UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

x **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

o **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 1-71

HEXION INC.

(Exact name of registrant as specified in its charter)

New Jersey	**13-0511250**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
180 East Broad St., Columbus, OH 43215	**614-225-4000**
(Address of principal executive offices including zip code)	**(Registrant's telephone number including area code)**

(Former name, former address and former fiscal year, if changed since last report)

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 o No x

Explanatory Note: While the registrant is not subject to the filing requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, it has filed all reports required to be filed by such filing requirements during the preceding 12 months.

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No o

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 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	o	Accelerated filer	o
Non-accelerated filer	x	(Do not check if a smaller reporting company)	
		Smaller reporting company	o
		Emerging growth company	o

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. o

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

Number of shares of common stock, par value $0.01 per share, outstanding as of the close of business on November 1, 2018: 82,556,847

HEXION INC.

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PART I - FINANCIAL INFORMATION
Item 1. Financial Statements

HEXION INC.
CONDENSED CONSOLIDATED BALANCE SHEETS (Unaudited)

(In millions, except share data)	September 30, 2018	December 31, 2017
Assets		
Current assets:		
Cash and cash equivalents (including restricted cash of $16 and $18, respectively)	$ 137	$ 115
Accounts receivable (net of allowance for doubtful accounts of $17 and $19, respectively)	463	462
Inventories:		
Finished and in-process goods	291	221
Raw materials and supplies	105	92
Current assets held for sale	—	6
Other current assets	62	44
Total current assets	1,058	940
Investment in unconsolidated entities	19	20
Deferred income taxes	9	8
Long-term assets held for sale	—	2
Other long-term assets	40	49
Property and equipment:		
Land	90	84
Buildings	282	291
Machinery and equipment	2,297	2,327
	2,669	2,702
Less accumulated depreciation	(1,826)	(1,778)
	843	924
Goodwill	109	112
Other intangible assets, net	29	42
Total assets	$ 2,107	$ 2,097
Liabilities and Deficit		
Current liabilities:		
Accounts payable	$ 391	$ 402
Debt payable within one year	84	125
Interest payable	101	82
Income taxes payable	7	12
Accrued payroll and incentive compensation	63	47
Current liabilities associated with assets held for sale	—	2
Other current liabilities	111	135
Total current liabilities	757	805
Long-term liabilities:		
Long-term debt	3,710	3,584
Long-term pension and post employment benefit obligations	247	262
Deferred income taxes	12	11
Other long-term liabilities	182	177
Total liabilities	4,908	4,839
Commitments and contingencies (see Note 7)		
Deficit		
Common stock—$0.01 par value; 300,000,000 shares authorized, 170,605,906 issued and 82,556,847 outstanding at September 30, 2018 and December 31, 2017	1	1
Paid-in capital	526	526
Treasury stock, at cost—88,049,059 shares	(296)	(296)
Accumulated other comprehensive loss	(16)	(8)
Accumulated deficit	(3,016)	(2,964)
Total Hexion Inc. shareholder's deficit	(2,801)	(2,741)
Noncontrolling interest	—	(1)
Total deficit	(2,801)	(2,742)
Total liabilities and deficit	$ 2,107	$ 2,097

See Notes to Condensed Consolidated Financial Statements

HEXION INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In millions)	**2018**	**2017**	**2018**	**2017**
Net sales	$ 952	$ 914	$ 2,893	$ 2,696
Cost of sales	796	797	2,414	2,312
Gross profit	156	117	479	384
Selling, general and administrative expense	72	77	231	233
Gain on disposition	—	—	(44)	—
Asset impairments	3	13	28	13
Business realignment costs	5	10	19	27
Other operating expense, net	6	1	26	4
Operating income	70	16	219	107
Interest expense, net	83	82	250	247
Loss on extinguishment of debt	—	—	—	3
Other non-operating (income) expense, net	(1)	(5)	6	(10)
Loss before income tax and earnings from unconsolidated entities	(12)	(61)	(37)	(133)
Income tax expense	6	9	17	16
Loss before earnings from unconsolidated entities	(18)	(70)	(54)	(149)
Earnings from unconsolidated entities, net of taxes	—	—	2	3
Net loss	(18)	(70)	(52)	(146)
Net income attributable to noncontrolling interest	—	—	(1)	—
Net loss attributable to Hexion Inc.	$ (18)	$ (70)	$ (53)	$ (146)

See Notes to Condensed Consolidated Financial Statements

HEXION INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS (Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In millions)	**2018**	**2017**	**2018**	**2017**
Net loss	$ (18)	$ (70)	$ (52)	$ (146)
Other comprehensive (loss) income, net of tax:				
Foreign currency translation adjustments	(6)	10	(8)	25
Other comprehensive (loss) income	(6)	10	(8)	25
Comprehensive loss	(24)	(60)	(60)	(121)
Comprehensive income attributable to noncontrolling interest	—	—	(1)	—
Comprehensive loss attributable to Hexion Inc.	$ (24)	$ (60)	$ (61)	$ (121)

See Notes to Condensed Consolidated Financial Statements

HEXION INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (Unaudited)

(In millions)	Nine Months Ended September 30, 2018	2017
Cash flows used in operating activities		
Net loss	$ (52)	$ (146)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	85	85
Non-cash asset impairments and accelerated depreciation	30	27
Deferred tax benefit	—	(1)
Loss (gain) on sale of assets	3	(1)
Gain on disposition	(44)	—
Amortization of deferred financing fees	13	12
Loss on extinguishment of debt	—	3
Unrealized foreign currency losses (gains)	12	(5)
Other non-cash adjustments	—	(4)
Net change in assets and liabilities:		
Accounts receivable	(25)	(89)
Inventories	(91)	(29)
Accounts payable	10	(32)
Income taxes payable	4	8
Other assets, current and non-current	(20)	(4)
Other liabilities, current and long-term	26	(29)
Net cash used in operating activities	(49)	(205)
Cash flows used in investing activities		
Capital expenditures	(62)	(86)
Capitalized interest	—	(1)
Proceeds from disposition, net	49	—
Proceeds from sale of assets, net	1	5
Net cash used in investing activities	(12)	(82)
Cash flows provided by financing activities		
Net short-term debt borrowings	6	15
Borrowings of long-term debt	425	1,291
Repayments of long-term debt	(343)	(1,079)
Long-term debt and credit facility financing fees paid	(1)	(25)
Net cash provided by financing activities	87	202
Effect of exchange rates on cash and cash equivalents	(4)	7
Change in cash and cash equivalents	22	(78)
Cash and cash equivalents at beginning of period	115	196
Cash and cash equivalents at end of period	$ 137	$ 118
Supplemental disclosures of cash flow information		
Cash paid for:		
Interest, net	$ 219	$ 205
Income taxes, net	12	10

See Notes to Condensed Consolidated Financial Statements

HEXION INC.
CONDENSED CONSOLIDATED STATEMENT OF DEFICIT (Unaudited)

(In millions)	Common Stock	Paid-in Capital	Treasury Stock	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Hexion Inc. Deficit	Noncontrolling Interest	Total
Balance at December 31, 2017	$ 1	$ 526	$ (296)	$ (8)	$ (2,964)	$ (2,741)	$ (1)	$ (2,742)
Net (loss) income	—	—	—	—	(53)	(53)	1	(52)
Other comprehensive loss	—	—	—	(8)	—	(8)	—	(8)
Impact of change in accounting policy	—	—	—	—	1	1	—	1
Balance at September 30, 2018	$ 1	$ 526	$ (296)	$ (16)	$ (3,016)	$ (2,801)	$ —	$ (2,801)

See Notes to Condensed Consolidated Financial Statements

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Unaudited)
(In millions, except share data)

1. Background and Basis of Presentation

Based in Columbus, Ohio, Hexion Inc. ("Hexion" or the "Company") serves global industrial markets through a broad range of thermoset technologies, specialty products and technical support for customers in a diverse range of applications and industries. The Company's business is organized based on the products offered and the markets served. At September 30, 2018, the Company had three reportable segments: Epoxy, Phenolic and Coating Resins; Forest Products Resins; and Corporate and Other.

The Company's direct parent is Hexion LLC, a holding company and wholly owned subsidiary of Hexion Holdings LLC ("Hexion Holdings"), the ultimate parent entity of Hexion. Hexion Holdings is controlled by investment funds managed by affiliates of Apollo Management Holdings, L.P. (together with Apollo Global Management, LLC and its subsidiaries, "Apollo").

The unaudited Condensed Consolidated Financial Statements include the accounts of the Company and its majority-owned subsidiaries in which minority shareholders hold no substantive participating rights. Intercompany accounts and transactions are eliminated in consolidation. In the opinion of management, all adjustments consisting of normal, recurring adjustments considered necessary for a fair statement have been included. Results for the interim periods are not necessarily indicative of results for the entire year.

Year-end condensed consolidated balance sheet data was derived from audited financial statements, but does not include all disclosures required by accounting principles generally accepted in the United States of America ("U.S. GAAP").

Pursuant to the rules and regulations of the Securities and Exchange Commission, certain information and disclosures normally included in financial statements prepared in accordance with U.S. GAAP have been condensed or omitted. These unaudited Condensed Consolidated Financial Statements should be read in conjunction with the audited Consolidated Financial Statements and the accompanying notes included in the Company's most recent Annual Report on Form 10-K.

2. Summary of Significant Accounting Policies

Revenue Recognition—The Company follows the principles-based five step model to recognize revenue upon the transfer of promised goods or services to customers and in an amount that reflects the consideration for which the entity expects to be entitled in exchange for those goods or services. Revenue, net of estimated allowances and returns, is recognized when the Company has completed its performance obligations under a contract and control of the product is transferred to the customer. Substantially all revenue is recognized at the time shipment is made or upon delivery as risk and title to the product transfer to the customer. Sales, value add, and other taxes that are collected concurrently with revenue-producing activities are excluded from revenue. Contract terms for certain transactions, including sales made on a consignment basis, result in the transfer of control of the finished product to the customer prior to the point at which the Company has the right to invoice for the product. In these cases, timing of revenue recognition will differ from the timing of invoicing to customers and will result in the Company recording a contract asset. At September 30, 2018, a contract asset balance of $12 is recorded within "Other current assets" with a corresponding decrease of $10 recorded within "Finished and in-process goods" in the unaudited Condensed Consolidated Balance Sheet. Refer to Note 10 for additional discussion of the Company's net sales by reportable segment disaggregated by geographic region.

Shipping and Handling—Freight costs that are billed to customers are included in "Net sales" in the unaudited Condensed Consolidated Statements of Operations. Shipping costs are incurred to move the Company's products from production and storage facilities to the customer. Handling costs are incurred from the point the product is removed from inventory until it is provided to the shipper and generally include costs to store, move and prepare the products for shipment. Revenue from shipping and handling services is recognized when control of the product is transferred to the customer. Shipping and handling costs are recorded in "Cost of sales" in the unaudited Condensed Consolidated Statements of Operations.

