 606). Subsequent to the issuance of ASU 2014-09, ASC 606 was amended by various updates that amend and clarify the impact and implementation of the aforementioned update. These updates provide guidance on how an entity should recognize revenue to depict the transfer of control of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. Upon initial application, the provisions of these updates are required to be applied retrospectively to each prior reporting period presented or retrospectively with the cumulative effect of initially applying this update recognized at the date of initial application. These updates also expand the disclosure requirements surrounding revenue recorded from contracts with customers. These updates are effective for fiscal years, and interim periods within those years, beginning after December 15, 2017. We adopted these updates on January 1, 2018 using the modified retrospective transition method. The cumulative effect of applying the updates did not have a material impact on our consolidated financial statements. The most significant impact the updates had was on our accounting policies and disclosures on revenue recognition. Expanded disclosures regarding revenue recognition are included within our notes to consolidated financial statements.

### Item 3. Quantitative and Qualitative Disclosures about Market Risk.

We are exposed to market risk in the normal course of our business operations due to our purchases of certain commodities, our ongoing investing and financing activities and our operations that use foreign currencies. The risk of loss can be assessed from the perspective of adverse changes in fair values, cash flows and future earnings. We have established policies and procedures governing our management of market risks and the use of financial instruments to manage exposure to such risks.

Energy costs, including electricity and natural gas, and certain raw materials used in our production processes are subject to price volatility. Depending on market conditions, we may enter into futures contracts, forward contracts, commodity swaps and put and call option contracts in order to reduce the impact of commodity price fluctuations. As of September 30, 2018, we maintained open positions on commodity contracts with a notional value totaling \$122.8 million (\$92.8 million at December 31, 2017 and \$88.5 million at September 30, 2017). Assuming a hypothetical 10% increase in commodity prices which are currently hedged, as of September 30, 2018, we would experience a \$12.3 million (\$9.3 million at December 31, 2017 and \$8.9 million at September 30, 2017) increase in our cost of inventory purchased, which would be substantially offset by a corresponding increase in the value of related hedging instruments.

We transact business in various foreign currencies other than the USD which exposes us to movements in exchange rates which may impact revenue and expenses, assets and liabilities and cash flows. Our significant foreign currency exposure is denominated with European currencies, primarily the Euro, although exposures also exist in other currencies of Asia Pacific, Latin America, Middle East and Africa. For all derivative positions, we evaluated the effects of a 10% shift in exchange rates between those currencies and the USD, holding all other assumptions constant. Unfavorable currency movements of 10% would negatively affect the fair values of the derivatives held to hedge currency exposures by \$25.0 million. These unfavorable changes would generally have been offset by favorable changes in the values of the underlying exposures.

We are exposed to changes in interest rates primarily as a result of our investing and financing activities. Our current debt structure is used to fund business operations, and commitments from banks under our Senior Revolving Credit Facility are a source of liquidity. As of September 30, 2018, December 31, 2017 and September 30, 2017, we had long-term borrowings, including current installments and capital lease obligations, of \$3,337.3 million, \$3,612.0 million and \$3,745.2 million, respectively, of which \$945.9 million, \$1,749.0 million and \$1,878.6 million at September 30, 2018, December 31, 2017 and September 30, 2017, respectively, were issued at variable rates.

In April 2016, we entered into three tranches of forward starting interest rate swaps whereby we agreed to pay fixed rates to the counterparties who, in turn, pay us floating rates on \$1,100.0 million, \$900.0 million, and \$400.0 million of our underlying floating-rate debt obligations. Each tranche's term length is for twelve months beginning on December 31, 2016, December 31, 2017 and December 31, 2018, respectively. The counterparties to the agreements are SMBC Capital Markets, Inc., Wells Fargo, PNC Bank, National Association and Toronto-Dominion Bank. These counterparties are large financial institutions; however, the risk of loss to us in the event of nonperformance by a counterparty could be significant to our financial position or results of operations.

In April 2016, we entered into interest rate swaps on \$250.0 million of our underlying fixed-rate debt obligations, whereby we agreed to pay variable rates to the counterparties who, in turn, pay us fixed rates. The counterparties to these agreements are Toronto-Dominion Bank and SMBC Capital Markets, Inc., both of which are major financial institutions.