Use of Estimates—The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, and also requires the disclosure of contingent assets and liabilities at the date of the financial statements. In addition, it requires management to make estimates and assumptions that affect the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

Subsequent Events—The Company has evaluated events and transactions subsequent to September 30, 2018 through the date of issuance of its unaudited Condensed Consolidated Financial Statements.

Cash and Cash Equivalents— The Company considers all highly liquid investments that are purchased with an original maturity of three months or less to be cash equivalents. The Company's restricted cash balances of $16 and $18 as of September 30, 2018 and December 31, 2017, respectively, represent deposits to secure certain bank guarantees issued to third parties to guarantee potential obligations of the Company primarily related to the completion of tax audits and environmental liabilities. These balances will remain restricted as long as the underlying exposures exist and are included in the Consolidated Balance Sheets as a component of "Cash and cash equivalents." Following the adoption of ASU 2016-18: *Statement of Cash Flows (Topic 230) Restricted Cash*, the Company includes restricted cash in the cash and cash equivalents balance of the Condensed Consolidated Statements of Cash Flows.

The following table includes the restricted cash changes as a result of the adoption of ASU 2016-18 in the unaudited Condensed Consolidated Statements of Cash Flows for the nine months ended September 30, 2017:

Unaudited Condensed Consolidated Statements of Cash Flows

	For the nine months ended September 30, 2017		
	Previous Accounting Method	**Effect of Accounting Change**	**As Reported**
Cash flows used in investing activities			
Change in restricted cash	$ 1	$ (1)	$ —
Net cash used in investing activities	(81)	(1)	(82)
Effect of exchange rates on cash and cash equivalents	5	2	7
Change in cash and cash equivalents	(79)	1	(78)
Cash and cash equivalents at beginning of period	179	17	196
Cash and cash equivalents at end of period	$ 100	$ 18	$ 118

Recently Issued Accounting Standards

Newly Adopted Accounting Standards

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Board Update No. 2014-09: *Revenue from Contracts with Customers (Topic 606)* ("ASU 2014-09"). ASU 2014-09 supersedes the existing revenue recognition guidance and most industry-specific guidance applicable to revenue recognition. According to the new guidance, an entity will apply a principles-based five step model to recognize revenue upon the transfer of promised goods or services to customers and in an amount that reflects the consideration for which the entity expects to be entitled in exchange for those goods or services. The effective date for ASU 2014-09 was for annual and interim periods beginning on or after December 15, 2017.

The Company adopted ASU 2014-09 as of January 1, 2018 utilizing a modified retrospective approach, which resulted in a cumulative adjustment to "Accumulated deficit" of $1 on the date of adoption. ASU 2014-09 was applied to all open contracts as of the date of adoption and resulted only in timing differences for recognition of certain revenue items. The cumulative effects of the changes made to the Company's unaudited Condensed Consolidated Balance Sheet on January 1, 2018 for the adoption of ASU 2014-09 were as follows:

	Balance at December 31, 2017	**Adjustments due to ASU 2014-09**	**Balance at January 1, 2018**
Assets			
Inventory	$ 221	$ (11)	$ 210
Other current assets	44	12	56
Deficit			
Accumulated deficit	(2,964)	1	(2,963)

In accordance with the new revenue standard requirements, the impact of adoption on the Company's unaudited Condensed Consolidated Statements of Operations and unaudited Condensed Consolidated Balance Sheets were as follows:

Unaudited Condensed Consolidated Statements of Operations

	For the three months ended September 30, 2018			For the nine months ended September 30, 2018		
	As reported	**Balances without Adoption of ASC 606**	**Effect of change higher/(lower)**	**As reported**	**Balances without Adoption of ASC 606**	**Effect of change higher/(lower)**
Net sales	$ 952	$ 952	$ —	$ 2,893	$ 2,892	$ 1
Cost of sales	796	795	1	2,414	2,414	—
Gross profit	156	157	(1)	479	478	1

Unaudited Condensed Consolidated Balance Sheets

	Balance at September 30, 2018		
Assets	**As reported**	**Balances without Adoption of ASC 606**	**Effect of change higher/(lower)**
Inventory	$ 291	$ 301	$ (10)
Other current assets	62	50	12
Deficit			
Accumulated deficit	(3,016)	(3,018)	2

In August 2016, the FASB issued Accounting Standards Board Update No. 2016-15: *Statement of Cash Flows (Topic 230)* (“ASU 2016-15”) as part of the FASB simplification initiative. ASU 2016-15 provides guidance on treatment in the statement of cash flows for eight specific cash flow topics, with the objective of reducing existing diversity in practice. Of the eight cash flow topics addressed in the new guidance, the topics expected to have an impact on the Company include debt prepayment or debt extinguishment costs, accounts receivable factoring, proceeds from the settlement of insurance claims and distributions received from equity method investees. The guidance was effective for annual periods beginning after December 15, 2017, including interim periods within that reporting period. The Company adopted ASU 2016-15 as of January 1, 2018 and adoption of this standard had an immaterial impact on the Company’s financial statements.

In November 2016, the FASB issued Accounting Standards Board Update No. 2016-18: *Statement of Cash Flows (Topic 230) Restricted Cash* (“ASU 2016-18”) as part of the FASB simplification initiative. ASU 2016-18 requires that amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of period total amounts shown on the statement of cash flows. ASU 2016-18 also requires supplemental disclosure regarding the nature of restrictions on a company’s cash and cash equivalents, such as the purpose and terms of the restriction, expected duration of the restriction and the amount of cash subject to restriction. The guidance was effective for annual periods beginning after December 15, 2017, including interim periods within that reporting period. The Company adopted ASU 2016-18 as of January 1, 2018. As a result of adopting ASU 2016-18, the beginning and ending cash balances within the unaudited Condensed Consolidated Statements of Cash Flows now include restricted cash as of September 30, 2018 and 2017. The impact of the adoption of this standard on the Company’s unaudited Condensed Consolidated Statements of Cash Flows is disclosed above in the cash and cash equivalents section of this footnote.

In January 2017, the FASB issued Accounting Standards Board Update No. 2017-01: *Clarifying the Definition of a Business (Topic 805)* (“ASU 2017-01”). ASU 2017-01 clarifies the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The definition of a business affects many areas of accounting including acquisitions, disposals, goodwill, and consolidation. The guidance was effective for annual periods beginning after December 15, 2017, including interim periods within that reporting period. The Company adopted ASU 2017-01 as of January 1, 2018 and the adoption of this standard had no impact on the Company’s financial statements.

In March 2017, the FASB issued Accounting Standards Board Update No. 2017-07: *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost* (“ASU 2017-07”). ASU 2017-07 requires that an employer report the service cost component of its net periodic pension and postretirement benefit costs (“net benefit cost”) in the same line item or items as other compensation costs arising from services rendered by employees during the period. Additionally, ASU 2017-07 only allows the service cost component of net benefit cost to be eligible for capitalization into inventory. All other components of net benefit cost, which primarily include interest cost, expected return on assets and the annual mark-to-market liability remeasurement, are required to be presented in the income statement separately from the service cost component and outside of income from operations. The guidance was effective for annual periods beginning after December 15, 2017, including interim periods within that reporting period. The Company adopted ASU 2017-07 as of January 1, 2018. The components of the net (benefit) cost are shown in Note 8.

The impact of these pension and OPEB accounting policy changes were applied through retrospective adoption of the new ASU 2017-07 to all periods presented. Accordingly, all relevant information for the three and nine months ended September 30, 2018 and all prior periods has been adjusted to reflect the application of the changes.

The effects of the changes to the unaudited Condensed Consolidated Statements of Operations are as follows:

Unaudited Condensed Consolidated Statements of Operations for the three months ended September 30, 2017:

	Previous Accounting Method	Effect of Accounting Change	As Reported
Selling, general and administrative expense	$ 75	$ 2	$ 77
Operating income	18	(2)	16
Other non-operating (income) expense, net	(3)	(2)	(5)

Unaudited Condensed Consolidated Statements of Operations for the nine months ended September 30, 2017:

	Previous Accounting Method	Effect of Accounting Change	As Reported
Selling, general and administrative expense	$ 227	$ 6	$ 233
Operating income	113	(6)	107
Other non-operating (income) expense, net	(4)	(6)	(10)

Newly Issued Accounting Standards

In February 2016, the FASB issued Accounting Standards Board Update No. 2016-02: *Leases (Topic 842)* ("ASU 2016-02"). ASU 2016-02 supersedes the existing lease guidance in Topic 840. According to the new guidance, all leases, with limited scope exceptions, will be recorded on the balance sheet in the form of a liability to make lease payments (lease liability) and a right-of-use asset representing the right to use the underlying asset for the lease term. The guidance is effective for annual and interim periods beginning on or after December 15, 2018. The Company plans to adopt ASU 2016-02 on a prospective basis. The Company is in the process of implementing a software solution to facilitate the development of reporting and disclosure processes and controls around leases to meet the new accounting and disclosure requirements upon adoption in January 2019. In addition, the Company is currently assessing the potential impact of this standard on its financial statements and based on current analysis, the Company anticipates right-of-use assets and offsetting lease liabilities in an approximate range of $80 and $130 to be recorded on the Company's Balance Sheet upon adoption of the standard.

In February 2018, the FASB issued Accounting Standards Board Update No. 2018-02: *Income Statement-Reporting Comprehensive Income (Topic 220)* ("ASU 2018-02"). ASU 2018-02 was issued in response to the United States tax reform legislation, the Tax Cuts and Jobs Act ("Tax Reform"), enacted in December 2017. The amendments in ASU 2018-02 allow a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the new tax legislation. The guidance is effective for annual and interim periods beginning on or after December 15, 2018, and early adoption is permitted. The Company is currently assessing the potential impact of ASU 2018-02 on its financial statements.

3. Restructuring & Business Realignment

Restructuring Activities

In November 2017, the Company initiated new restructuring actions with the intent to optimize its cost structure. The total one-time cash costs expected to be incurred for these restructuring activities are estimated at $27, consisting primarily of workforce reduction costs.

The following table summarizes restructuring information by reporting segment:

	Epoxy, Phenolic and Coating Resins	Forest Products Resins	Corporate and Other	Total
Total restructuring costs expected to be incurred	$ 14	$ 9	$ 4	$ 27
Total restructuring costs incurred through September 30, 2018	$ 13	$ 8	$ 4	$ 25
Accrued liability at December 31, 2017	$ 11	$ 3	$ 3	$ 17
Restructuring charges and adjustments	1	3	1	5
Payments	(10)	(3)	(2)	(15)
Accrued liability at September 30, 2018	$ 2	$ 3	$ 2	$ 7

Oilfield

During the first quarter of 2018, the Company indefinitely idled an oilfield manufacturing facility within its Epoxy, Phenolic and Coating Resins segment, and production was shifted to another facility within the oilfield manufacturing group. This represented a triggering event resulting in an impairment evaluation of the fixed and intangible assets within the U.S. oilfield asset group. As a result, an asset impairment of $20 was recorded in the first quarter of 2018 related to the fixed assets at the idled manufacturing facility. In addition, the remaining U.S. oilfield asset group was evaluated for impairment utilizing a discounted cash flow approach, resulting in an additional impairment of $5 that was recorded during the first quarter of 2018 related to an existing customer relationship intangible asset. Overall, the Company incurred $25 of total impairment related to these assets, which is included in “Asset impairments” in the unaudited Condensed Consolidated Statements of Operations for the nine months ended September 30, 2018.