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In October 2016, we entered into interest rate swaps on an additional \$250.0 million of our underlying fixed-rate debt obligations, whereby we agreed to pay variable rates to the counterparties who, in turn, pay us fixed rates. The counterparties to these agreements are PNC Bank, National Association and Wells Fargo, both of which are major financial institutions.

Assuming no changes in the \$945.9 million of variable-rate debt levels from September 30, 2018, we estimate that a hypothetical change of 100-basis points in the LIBOR interest rates would impact annual interest expense by \$9.5 million. A portion of this hypothetical change would be offset by our interest rate swaps.

Our interest rate swaps reduced interest expense by \$1.9 million and \$1.7 million for the three months ended September 30, 2018 and 2017, respectively, and \$5.0 million and \$4.2 million for the nine months ended September 30, 2018 and 2017, respectively.

If the actual changes in commodities, foreign currency, or interest pricing is substantially different than expected, the net impact of commodity risk, foreign currency risk, or interest rate risk on our cash flow may be materially different than that disclosed above.

We do not enter into any derivative financial instruments for speculative purposes.

Item 4. Controls and Procedures.

Our chief executive officer and our chief financial officer evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2018. Based on that evaluation, our chief executive officer and chief financial officer have concluded that, as of such date, our disclosure controls and procedures were effective to ensure that information Olin is required to disclose in the reports that it files or submits with the SEC under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the Commission's rules and forms, and to ensure that information we are required to disclose in such reports is accumulated and communicated to our management, including our chief executive officer and chief financial officer, as appropriate to allow timely decisions regarding required disclosure.

There have been no changes in our internal control over financial reporting that occurred during the quarter ended September 30, 2018, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.



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Cautionary Statement Regarding Forward-Looking Statements

This quarterly report on Form 10-Q includes forward-looking statements. These statements relate to analyses and other information that are based on management's beliefs, certain assumptions made by management, forecasts of future results, and current expectations, estimates and projections about the markets and economy in which we and our various segments operate. These statements may include statements regarding the acquisition of the Acquired Business from DowDuPont, the expected benefits and synergies of the transaction, and future opportunities for the combined company following the transaction. The statements contained in this quarterly report on Form 10-Q that are not statements of historical fact may include forward-looking statements that involve a number of risks and uncertainties.

We have used the words "anticipate," "intend," "may," "expect," "believe," "should," "plan," "project," "estimate," "forecast," and variations of such words and similar expressions in this quarterly report to identify such forward-looking statements. These statements are not guarantees of future performance and involve certain risks, uncertainties and assumptions, which are difficult to predict and many of which are beyond our control.

Therefore, actual outcomes and results may differ materially from those matters expressed or implied in such forward-looking statements. We undertake no obligation to update publicly any forward-looking statements, whether as a result of future events, new information or otherwise. Relative to the dividend, the payment of cash dividends is subject to the discretion of our board of directors and will be determined in light of then-current conditions, including our earnings, our operations, our financial conditions, our capital requirements and other factors deemed relevant by our board of directors. In the future, our board of directors may change our dividend policy, including the frequency or amount of any dividend, in light of then-existing conditions.

The risks, uncertainties and assumptions involved in our forward-looking statements, many of which are discussed in more detail in our filings with the SEC, including without limitation the "Risk Factors" section of our Annual Report on Form 10-K for the year ended December 31, 2017, include, but are not limited to the following:

sensitivity to economic, business and market conditions in the United States and overseas, including economic instability or a downturn in the sectors served by us, such as ammunition, vinyls, urethanes, and pulp and paper, and the migration by United States customers to low-cost foreign locations;

the cyclical nature of our operating results, particularly declines in average selling prices in the chlor alkali industry and the supply/demand balance for our products, including the impact of excess industry capacity or an imbalance in demand for our chlor alkali products;

our reliance on a limited number of suppliers for specified feedstock and services and our reliance on third-party transportation;

higher-than-expected raw material and energy, transportation and/or logistics costs;

failure to control costs or to achieve targeted cost reductions;

new regulations or public policy changes regarding the transportation of hazardous chemicals and the security of chemical manufacturing facilities;

the occurrence of unexpected manufacturing interruptions and outages, including those occurring as a result of labor disruptions and production hazards;

• complications resulting from our multiple enterprise resource planning systems and the conversion to one single system;

• changes in, or failure to comply with, legislation or government regulations or policies;

• the failure or an interruption of our information technology systems;

• economic and industry downturns that result in diminished product demand and excess manufacturing capacity in any of our segments and that, in many cases, result in lower selling prices and profits;

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• weak industry conditions could affect our ability to comply with the financial maintenance covenants in our Senior Credit Facility;

• the effects of any declines in global equity markets on asset values and any declines in interest rates used to value the liabilities in our pension plan;

• fluctuations in foreign currency exchange rates;

• unexpected litigation outcomes;

• costs and other expenditures in excess of those projected for environmental investigation and remediation or other legal proceedings;

• our substantial amount of indebtedness and significant debt service obligations;

• the integration of the Acquired Business may not be successful in fully realizing the benefits of the anticipated synergies;

• failure to attract, retain and motivate key employees;

• our assumptions included in long range plans not realized causing a non-cash impairment charge of long-lived assets;

• adverse conditions in the credit and capital markets, limiting or preventing our ability to borrow or raise capital; and

• differences between the historical financial information of Olin and the Acquired Business and our future operating performance.

All of our forward-looking statements should be considered in light of these factors. In addition, other risks and uncertainties not presently known to us or that we consider immaterial could affect the accuracy of our forward-looking statements.

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## Part II — Other Information

## Item 1. Legal Proceedings.

Not Applicable.

## Item 1A. Risk Factors.

Not Applicable.

## Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

(a) Not Applicable.

(b) Not Applicable.

(c)

## Issuer Purchases of Equity Securities

Period	Total Number of Shares (or Units) Purchased <sup>(1)</sup>	Average Price Paid per Share (or Unit)	Total Number of Shares (or Units) Purchased as Part of Publicly Announced Plans or Programs	Maximum Dollar Value of Shares (or Units) that May Yet Be Purchased Under the Plans or Programs
July 1-31, 2018	—	—	—	
August 1-31, 2018	65,371	29.75	65,371	
September 1-30, 2018	204,115	28.40	204,115	
Total				483,153,835 <sup>(1)</sup>

On April 26, 2018, our board of directors authorized a share repurchase program for the purchase of shares of common stock at an aggregate price of up to \$500.0 million. This program will terminate upon the purchase of (1) \$500.0 million of our common stock. Through September 30, 2018, 547,448 shares had been repurchased at a total value of \$16,846,165 and \$483,153,835 of common stock remained available for purchase under the program.

## Item 3. Defaults Upon Senior Securities.

Not Applicable.

## Item 4. Mine Safety Disclosures.

Not Applicable.

## Item 5. Other Information.

Not Applicable.

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Item 6. Exhibits.

- 3.1 Bylaws of Olin Corporation as amended and restated effective September 19, 2018—Exhibit 3.1 to Olin’s Form 8-K dated September 20, 2018\*
- 11 Computation of Per Share Earnings (included in the Note—“Earnings Per Share” to Notes to Consolidated Financial Statements in Item 1)
- 12 Computation of Ratio of Earnings to Fixed Charges (Unaudited)
- 31.1 Section 302 Certification Statement of Chief Executive Officer
- 31.2 Section 302 Certification Statement of Chief Financial Officer
- 32 Section 906 Certification Statement of Chief Executive Officer and Chief Financial Officer
- 101.INS XBRL Instance Document
- 101.SCH XBRL Taxonomy Extension Schema Document
- 101.CALXBRL Taxonomy Extension Calculation Linkbase Document
- 101.DEF XBRL Taxonomy Extension Definition Linkbase Document
- 101.LABXBRL Taxonomy Extension Label Linkbase Document
- 101.PRE XBRL Taxonomy Extension Presentation Linkbase Document

\* Previously filed as indicated and incorporated herein by reference. Exhibits incorporated by reference are located in SEC file No. 1-1070 unless otherwise indicated.

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SIGNATURES

Pursuant to the requirements 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.

OLIN CORPORATION  
(Registrant)

By: /s/ Todd A. Slater  
Vice President and Chief Financial Officer  
(Authorized Officer)

Date: October 30, 2018

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