4. Related Party Transactions

Administrative Service, Management and Consulting Arrangement

The Company is subject to a Management Consulting Agreement with Apollo (the “Management Consulting Agreement”) that renews on an annual basis, unless notice to the contrary is given by either party. Under the Management Consulting Agreement, the Company receives certain structuring and advisory services from Apollo and its affiliates. The Management Consulting Agreement provides indemnification to Apollo, its affiliates and their directors, officers and representatives for potential losses arising from these services. Apollo is entitled to an annual fee equal to the greater of $3 or 2% of the Company’s Adjusted EBITDA. Apollo elected to waive charges of any portion of the annual management fee due in excess of $3 for the calendar year 2018 and 2017.

During the three and nine months ended September 30, 2018 and 2017, the Company recognized expense under the Management Consulting Agreement of $1 and $2, respectively. This amount is included in “Other operating expense, net” in the unaudited Condensed Consolidated Statements of Operations.

Transactions with MPM

Shared Services Agreement

On October 1, 2010, the Company entered into a shared services agreement with Momentive Performance Materials Inc. (“MPM”) (which, from October 1, 2010 through October 24, 2014, was a subsidiary of Hexion Holdings), as amended in October 2014 (the “Shared Services Agreement”). Under this agreement, the Company provides to MPM, and MPM provides to the Company, certain services, including, but not limited to, executive and senior management, administrative support, human resources, information technology support, accounting, finance, legal and procurement services. The Shared Services Agreement establishes certain criteria upon which the costs of such services are allocated between the Company and MPM. The Shared Services Agreement was renewed for one year starting October 2018 and is subject to termination by either the Company or MPM, without cause, on not less than 30 days’ written notice, and expires in October 2019 (subject to one-year renewals every year thereafter; absent contrary notice from either party). The Company periodically reviews the scope of services provided under this agreement.

Pursuant to the Shared Services Agreement, the below table summarizes the transactions between the Company and MPM:

	Nine Months Ended September 30,	
	2018	**2017**
Total cost pool - Hexion (1)	$ 23	$ 41
Total cost pool - MPM (1)	17	31

(1) Included in the net costs incurred during the nine months ended September 30, 2018 and 2017, were net billings from Hexion to MPM of $11 and $21, respectively, to bring the percentage of total net incurred costs for shared services under the Shared Services Agreement to the applicable agreed upon allocation percentage.

	September 30, 2018	**December 31, 2017**
Accounts receivable from MPM	$ 1	$ 3

Sales and Purchases of Products with MPM

The Company also sells products to, and purchases products from, MPM. There were no products sold during the three months ended September 30, 2018 and during the three months ended September 30, 2017, the Company sold less than $1 of products to MPM. During the nine months ended September 30, 2018 and 2017, the Company sold less than $1 of products to MPM. During the three and nine months ended September 30, 2018 and 2017, the company earned less than $1 from MPM as compensation for acting as distributor of products. Refer to the below table for the summary of the purchases of products with MPM:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Purchases from MPM	$ 9	$ 6	$ 25	$ 18

	September 30, 2018	December 31, 2017
Accounts payable to MPM	$ 3	$ 2

Purchases and Sales of Products and Services with Apollo Affiliates Other than MPM

The Company sells products to various Apollo affiliates other than MPM. These sales were $1 for both the three months ended September 30, 2018 and September 30, 2017 and $2 and $3 for the nine months ended September 30, 2018 and 2017, respectively. Accounts receivable from these affiliates were less than $1 at both September 30, 2018 and December 31, 2017.

Other Transactions and Arrangements

The Company sells products and provides services to, and purchases products from, its joint ventures which are recorded under the equity method of accounting. Refer to the below table for a summary of the sales and purchases with the Company and its joint ventures which are recorded under the equity method of accounting:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Sales to joint ventures	$ 1	$ 1	$ 7	$ 9
Purchases from joint ventures	< 1	3	5	10

	September 30, 2018	December 31, 2017
Accounts receivable from joint ventures	$ 3	$ 6
Accounts payable to joint ventures	< 1	1

In addition to the accounts receivable from joint ventures disclosed above, the Company had a loan receivable of $7 and $6 as of September 30, 2018 and December 31, 2017, respectively, from its unconsolidated forest products joint venture in Russia.

5. Fair Value

Fair value is the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Fair value measurement provisions establish a fair value hierarchy which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. This guidance describes three levels of inputs that may be used to measure fair value:

- **Level 1:** Inputs are quoted prices (unadjusted) for identical assets or liabilities in active markets.
- **Level 2:** Pricing inputs are other than quoted prices in active markets included in Level 1, which are either directly or indirectly observable as of the reported date.
- **Level 3:** Unobservable inputs that are supported by little or no market activity and are developed based on the best information available in the circumstances. For example, inputs derived through extrapolation or interpolation that cannot be corroborated by observable market data.

Recurring Fair Value Measurements

As of September 30, 2018, the Company had derivative assets related to foreign exchange, electricity and natural gas contracts of $1, which were measured using level 2 inputs, and consisted of derivative instruments transacted primarily in over-the-counter markets. There were no transfers between Level 1, Level 2 or Level 3 measurements during the nine months ended September 30, 2018 or 2017.

The Company calculates the fair value of its Level 2 derivative liabilities using standard pricing models with market-based inputs, adjusted for nonperformance risk. When its financial instruments are in a liability position, the Company evaluates its credit risk as a component of fair value. At both September 30, 2018 and December 31, 2017, no adjustment was made by the Company to reduce its derivative position for nonperformance risk.

When its financial instruments are in an asset position, the Company is exposed to credit loss in the event of nonperformance by other parties to these contracts and evaluates their credit risk as a component of fair value.

Non-derivative Financial Instruments

The following table summarizes the carrying amount and fair value of the Company's non-derivative financial instruments:

	Carrying Amount[(1)]	Fair Value			
		Level 1	Level 2	Level 3	Total
September 30, 2018					
Debt	$ 3,826	$ —	$ 3,468	$ 65	$ 3,533
December 31, 2017					
Debt	$ 3,750	$ —	$ 3,206	$ 49	$ 3,255

(1) Debt carrying amounts exclude unamortized deferred debt issuance costs of $32 and $41 at September 30, 2018 and December 31, 2017, respectively.

Fair values of debt classified as Level 2 are determined based on other similar financial instruments, or based upon interest rates that are currently available to the Company for the issuance of debt with similar terms and maturities. Level 3 amounts represent capital leases whose fair value is determined through the use of present value and specific contract terms. The carrying amount and fair value of the Company's debt is exclusive of unamortized deferred financing fees. The carrying amounts of cash and cash equivalents, short term investments, accounts receivable, accounts payable and other accrued liabilities are considered reasonable estimates of their fair values due to the short-term maturity of these financial instruments.

6. Debt Obligations

Debt outstanding at September 30, 2018 and December 31, 2017 is as follows:

	September 30, 2018		December 31, 2017	
	Long-Term	Due Within One Year	Long-Term	Due Within One Year
ABL Facility	$ 150	$ —	$ 81	$ —
Senior Secured Notes:				
6.625% First-Priority Senior Secured Notes due 2020 (includes $1 and $2 of unamortized debt premium at September 30, 2018 and December 31, 2017, respectively)	1,551	—	1,552	—
10.00% First-Priority Senior Secured Notes due 2020	315	—	315	—
10.375% First-Priority Senior Secured Notes due 2022	560	—	560	—
13.75% Senior Secured Notes due 2022	225	—	225	—
9.00% Second-Priority Senior Secured Notes due 2020	574	—	574	—
Debentures:				
9.2% debentures due 2021	74	—	74	—
7.875% debentures due 2023	189	—	189	—
Other Borrowings:				
Australia Facility due 2021 [(1)]	33	4	—	50
Brazilian bank loans	12	35	9	34
Lease obligations	56	9	44	5
Other	3	36	2	36
Unamortized debt issuance costs	(32)	—	(41)	—
Total	$ 3,710	$ 84	$ 3,584	$ 125

(1) In February 2018, the Company extended its Australian Term Loan Facility through January 2021.

The Company has $1.9 billion of First-Priority Senior Secured Notes maturing in April 2020 and $0.6 billion of Second-Priority Senior Secured Notes maturing in November 2020. Additionally, if 91 days prior to the scheduled maturity of these notes, more than $50 aggregate principal amount of the maturing notes is outstanding, the ABL Facility, which matures in December 2021, will accelerate and become immediately due and payable.

The Company regularly reviews its portfolio and is currently exploring potential divestitures. While there is no guarantee of a transaction, it could include a specific business unit or combination of several businesses. The Company expects that the proceeds from a transaction or transactions upon completion would be used to help reduce the absolute amount of the Company's debt.

Further, depending upon market, pricing and other conditions, including the current state of the high yield bond market, as well as cash balances and available liquidity, the Company or its affiliates, may seek to acquire notes or other indebtedness of the Company through open market purchases, privately negotiated transactions, tender offers, redemption or otherwise, upon such terms and at such prices as the Company or its affiliates may determine (or as may be provided for in the indentures governing the notes), for cash or other consideration.

7. Commitments and Contingencies

Environmental Matters

The Company's operations involve the use, handling, processing, storage, transportation and disposal of hazardous materials. The Company is subject to extensive environmental regulation at the federal, state and local levels as well as foreign laws and regulations, and is therefore exposed to the risk of claims for environmental remediation or restoration. In addition, violations of environmental laws or permits may result in restrictions being imposed on operating activities, substantial fines, penalties, damages or other costs, any of which could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

The following table summarizes all probable environmental remediation, indemnification and restoration liabilities, including related legal expenses, at September 30, 2018 and December 31, 2017:

	Liability		Range of Reasonably Possible Costs at September 30, 2018	
Site Description	**September 30, 2018**	**December 31, 2017**	**Low**	**High**
Geismar, LA	$ 13	$ 14	$ 9	$ 22
Superfund and offsite landfills – allocated share:				
Less than 1%	2	2	1	5
Equal to or greater than 1%	5	6	5	14
Currently-owned	4	4	2	8
Formerly-owned:				
Remediation	23	26	21	39
Monitoring only	1	—	1	4
Total	$ 48	$ 52	$ 39	$ 92

These amounts include estimates for unasserted claims that the Company believes are probable of loss and reasonably estimable. The estimate of the range of reasonably possible costs is less certain than the estimates upon which the liabilities are based. To establish the upper end of a range, assumptions less favorable to the Company among the range of reasonably possible outcomes were used. As with any estimate, if facts or circumstances change, the final outcome could differ materially from these estimates. At September 30, 2018 and December 31, 2017, $9 and $11, respectively, have been included in "Other current liabilities" in the unaudited Condensed Consolidated Balance Sheets, with the remaining amount included in "Other long-term liabilities."

Following is a discussion of the Company's environmental liabilities and the related assumptions at September 30, 2018:

Geismar, LA Site—The Company formerly owned a basic chemicals and polyvinyl chloride business that was taken public as Borden Chemicals and Plastics Operating Limited Partnership ("BCPOLP") in 1987. The Company retained a 1% interest, the general partner interest and the liability for certain environmental matters after BCPOLP's formation. Under a Settlement Agreement approved by the United States Bankruptcy Court for the District of Delaware among the Company, BCPOLP, the United States Environmental Protection Agency and the Louisiana Department of Environmental Quality, the Company agreed to perform certain tasks related to BCPOLP's obligations for soil and groundwater contamination at BCPOLP's Geismar, Louisiana site. The Company bears the sole responsibility for these obligations because there are no other potentially responsible parties ("PRP") or third parties from whom the Company could seek reimbursement.

A groundwater pump and treat system to remove contaminants is operational, and natural attenuation studies are proceeding. If closure procedures and remediation systems prove to be inadequate, or if additional contamination is discovered, costs that would approach the higher end of the range of possible outcomes could result.

Due to the long-term nature of the project, the reliability of timing and the ability to estimate remediation payments, a portion of this liability was recorded at its net present value, assuming a 3% discount rate and a time period of 21 years. The range of possible outcomes is discounted in a similar manner. The undiscounted liability, which is expected to be paid over the next 21 years, is approximately $18. Over the next five years, the Company expects to make ratable payments totaling $5.

Superfund Sites and Offsite Landfills—The Company is currently involved in environmental remediation activities at a number of sites for which it has been notified that it is, or may be, a PRP under the United States Comprehensive Environmental Response, Compensation and Liability Act or similar state “superfund” laws. The Company anticipates approximately 50% of the estimated liability for these sites will be paid within the next five years, with the remainder over the next twenty-five years. The Company generally does not bear a significant level of responsibility for these sites, and as a result, has little control over the costs and timing of cash flows.

The Company’s ultimate liability will depend on many factors including its share of waste volume, the financial viability of other PRPs, the remediation methods and technology used, the amount of time necessary to accomplish remediation and the availability of insurance coverage. The range of possible outcomes takes into account the maturity of each project, resulting in a more narrow range as the project progresses. To estimate both its current reserves for environmental remediation at these sites and the possible range of additional costs, the Company has not assumed that it will bear the entire cost of remediation of every site to the exclusion of other known PRPs who may be jointly and severally liable. The Company has limited information to assess the viability of other PRPs and their probable contribution on a per site basis. The Company’s insurance provides very limited, if any, coverage for these environmental matters.

Sites Under Current Ownership—The Company is conducting environmental remediation at a number of locations that it currently owns, of which ten sites are no longer in operation. As the Company is performing a portion of the remediation on a voluntary basis, it has some control over the costs to be incurred and the timing of cash flows. The factors influencing the ultimate outcome include the methods of remediation elected, the conclusions and assessment of site studies remaining to be completed, and the time period required to complete the work. No other parties are responsible for remediation at these sites.

Formerly-Owned Sites—The Company is conducting, or has been identified as a PRP in connection with, environmental remediation at a number of locations that it formerly owned and/or operated. Remediation costs at these former sites, such as those associated with the Company’s former phosphate mining and processing operations, could be material. The Company has accrued those costs for formerly-owned sites which are currently probable and reasonably estimable. One such site is the Coronet Industries, Inc. Superfund Alternative Site in Plant City, Florida. The current owner of the site alleged that it incurred environmental costs at the site for which it has a contribution claim against the Company, and that additional future costs are likely to be incurred. The Company signed a settlement agreement with the current owner and past owner of the site, which provides the Company will pay $10 over three annual installments in fulfillment of the contribution claim against the Company for past remediation costs. The Company timely paid all three annual installments. Additionally, the Company accepted a 40% allocable share of specified future remediation costs at this site. The Company estimates its allocable share of future remediation costs to be approximately $14. The final costs to the Company will depend on the method of remediation chosen, the amount of time necessary to accomplish remediation and the ongoing financial viability of the other PRPs. Currently, the Company has insufficient information to estimate the range of reasonably possible costs related to this site.

Monitoring Only Sites—The Company is responsible for a number of sites that require monitoring where no additional remediation is expected. The Company has established reserves for costs related to these sites. Payment of these liabilities is anticipated to occur over the next ten or more years. The ultimate cost to the Company will be influenced by fluctuations in projected monitoring periods or by findings that are different than anticipated.

Indemnifications—In connection with the acquisition of certain of the Company’s operating businesses, the Company has been indemnified by the sellers against certain liabilities of the acquired businesses, including liabilities relating to both known and unknown environmental contamination arising prior to the date of the purchase. The indemnifications may be subject to certain exceptions and limitations, deductibles and indemnity caps. While it is reasonably possible that some costs could be incurred, except for those sites identified above, the Company has inadequate information to allow it to estimate a potential range of liability, if any.

Non-Environmental Legal Matters

The Company is involved in various legal proceedings in the ordinary course of business and had reserves of $2 and $3 at September 30, 2018 and December 31, 2017, respectively, for all non-environmental legal defense costs incurred and settlement costs that it believes are probable and estimable. At September 30, 2018 and December 31, 2017, $2 has been included in “Other current liabilities” in the unaudited Condensed Consolidated Balance Sheets, with less than $1 included in “Other long-term liabilities.”

Other Legal Matters—The Company is also involved in various product liability, commercial and employment litigation, personal injury, property damage and other legal proceedings, including actions that allege harm caused by products the Company has allegedly made or used, containing silica, vinyl chloride monomer and asbestos. The Company believes it has adequate reserves and that it is not reasonably possible that a loss exceeding amounts already reserved would be material. Furthermore, the Company has insurance to cover claims of these types.

8. Pension and Postretirement Benefit Plans

As a result of the adoption of ASU 2017-07, the Company's service cost component of net benefit cost is included in "Operating income" and all other components of net benefit cost are included in "Other non-operating (income) expense, net" within the Company's unaudited Condensed Consolidated Statements of Operations. Following are the components of net benefit cost recognized by the Company for the three and nine months ended September 30, 2018 and 2017:

	Pension Benefits				Non-Pension Postretirement Benefits			
	Three Months Ended September 30,				Three Months Ended September 30,			
	2018		2017		2018		2017	
	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans
Service cost	$ 1	$ 4	$ 1	$ 4	$ —	$ —	$ —	$ —
Interest cost on projected benefit obligation	1	3	2	3	—	1	—	—
Expected return on assets	(3)	(4)	(3)	(3)	—	—	—	—
Net (benefit) expense	$ (1)	$ 3	$ —	$ 4	$ —	$ 1	$ —	$ —

	Pension Benefits				Non-Pension Postretirement Benefits			
	Nine Months Ended September 30,				Nine Months Ended September 30,			
	2018		2017		2018		2017	
	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans
Service cost	$ 2	$ 13	$ 2	$ 12	$ —	$ —	$ —	$ —
Interest cost on projected benefit obligation	5	8	6	7	—	1	—	1
Expected return on assets	(10)	(10)	(10)	(8)	—	—	—	—
Net (benefit) expense	$ (3)	$ 11	$ (2)	$ 11	$ —	$ 1	$ —	$ 1

9. Dispositions

ATG

On January 8, 2018, the Company completed the sale of its Additives Technology Group business ("ATG"). ATG was previously included within the Company's Forest Products Resins segment and includes manufacturing sites located in Somersby, Australia and Sungai Petani, Malaysia. The ATG business produces a range of specialty chemical materials for the engineered wood, paper impregnation and laminating industries, including catalysts, release agents and wetting agents.

The Company received gross cash consideration for the ATG business in the amount of $49, which was used for general corporate purposes. The Company recorded a gain on this disposition of $44 which is included in "Gain on disposition" in the unaudited Condensed Consolidated Statements of Operations for the nine months ended September 30, 2018.

10. Segment Information

The Company's business segments are based on the products that the Company offers and the markets that it serves. In the fourth quarter of 2017, the Company added Corporate and Other as a reportable segment. At September 30, 2018, the Company had three reportable segments: Epoxy, Phenolic and Coating Resins; Forest Products Resins; and Corporate and Other. A summary of the major products of the Company's reportable segments follows:

- **Epoxy, Phenolic and Coating Resins:** epoxy specialty resins, phenolic encapsulated substrates, versatic acids and derivatives, basic epoxy resins and intermediates and phenolic specialty resins and molding compounds
- **Forest Products Resins:** forest products resins and formaldehyde applications
- **Corporate and Other**: primarily corporate general and administrative expenses that are not allocated to the other segments, such as shared service and administrative functions, foreign exchange gains and losses and legacy company costs.

Reportable Segments

Following are net sales and Segment EBITDA (earnings before interest, income taxes, depreciation and amortization) by reportable segment. Segment EBITDA is defined as EBITDA adjusted for certain non-cash items and other income and expenses. Segment EBITDA is the primary performance measure used by the Company's senior management, the chief operating decision-maker and the board of directors to evaluate operating results and allocate capital resources among segments. Segment EBITDA is also the profitability measure used to set management and executive incentive compensation goals. Corporate and Other is primarily corporate general and administrative expenses that are not allocated to the other segments, such as shared service and administrative functions, foreign exchange gains and losses and legacy company costs not allocated to continuing segments.

Net Sales [(1)]:

Following is revenue by reportable segment. Product sales within each reportable segment share economically similar risks. These risks include general economic and industrial conditions, competitive pricing pressures and the Company's ability to pass on fluctuations in raw material prices to its customers. A substantial number of the Company's raw material inputs are petroleum-based and their prices fluctuate with the price of oil. Due to differing regional industrial and economic conditions, the geographic distribution of revenue may impact the amount, timing and uncertainty of revenue and cash flows from contracts with customers.

Following is net sales by reportable segment disaggregated by geographic region:

	Three Months Ended September 30, 2018			Three Months Ended September 30, 2017		
	Epoxy, Phenolic and Coating Resins	Forest Products Resins	Total	Epoxy, Phenolic and Coating Resins	Forest Products Resins	Total
North America	$ 225	$ 294	$ 519	$ 215	$ 254	$ 469
Europe	215	49	264	220	49	269
Asia Pacific	80	35	115	91	34	125
Latin America	1	53	54	2	49	51
Total	$ 521	$ 431	$ 952	$ 528	$ 386	$ 914

	Nine Months Ended September 30, 2018			Nine Months Ended September 30, 2017		
	Epoxy, Phenolic and Coating Resins	Forest Products Resins	Total	Epoxy, Phenolic and Coating Resins	Forest Products Resins	Total
North America	$ 695	$ 856	$ 1,551	$ 623	$ 773	$ 1,396
Europe	709	155	864	665	145	810
Asia Pacific	218	101	319	243	99	342
Latin America	3	156	159	6	142	148
Total	$ 1,625	$ 1,268	$ 2,893	$ 1,537	$ 1,159	$ 2,696

(1) Intersegment sales are not significant and, as such, are eliminated within the selling segment.

Reconciliation of Net Loss to Segment EBITDA:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Reconciliation:				
Net loss attributable to Hexion Inc.	$ (18)	$ (70)	$ (53)	$ (146)
Net income attributable to noncontrolling interest	—	—	(1)	—
Net loss	(18)	(70)	(52)	(146)
Income tax expense	6	9	17	16
Interest expense, net	83	82	250	247
Depreciation and amortization	27	29	85	85
Accelerated depreciation	2	14	2	14
EBITDA	$ 100	$ 64	$ 302	$ 216
Items not included in Segment EBITDA:				
Asset impairments and write-downs	$ 7	$ 13	$ 32	$ 13
Business realignment costs	5	10	19	27
Gain on disposition	—	—	(44)	—
Realized and unrealized foreign currency losses (gains)	4	(5)	26	(7)
Loss on extinguishment of debt	—	—	—	3
Other	12	14	39	39
Total adjustments	28	32	72	75
Segment EBITDA	$ 128	$ 96	$ 374	$ 291
Segment EBITDA:				
Epoxy, Phenolic and Coating Resins	$ 66	$ 45	$ 208	$ 143
Forest Products Resins	76	66	219	195
Corporate and Other	(14)	(15)	(53)	(47)
Total	$ 128	$ 96	$ 374	$ 291

Items Not Included in Segment EBITDA

Not included in Segment EBITDA are certain non-cash items and other income and expenses. For the three and nine months ended September 30, 2018 and 2017, these items primarily include expenses from retention programs and certain professional fees related to strategic projects. Business realignment costs for the three and nine months ended September 30, 2018 and 2017 primarily include costs related to certain in-process facility rationalizations and cost reduction programs.

11. Changes in Accumulated Other Comprehensive Loss

Following is a summary of changes in "Accumulated other comprehensive loss" for the three and nine months ended September 30, 2018 and 2017:

	Three Months Ended September 30, 2018			Three Months Ended September 30, 2017		
	Defined Benefit Pension and Postretirement Plans	Foreign Currency Translation Adjustments	Total	Defined Benefit Pension and Postretirement Plans	Foreign Currency Translation Adjustments	Total
Beginning balance	$ 1	$ (11)	$ (10)	$ 3	$ (27)	$ (24)
Other comprehensive (loss) income before reclassifications, net of tax	—	(6)	(6)	—	10	10
Ending balance	$ 1	$ (17)	$ (16)	$ 3	$ (17)	$ (14)

	Nine Months Ended September 30, 2018			Nine Months Ended September 30, 2017		
	Defined Benefit Pension and Postretirement Plans	Foreign Currency Translation Adjustments	Total	Defined Benefit Pension and Postretirement Plans	Foreign Currency Translation Adjustments	Total
Beginning balance	$ 1	$ (9)	$ (8)	$ 3	$ (42)	$ (39)
Other comprehensive (loss) income before reclassifications, net of tax	—	(8)	(8)	—	25	25
Ending balance	$ 1	$ (17)	$ (16)	$ 3	$ (17)	$ (14)

12. Income Taxes

On December 22, 2017, the United States enacted tax reform legislation ("Tax Reform") that included a broad range of business tax provisions, including but not limited to a reduction in the U.S. federal tax rate from 35% to 21% as well as provisions that limit or eliminate various deductions or credits. The legislation also causes U.S. expenses, such as interest and general administrative expenses, to be taxed and imposes a new tax on U.S. cross-border payments. The 2017 provision for income taxes included a provisional charge of $65 for the transition tax on accumulated foreign earnings and profits, which resulted in an associated reduction of an estimated $185 in the Company's net operating loss carryforward. The Company filed its 2017 tax return during the third quarter of 2018, which included a transition tax of $63 and an associated reduction of $181 in the Company's net operating loss carryforward.

In response to the enactment of U.S. tax reform, the SEC issued guidance (referred to as "SAB 118") to address the complexity in accounting for this new legislation. When the initial accounting for items under the new legislation is incomplete, the guidance allows companies to recognize provisional amounts when reasonable estimates can be made or to continue to apply the prior tax law if a reasonable estimate of the impact cannot be made. The SEC has provided up to a one-year window for companies to finalize the accounting for the impacts of this new legislation and the Company anticipates finalizing its accounting during the fourth quarter of 2018.

The Company's accounting for the above items is based upon reasonable estimates of the tax effects of Tax Reform; however, its estimates may change upon the finalization of its implementation and additional interpretive guidance from regulatory authorities. The Company will complete its accounting for the above tax effects of Tax Reform during the fourth quarter of 2018 as provided in SAB 118 and will reflect any adjustments to its provisional amounts as an adjustment to the provision for taxes in the reporting period in which the amounts are finally determined.

Additionally, certain provisions of Tax Reform are not effective until 2018. The Company continues to evaluate the impact of these provisions and has recorded a net zero impact in the financial statements due to U.S.' valuation allowance. The Company has not made any accounting policy elections with respect to these items.

The effective tax rate was (50)% and (15)% for the three months ended September 30, 2018 and 2017, respectively. The effective tax rate was (46)% and (12)% for the nine months ended September 30, 2018 and 2017, respectively. The change in the effective tax rate was primarily attributable to the amount and distribution of income and losses among the various jurisdictions in which we operate. The effective tax rates were also impacted by operating gains and losses generated in jurisdictions where no tax expense or benefit was recognized due to the maintenance of a full valuation allowance.

For the three and nine months ended September 30, 2018 and 2017, income tax expense relates primarily to income from certain foreign operations. In 2018 and 2017, losses in the United States and certain foreign jurisdictions had no impact on income tax expense as no tax benefit was recognized due to the maintenance of a full valuation allowance.

13. Guarantor/Non-Guarantor Subsidiary Financial Information

The Company’s 6.625% First-Priority Senior Secured Notes due 2020, 10.00% First-Priority Senior Secured Notes due 2020, 10.375% First Priority Senior Secured Notes due 2022, 13.75% Senior Secured Notes due 2022 and 9.00% Second-Priority Senior Secured Notes due 2020 are guaranteed by certain of its U.S. subsidiaries.

The following information contains the condensed consolidating financial information for Hexion Inc. (the parent), the combined subsidiary guarantors (Hexion Investments Inc.; Lawter International, Inc.; Hexion Deer Park LLC (became a subsidiary guarantor in June 2018); HSC Capital Corporation (dissolved in April 2017); Hexion International Inc.; Hexion CI Holding Company (China) LLC; NL COOP Holdings LLC and Oilfield Technology Group, Inc. (dissolved in September 2017)) and the combined non-guarantor subsidiaries, which includes all of the Company’s foreign subsidiaries.

All of the subsidiary guarantors are 100% owned by Hexion Inc. All guarantees are full and unconditional, and are joint and several. There are no significant restrictions on the ability of the Company to obtain funds from its domestic subsidiaries by dividend or loan. While the Company’s Australian, New Zealand and Brazilian subsidiaries are restricted in the payment of dividends and intercompany loans due to the terms of their credit facilities, there are no material restrictions on the Company’s ability to obtain cash from the remaining non-guarantor subsidiaries.

These financial statements are prepared on the same basis as the consolidated financial statements of the Company except that investments in subsidiaries are accounted for using the equity method for purposes of the consolidating presentation. The principal elimination entries relate to investments in subsidiaries and intercompany balances and transactions.

This information includes allocations of corporate overhead to the combined non-guarantor subsidiaries based on net sales. Income tax expense has been provided on the combined non-guarantor subsidiaries based on actual effective tax rates.

HEXION INC.
SEPTEMBER 30, 2018
CONDENSED CONSOLIDATING BALANCE SHEET (Unaudited)

	Hexion Inc.	Combined Subsidiary Guarantors	Combined Non-Guarantor Subsidiaries	Eliminations	Consolidated
Assets					
Current assets:					
Cash and cash equivalents (including restricted cash of $0 and $16, respectively)	$ 34	$ 1	$ 102	$ —	$ 137
Accounts receivable, net	120	1	342	—	463
Intercompany accounts receivable	64	—	49	(113)	—
Intercompany loans receivable—current portion	69	—	—	(69)	—
Inventories:					
Finished and in-process goods	123	—	168	—	291
Raw materials and supplies	43	—	62	—	105
Other current assets	28	—	34	—	62
Total current assets	481	2	757	(182)	1,058
Investment in unconsolidated entities	144	13	19	(157)	19
Deferred income taxes	—	—	9	—	9
Other assets, net	13	7	20	—	40
Intercompany loans receivable	1,121	—	135	(1,256)	—
Property and equipment, net	365	—	478	—	843
Goodwill	52	—	57	—	109
Other intangible assets, net	21	—	8	—	29
Total assets	$ 2,197	$ 22	$ 1,483	$ (1,595)	$ 2,107
Liabilities and Deficit					
Current liabilities:					
Accounts payable	$ 117	$ 1	$ 273	$ —	$ 391
Intercompany accounts payable	49	—	64	(113)	—
Debt payable within one year	13	—	71	—	84
Intercompany loans payable within one year	—	—	69	(69)	—
Interest payable	99	—	2	—	101
Income taxes payable	4	—	3	—	7
Accrued payroll and incentive compensation	29	—	34	—	63
Other current liabilities	62	—	49	—	111
Total current liabilities	373	1	565	(182)	757
Long-term liabilities:					
Long-term debt	3,536	—	174	—	3,710
Intercompany loans payable	135	—	1,121	(1,256)	—
Accumulated losses of unconsolidated subsidiaries in excess of investment	812	157	—	(969)	—
Long-term pension and post employment benefit obligations	28	—	219	—	247
Deferred income taxes	2	—	10	—	12
Other long-term liabilities	112	—	70	—	182
Total liabilities	4,998	158	2,159	(2,407)	4,908
Total deficit	(2,801)	(136)	(676)	812	(2,801)
Total liabilities and deficit	$ 2,197	$ 22	$ 1,483	$ (1,595)	$ 2,107

HEXION INC.
DECEMBER 31, 2017
CONDENSED CONSOLIDATING BALANCE SHEET

	Hexion Inc.	Combined Subsidiary Guarantors	Combined Non-Guarantor Subsidiaries	Eliminations	Consolidated
Assets					
Current assets:					
Cash and cash equivalents (including restricted cash of $0 and $18, respectively)	$ 13	$ —	$ 102	$ —	$ 115
Accounts receivable, net	126	1	335	—	462
Intercompany accounts receivable	121	—	80	(201)	—
Intercompany loans receivable—current portion	1	—	22	(23)	—
Inventories:					
Finished and in-process goods	85	—	136	—	221
Raw materials and supplies	36	—	56	—	92
Current assets held-for-sale	1	—	5	—	6
Other current assets	19	—	25	—	44
Total current assets	402	1	761	(224)	940
Investment in unconsolidated entities	158	13	20	(171)	20
Deferred income taxes	—	—	8	—	8
Long-term assets held for sale	—	—	2	—	2
Other long-term assets	17	8	24	—	49
Intercompany loans receivable	1,114	—	190	(1,304)	—
Property and equipment, net	410	—	514	—	924
Goodwill	52	—	60	—	112
Other intangible assets, net	32	—	10	—	42
Total assets	$ 2,185	$ 22	$ 1,589	$ (1,699)	$ 2,097
Liabilities and Deficit					
Current liabilities:					
Accounts payable	$ 129	$ —	$ 273	$ —	$ 402
Intercompany accounts payable	80	—	121	(201)	—
Debt payable within one year	10	—	115	—	125
Intercompany loans payable within one year	22	—	1	(23)	—
Interest payable	80	—	2	—	82
Income taxes payable	6	—	6	—	12
Accrued payroll and incentive compensation	22	—	25	—	47
Current liabilities associated with assets held for sale	—	—	2	—	2
Other current liabilities	70	—	65	—	135
Total current liabilities	419	—	610	(224)	805
Long term liabilities:					
Long-term debt	3,507	—	77	—	3,584
Intercompany loans payable	190	—	1,114	(1,304)	—
Accumulated losses of unconsolidated subsidiaries in excess of investment	668	171	—	(839)	—
Long-term pension and post employment benefit obligations	31	—	231	—	262
Deferred income taxes	2	—	9	—	11
Other long-term liabilities	109	—	68	—	177
Total liabilities	4,926	171	2,109	(2,367)	4,839
Total Hexion Inc. shareholder’s deficit	(2,741)	(149)	(519)	668	(2,741)
Noncontrolling interest	—	—	(1)	—	(1)
Total deficit	(2,741)	(149)	(520)	668	(2,742)
Total liabilities and deficit	$ 2,185	$ 22	$ 1,589	$ (1,699)	$ 2,097

HEXION INC.
THREE MONTHS ENDED SEPTEMBER 30, 2018
CONDENSED CONSOLIDATING STATEMENT OF OPERATIONS (Unaudited)

	Hexion Inc.	Combined Subsidiary Guarantors	Combined Non-Guarantor Subsidiaries	Eliminations	Consolidated
Net sales	$ 438	$ —	$ 562	$ (48)	$ 952
Cost of sales	361	—	483	(48)	796
Gross profit	77	—	79	—	156
Selling, general and administrative expense	28	—	44	—	72
Asset impairments	—	—	3	—	3
Business realignment costs	3	—	2	—	5
Other operating expense, net	2	—	4	—	6
Operating income	44	—	26	—	70
Interest expense, net	80	—	3	—	83
Intercompany interest (income) expense, net	(21)	—	21	—	—
Other non-operating income, net	—	—	(1)	—	(1)
(Loss) income before tax and (losses) earnings from unconsolidated entities	(15)	—	3	—	(12)
Income tax expense	—	—	6	—	6
Loss before (losses) earnings from unconsolidated entities	(15)	—	(3)	—	(18)
(Losses) earnings from unconsolidated entities, net of taxes	(3)	—	1	2	—
Net loss	$ (18)	$ —	$ (2)	$ 2	$ (18)
Comprehensive loss	$ (24)	$ —	$ (11)	$ 11	$ (24)

HEXION INC.
THREE MONTHS ENDED SEPTEMBER 30, 2017
CONDENSED CONSOLIDATING STATEMENT OF OPERATIONS (Unaudited)

	Hexion Inc.	Combined Subsidiary Guarantors	Combined Non-Guarantor Subsidiaries	Eliminations	Consolidated
Net sales	$ 400	$ —	$ 558	$ (44)	$ 914
Cost of sales	360	—	481	(44)	797
Gross profit	40	—	77	—	117
Selling, general and administrative expense	29	—	48	—	77
Asset impairments	13	—	—	—	13
Business realignment costs	6	—	4	—	10
Other operating expense (income), net	3	—	(2)	—	1
Operating (loss) income	(11)	—	27	—	16
Interest expense, net	78	—	4	—	82
Intercompany interest (income) expense, net	(20)	—	20	—	—
Other non-operating (income) expense, net	(25)	—	20	—	(5)
Loss before income tax and (losses) earnings from unconsolidated entities	(44)	—	(17)	—	(61)
Income tax expense	3	—	6	—	9
Loss before (losses) earnings from unconsolidated entities	(47)	—	(23)	—	(70)
(Losses) earnings from unconsolidated entities, net of taxes	(23)	(18)	1	40	—
Net loss	$ (70)	$ (18)	$ (22)	$ 40	$ (70)
Comprehensive loss	$ (60)	$ (18)	$ (22)	$ 40	$ (60)

HEXION INC.
NINE MONTHS ENDED SEPTEMBER 30, 2018
CONDENSED CONSOLIDATING STATEMENT OF OPERATIONS (Unaudited)

	Hexion Inc.	Combined Subsidiary Guarantors	Combined Non-Guarantor Subsidiaries	Eliminations	Consolidated
Net sales	$ 1,329	$ —	$ 1,715	$ (151)	$ 2,893
Cost of sales	1,088	—	1,477	(151)	2,414
Gross profit	241	—	238	—	479
Selling, general and administrative expense	108	—	123	—	231
Gain on disposition	(24)	—	(20)	—	(44)
Asset impairments	25	—	3	—	28
Business realignment costs	12	—	7	—	19
Other operating expense, net	5	—	21	—	26
Operating income	115	—	104	—	219
Interest expense, net	239	—	11	—	250
Intercompany interest (income) expense, net	(62)	—	62	—	—
Other non-operating expense (income), net	17	—	(11)	—	6
(Loss) income before tax and earnings from unconsolidated entities	(79)	—	42	—	(37)
Income tax (benefit) expense	(6)	—	23	—	17
(Loss) income before earnings earnings from unconsolidated entities	(73)	—	19	—	(54)
Earnings from unconsolidated entities, net of taxes	20	14	3	(35)	2
Net (loss) income	(53)	14	22	(35)	(52)
Net income attributable to noncontrolling interest	—	—	(1)	—	(1)
Net (loss) income attributable to Hexion Inc.	$ (53)	$ 14	$ 21	$ (35)	$ (53)
Comprehensive (loss) income attributable to Hexion Inc.	$ (61)	$ 14	$ 26	$ (40)	$ (61)

HEXION INC.
NINE MONTHS ENDED SEPTEMBER 30, 2017
CONDENSED CONSOLIDATING STATEMENT OF OPERATIONS (Unaudited)

	Hexion Inc.	Combined Subsidiary Guarantors	Combined Non-Guarantor Subsidiaries	Eliminations	Consolidated
Net sales	$ 1,195	$ —	$ 1,651	$ (150)	$ 2,696
Cost of sales	1,037	—	1,425	(150)	2,312
Gross profit	158	—	226	—	384
Selling, general and administrative expense	96	—	137	—	233
Asset impairments	13	—	—	—	13
Business realignment costs	16	—	11	—	27
Other operating expense, net	—	—	4	—	4
Operating income	33	—	74	—	107
Interest expense, net	236	—	11	—	247
Intercompany interest (income) expense, net	(55)	—	55	—	—
Loss on extinguishment of debt	3	—	—	—	3
Other non-operating (income) expense, net	(83)	—	73	—	(10)
Loss before income tax and (losses) earnings from unconsolidated entities	(68)	—	(65)	—	(133)
Income tax (benefit) expense	(1)	—	17	—	16
Loss before (losses) earnings from unconsolidated entities	(67)	—	(82)	—	(149)
(Losses) earnings from unconsolidated entities, net of taxes	(79)	(52)	3	131	3
Net loss	$ (146)	$ (52)	$ (79)	$ 131	$ (146)
Comprehensive loss	$ (121)	$ (52)	$ (71)	$ 123	$ (121)

HEXION INC.
NINE MONTHS ENDED SEPTEMBER 30, 2018
CONDENSED CONSOLIDATING STATEMENT OF CASH FLOWS (Unaudited)

	Hexion Inc.	Combined Subsidiary Guarantors	Combined Non-Guarantor Subsidiaries	Eliminations	Consolidated
Cash flows (used in) provided by operating activities	$ (303)	$ 1	$ 253	$ —	$ (49)
Cash flows provided by (used in) investing activities					
Capital expenditures	(20)	—	(42)	—	(62)
Proceeds from disposition, net	24	—	25	—	49
Proceeds from sale of assets, net	—	—	1	—	1
Return of capital from subsidiary from sales of accounts receivable	243 (a)	—	—	(243)	—
	247	—	(16)	(243)	(12)
Cash flows provided by (used in) financing activities					
Net short-term debt borrowings	—	—	6	—	6
Borrowings of long-term debt	221	—	204	—	425
Repayments of long-term debt	(197)	—	(146)	—	(343)
Net intercompany loan borrowings (repayments)	53	—	(53)	—	—
Long-term debt and credit facility financing fees paid	—	—	(1)	—	(1)
Return of capital to parent from sales of accounts receivable	—	—	(243) (a)	243	—
	77	—	(233)	243	87
Effect of exchange rates on cash and cash equivalents	—	—	(4)	—	(4)
Change in cash and cash equivalents	21	1	—	—	22
Cash and cash equivalents at beginning of period	13	—	102	—	115
Cash and cash equivalents at end of period	$ 34	$ 1	$ 102	$ —	$ 137

(a) During the nine months ended September 30, 2018, Hexion Inc. contributed receivables of $243 to a non-guarantor subsidiary as capital contributions, resulting in a non-cash transaction. During the nine months ended September 30, 2018, the non-guarantor subsidiary sold the contributed receivables to certain banks under various supplier financing agreements. The cash proceeds were returned to Hexion Inc. by the non-guarantor subsidiary as a return of capital. The sale of receivables has been included within cash flows from operating activities on the Combined non-guarantor subsidiaries. The return of the cash proceeds from the sale of receivables has been included as a financing outflow and an investing inflow on the Combined Non-Guarantor Subsidiaries and Hexion Inc., respectively.

HEXION INC.
NINE MONTHS ENDED SEPTEMBER 30, 2017
CONDENSED CONSOLIDATING STATEMENT OF CASH FLOWS (Unaudited)

	Hexion Inc.	Combined Subsidiary Guarantors	Combined Non-Guarantor Subsidiaries	Eliminations	Consolidated
Cash flows (used in) provided by operating activities	$ (245)	$ —	$ 41	$ (1)	$ (205)
Cash flows provided by (used in) investing activities					
Capital expenditures	(33)	—	(53)	—	(86)
Capitalized interest	—	—	(1)	—	(1)
Proceeds from sale of assets, net	5	—	—	—	5
Return of capital from subsidiary from sales of accounts receivable	117 (a)	—	—	(117)	—
	89	—	(54)	(117)	(82)
Cash flows provided by (used in) financing activities					
Net short-term debt borrowings	4	—	11	—	15
Borrowings of long-term debt	1,007	—	284	—	1,291
Repayments of long-term debt	(850)	—	(229)	—	(1,079)
Net intercompany loan (repayments) borrowings	(7)	—	7	—	—
Long-term debt and credit facility financing fees	(20)	—	(5)	—	(25)
Common stock dividends paid	—	—	(1)	1	—
Return of capital to parent from sales of accounts receivable	—	—	(117) (a)	117	—
	134	—	(50)	118	202
Effect of exchange rates on cash and cash equivalents	—	—	7	—	7
Change in cash and cash equivalents	(22)	—	(56)	—	(78)
Cash and cash equivalents at beginning of period	28	—	168	—	196
Cash and cash equivalents at end of period	$ 6	$ —	$ 112	$ —	$ 118

(a) During the nine months ended September 30, 2017, Hexion Inc. contributed receivables of $117 to a non-guarantor subsidiary as capital contributions, resulting in a non-cash transaction. During the nine months ended September 30, 2017, the non-guarantor subsidiary sold the contributed receivables to certain banks under various supplier financing agreements. The cash proceeds were returned to Hexion Inc. by the non-guarantor subsidiary as a return of capital. The sale of receivables has been included within cash flows from operating activities on the Combined non-guarantor subsidiaries. The return of the cash proceeds from the sale of receivables has been included as a financing outflow and an investing inflow on the Combined Non-Guarantor Subsidiaries and Hexion Inc., respectively.

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations (dollar amounts in millions)

The following commentary should be read in conjunction with the audited Consolidated Financial Statements and the accompanying notes and Management’s Discussion and Analysis of Financial Condition and Results of Operations included in the Company’s most recent Annual Report on Form 10-K.

Within the following discussion, unless otherwise stated, “the third quarter of 2018” refers to the three months ended September 30, 2018 and “the third quarter of 2017” refers to the three months ended September 30, 2017, “the first nine months of 2018” refers to the nine months ended September 30, 2018 and “the first nine months of 2017” refers to the nine months ended September 30, 2017.

Forward-Looking and Cautionary Statements

Certain statements in this report, including without limitation, certain statements made under the caption “Overview and Outlook,” are forward-looking statements within the meaning of and made pursuant to the safe harbor provisions of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. In addition, our management may from time to time make oral forward-looking statements. All statements, other than statements of historical facts, are forward-looking statements. Forward-looking statements may be identified by the words “believe,” “expect,” “anticipate,” “project,” “might,” “plan,” “estimate,” “may,” “will,” “could,” “should,” “seek” or “intend” and similar expressions. Forward-looking statements reflect our current expectations and assumptions regarding our business, the economy and other future events and conditions and are based on currently available financial, economic and competitive data and our current business plans. Actual results could vary materially depending on risks and uncertainties that may affect our operations, markets, services, prices and other factors as discussed in the Risk Factors section of this report and our other filings with the Securities and Exchange Commission (the “SEC”). While we believe our assumptions are reasonable, we caution you against relying on any forward-looking statements as it is very difficult to predict the impact of known factors, and it is impossible for us to anticipate all factors that could affect our actual results. Important factors that could cause actual results to differ materially from those in the forward-looking statements include, but are not limited to, a weakening of global economic and financial conditions, interruptions in the supply of or increased cost of raw materials, the loss of, or difficulties with the further realization of, cost savings in connection with our strategic initiatives, including transactions with our affiliate Momentive Performance Materials Inc., the impact of our substantial indebtedness, our failure to comply with financial covenants under our credit facilities or other debt, pricing actions by our competitors that could affect our operating margins, changes in governmental regulations and related compliance and litigation costs and the other factors listed in the Risk Factors section of this report and in our other SEC filings. For a more detailed discussion of these and other risk factors, see the Risk Factors section of this report and our most recent filings made with the SEC. All forward-looking statements are expressly qualified in their entirety by this cautionary notice. The forward-looking statements made by us speak only as of the date on which they are made. Factors or events that could cause our actual results to differ may emerge from time to time. We undertake no obligation to publicly update or revise any forward-looking statement as a result of new information, future events or otherwise, except as otherwise required by law.

Overview and Outlook

Business Overview

We are a large participant in the specialty chemicals industry, and a leading producer of adhesive and structural resins and coatings. Thermosets are a critical ingredient for virtually all paints, coatings, glues and other adhesives produced for consumer or industrial uses. We provide a broad array of thermosets and associated technologies and have significant market positions in all of the key markets that we serve.

Our products are used in thousands of applications and are sold into diverse markets, such as forest products, architectural and industrial paints, packaging, consumer products and automotive coatings, as well as higher growth markets, such as wind energy and electrical composites. Major industry sectors that we serve include industrial/marine, construction, consumer/durable goods, automotive, wind energy, aviation, electronics, architectural, civil engineering, repair/remodeling and oil and gas drilling. Key drivers for our business include general economic and industrial conditions, including housing starts, auto build rates and active oil and gas drilling rigs. In addition, due to the nature of our products and the markets we serve, competitor capacity constraints and the availability of similar products in the market may impact our results. As is true for many industries, our financial results are impacted by the effect on our customers of economic upturns or downturns, as well as by the impact on our own costs to produce, sell and deliver our products. Our customers use most of our products in their production processes. As a result, factors that impact their industries can and have significantly affected our results.

Through our worldwide network of strategically located production facilities we serve more than 3,300 customers in approximately 90 countries. Our global customers include large companies in their respective industries, such as 3M, Akzo Nobel, BASF, Bayer, Dow, Louisiana Pacific, Owens Corning, PPG Industries, Valspar and Weyerhaeuser.

Reportable Segments

Our business segments are based on the products that we offer and the markets that we serve. At September 30, 2018, we had three reportable segments: Epoxy, Phenolic and Coating Resins; Forest Products Resins; and Corporate and Other. A summary of the major products of our reportable segments follows:

- **Epoxy, Phenolic and Coating Resins:** epoxy specialty resins, phenolic encapsulated substrates, versatic acids and derivatives, basic epoxy resins and intermediates, phenolic specialty resins and molding compounds
- **Forest Products Resins:** forest products resins and formaldehyde applications
- **Corporate and Other**: primarily corporate general and administrative expenses that are not allocated to the other segments, such as shared service and administrative functions, foreign exchange gains and losses and legacy company costs.

2018 Overview

Following are highlights from our results of operations for the nine months ended September 30, 2018 and 2017:

	2018	2017	$ Change	% Change
Statements of Operations:				
Net sales	$ 2,893	$ 2,696	$ 197	7 %
Gross profit	479	384	95	25 %
Operating income	219	107	112	105 %
Loss before income tax	(37)	(133)	96	72 %
Net loss	(52)	(146)	94	64 %
Segment EBITDA:				
Epoxy, Phenolic and Coating Resins	$ 208	$ 143	$ 65	45 %
Forest Products Resins	219	195	24	12 %
Corporate and Other	(53)	(47)	(6)	(13)%
Total	$ 374	$ 291	$ 83	29 %

- ***Net Sales***—Net sales in the first nine months of 2018 were $2,893, an increase of 7% compared with the first nine months of 2017. This increase was primarily driven by pricing, which positively impacted sales by $269 due largely to improved market conditions in our base epoxy resins business and raw material price increases contractually passed through to customers across many of our businesses. The impact of foreign exchange translation positively impacted net sales by $56 due largely to the strengthening of the euro and Chinese yuan against the U.S. dollar. These increases were partially offset by volumes, which negatively impacted net sales by $116 primarily related to volume decreases in our epoxy businesses driven by delays in the production of wind turbines in China and margin optimization. Additionally, volumes in our oilfield business decreased due to highly competitive market conditions. These decreases were partially offset by volume increases in our Latin American forest products resins business due to ongoing recovery in the Brazilian economy and increased demand in our North American Formaldehyde business.
- ***Net Loss***—Net loss in the first nine months of 2018 was $52, an improvement of 64% as compared with a net loss of $146 in the first nine months of 2017. This improvement was primarily driven by an increase in gross profit due to the margin improvements discussed above and a gain on the sale of our ATG business of $44, partially offset by asset impairments of $28 largely attributed to our oilfield business.
- ***Segment EBITDA***—For the first nine months of 2018, Segment EBITDA was $374, an increase of 29% compared with $291 in the first nine months of 2017. This increase was driven by increased margins in our base epoxy resins and phenolic resins businesses and improved performance in our North American formaldehyde and forest products resins businesses, as well as the impact of our ongoing cost reduction initiatives.
- ***Restructuring and Cost Reduction Programs*****—**During the first nine months of 2018, we have achieved $37 in cost savings related to our cost reduction programs and have a total of $17 of in-process cost savings, the majority of which we expect to realize by the end of 2018.
- ***Sale of ATG Business*****—**In January 2018, we completed the sale of our ATG business for a purchase price of $49 and recorded a gain on this disposition of $44.
- ***Growth Initiatives*****—**We recently committed to the construction of a new application development center in Shanghai, China. The facility, which we expect to occupy in the second half of 2019, will help meet the strong growth and demand for new coatings technologies in the region. We also continue to focus on new product development and have taken steps to improve our analytical and product development services for our global grid, such as the recently announced contract with the Fraunhofer Project Center in Canada to develop lightweight composite technologies and high performance systems for the automotive industry. Lastly, we recently introduced our new Voyager mobile resin coating service within our oilfield business, a new technology offering customers efficient manufacturing of resin coated proppants in close proximity to the wellsite.

Short-term Outlook

We expect strong market demand to continue to drive volume increases in our North American formaldehyde business for the remainder of 2018 and into 2019. Additionally, we continue to expect improved demand in our North American forest products resins business due to ongoing growth in U.S. housing starts and remodeling. We also anticipate modest overall improvement in our Latin American forest products resins business due to ongoing recovery in the Brazilian economy.

We expect results in our base epoxy business to remain strong through the remainder of 2018 and into 2019 due to continued favorable market conditions. Overall, we expect improvement in our epoxy specialty business in 2019 due to the introduction of new products and government supported investment in the China wind energy market. We also expect our epoxy specialty business to benefit from improvements in demand for waterborne coatings over the next few years, primarily in China. Lastly, we expect our phenolic resins business to continue to benefit from cost reductions associated with our recently completed grid optimization efforts in Europe.

We also anticipate all of our businesses will continue to benefit from the savings associated with our ongoing restructuring and cost reduction initiatives. Finally, we expect raw material price volatility to continue through the remainder of 2018 and into 2019.

Portfolio Optimization Initiatives

In January 2018, we completed the sale of our ATG business. We received $49 in proceeds from the transaction, or approximately twelve times ATG's Segment EBITDA over the prior twelve months. In addition, we have undertaken a process for the potential sale of a portion of our Epoxy, Phenolic and Coatings Resins segment. Should a sale of these assets or any other assets in our portfolio occur, we expect that proceeds will be used to reduce our debt.

Matters Impacting Comparability of Results

Tax Reform Implications

The 2017 U.S. tax reform reduced the U.S. corporate tax rate, included beneficial depreciation provisions, new provisions that cause U.S. expenses, such as interest and general administrative expenses, to be taxed and a new tax on U.S. cross-border payments. The effect of the above provisions on tax expense and cash taxes paid may impact the comparability of results between periods. See Note 12 in Item 1 of this Quarterly Report on Form 10-Q for more information.

Raw Material Prices

Raw materials comprise approximately 75% of our cost of sales. The three largest raw materials used in our production processes are phenol, methanol and urea. These materials represent about half of our total raw material costs. Fluctuations in energy costs, such as volatility in the price of crude oil and related petrochemical products, as well as the cost of natural gas have historically caused volatility in our raw material and utility costs. In the first nine months of 2018 compared to the first nine months of 2017 the average price of methanol, urea, and phenol increased by approximately 19%, 19%, and 3%, respectively. The impact of passing through raw material price changes to customers can result in significant variances in sales comparisons from year to year.

Other Comprehensive Income

Our other comprehensive income is significantly impacted by foreign currency translation, and to a lesser degree by defined benefit pension and postretirement benefit adjustments. The impact of foreign currency translation is driven by the translation of assets and liabilities of our foreign subsidiaries which are denominated in functional currencies other than the U.S. dollar. Our non-U.S. operations accounted for approximately 60% of our sales in the first nine months of 2018. The primary assets and liabilities driving the adjustments are cash and cash equivalents; accounts receivable; inventory; property, plant and equipment; accounts payable; pension and other postretirement benefit obligations and certain intercompany loans payable and receivable. The primary currencies in which these assets and liabilities are denominated are the euro, Brazilian real, Chinese yuan, Canadian dollar and Australian dollar. The impact of defined benefit pension and postretirement benefit adjustments is primarily driven by unrecognized prior service cost related to our defined benefit and other non-pension postretirement benefit plans ("OPEB"), as well as the subsequent amortization of these amounts from accumulated other comprehensive income in periods following the initial recording of such amounts.

Results of Operations

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

	Three Months Ended September 30,			
	2018		2017	
	$	% of Net Sales	$	% of Net Sales
Net sales	$ 952	100 %	$ 914	100 %
Cost of sales	794	84 %	783	86 %
Accelerated depreciation	2	— %	14	1 %
Gross profit	156	16 %	117	13 %
Selling, general and administrative expense	72	8 %	77	8 %
Asset impairments	3	— %	13	1 %
Business realignment costs	5	1 %	10	1 %
Other operating expense, net	6	1 %	1	— %
Operating income	70	6 %	16	3 %
Interest expense, net	83	9 %	82	9 %
Other non-operating income, net	(1)	— %	(5)	(1)%
Total non-operating expense	82	9 %	77	8 %
Loss before income tax and earnings from unconsolidated entities	(12)	(3)%	(61)	(5)%
Income tax expense	6	1 %	9	1 %
Loss before earnings from unconsolidated entities	(18)	(4)%	(70)	(6)%
Earnings from unconsolidated entities, net of taxes	—	— %	—	— %
Net loss	$ (18)	(4)%	$ (70)	(6)%
Other comprehensive (loss) income	$ (6)		$ 10	

Three Months Ended September 30, 2018 vs. Three Months Ended September 30, 2017

Net Sales

In the third quarter of 2018, net sales increased by $38, or 4%, compared to the third quarter of 2017. Pricing positively impacted sales by $128 due primarily to improved conditions in our base epoxy resins business and raw material price increases contractually passed through to customers across many of our businesses. Foreign currency translation negatively impacted net sales by $20 due to the strengthening of the U.S. dollar against the euro, Chinese yuan and the Brazilian real in the third quarter of 2018 compared to the third quarter of 2017. Volume decreases negatively impacted net sales by $66, which was primarily related to volume decreases in our epoxy businesses largely due to delays in the production of wind turbines in China and margin optimization. Additionally, volumes in our oilfield business decreased due to highly competitive market conditions.

Gross Profit

In the third quarter of 2018, gross profit increased by $39 compared to the third quarter of 2017. Gross profit as a percentage of net sales increased by 3% due to margin expansion driven by the market conditions in our base epoxy resins business discussed above, as well as our ongoing restructuring initiatives.

Operating Income

In the third quarter of 2018, operating income increased by $54 compared to the third quarter of 2017, driven primarily by the increase in gross profit of $39 discussed above, a decrease in selling, general and administrative expense of $5, a decrease in business realignment costs of $5 and a decrease in asset impairments of $10. The decrease in selling, general and administrative expense was due primarily to our ongoing cost savings and productivity actions. The decrease in business realignment costs is largely attributable to lower severance and facility closure related expenses. The decrease in asset impairments is largely due to impairments in our oilfield business that occurred in 2017. These increases to operating income were partially offset by increases in other operating expense of $5 due to higher realized and unrealized foreign currency losses.

Non-Operating Expense

In the third quarter of 2018, total non-operating expense increased by $5 compared to the third quarter of 2017. This was due to an increase of $4 in other non-operating expense driven by higher realized and unrealized foreign currency losses and an increase in interest expense of $1 driven by higher average debt levels.

Income Tax Expense

The effective tax rate was (50)% and (15)% for the third quarter of 2018 and 2017, respectively. The change in the effective tax rate was primarily attributable to the amount and distribution of income and losses among the various jurisdictions in which we operate. The effective tax rates were also impacted by operating gains and losses generated in jurisdictions where no tax expense or benefit was recognized due to the maintenance of a full valuation allowance.

For the third quarter of 2018 and 2017, income tax expense relates primarily to income from certain foreign operations. In 2018 and 2017, losses in the United States and certain foreign jurisdictions had no impact on income tax expense as no tax benefit was recognized due to the maintenance of a full valuation allowance.

Other Comprehensive Income

For the third quarter of 2018, foreign currency translation negatively impacted other comprehensive loss by $6, primarily due to an overall weakening of various foreign currencies against the U.S. dollar in the third quarter of 2018.

For the third quarter of 2017, foreign currency translation positively impacted other comprehensive income by $10, primarily due to the strengthening of the euro against the U.S. dollar in the third quarter of 2017.

	Nine Months Ended September 30,			
	2018		2017	
	$	% of Net Sales	$	% of Net Sales
Net sales	$ 2,893	100 %	$ 2,696	100 %
Cost of sales	2,412	83 %	2,298	85 %
Accelerated depreciation	2	— %	14	1 %
Gross profit	479	17 %	384	14 %
Selling, general and administrative expense	231	8 %	233	9 %
Gain on disposition	(44)	(2)%	—	— %
Asset impairments	28	1 %	13	— %
Business realignment costs	19	1 %	27	1 %
Other operating expense, net	26	1 %	4	— %
Operating income	219	8 %	107	4 %
Interest expense, net	250	9 %	247	9 %
Loss on extinguishment of debt	—	— %	3	— %
Other non-operating expense (income), net	6	— %	(10)	— %
Total non-operating expense	256	9 %	240	9 %
Loss before income tax and earnings from unconsolidated entities	(37)	(1)%	(133)	(4)%
Income tax expense	17	1 %	16	1 %
Loss before earnings from unconsolidated entities	(54)	(2)%	(149)	(5)%
Earnings from unconsolidated entities, net of taxes	2	— %	3	— %
Net loss	(52)	(2)%	(146)	(5)%
Net income attributable to noncontrolling interest	(1)	— %	—	— %
Net loss attributable to Hexion Inc.	$ (53)		$ (146)	
Other comprehensive (loss) income	$ (8)		$ 25	

Nine Months Ended September 30, 2018 vs. Nine Months Ended September 30, 2017

Net Sales

In the first nine months of 2018, net sales increased by $197, or 7%, compared to the first nine months of 2017. Pricing positively impacted sales by $269 due primarily to improved conditions in our base epoxy resins business and raw material price increases contractually passed through to customers across many of our businesses. Foreign currency translation positively impacted net sales by $56 due to the strengthening of the euro and Chinese yuan against the U.S. dollar in the first nine months 2018 compared to the first nine months of 2017. Volume decreases negatively impacted net sales by $116 primarily related to volume decreases in our epoxy businesses driven by delays in the production of wind turbines in China and margin optimization. Additionally, volumes in our oilfield business decreased due to highly competitive market conditions. These decreases were partially offset by volume increases in our Latin American forest products resins business due to ongoing recovery in the Brazilian economy and increased demand in our North American Formaldehyde business. Lastly, the disposition of our ATG business in the first quarter of 2018 negatively impacted sales by $12.

Gross Profit

In the first nine months of 2018, gross profit increased by $95 compared to the first nine months of 2017. Gross profit as a percentage of net sales increased by 3%, due to margin expansion driven by the market conditions in our base epoxy resins business discussed above, as well as our ongoing restructuring initiatives.

Operating Income

In the first nine months of 2018, operating income increased by $112 compared to the first nine months of 2017, driven primarily by the increase in gross profit of $95 discussed above, a gain on the disposition of our ATG business of $44 and a decrease in business realignment costs of $8. The decrease in business realignment costs is largely attributable to lower severance and facility closure related expenses in the first nine months of 2018. These increases to operating income were partially offset by increases in asset impairments of $15 primarily related to our oilfield business, and an increase in other operating expense of $22 due to an increase in realized and unrealized foreign currency losses.

Non-Operating Expense

In the first nine months of 2018, total non-operating expense increased by $16 compared to the first nine months of 2017. This was due to an increase of $16 in other non-operating expense driven by an increase in realized and unrealized foreign currency losses and an increase in interest expense of $3 driven by higher average debt levels. These increased expenses were partially offset by $3 of loss on extinguishment of debt that occurred in first nine months of 2017.

Income Tax Expense

The effective tax rate was (46)% and (12)% for the first nine months of 2018 and 2017, respectively. The change in the effective tax rate was primarily attributable to the amount and distribution of income and losses among the various jurisdictions in which we operate. The effective tax rates were also impacted by operating gains and losses generated in jurisdictions where no tax expense or benefit was recognized due to the maintenance of a full valuation allowance.

For the first nine months of 2018 and 2017, income tax expense relates primarily to income from certain foreign operations. In 2018 and 2017, losses in the United States and certain foreign jurisdictions had no impact on income tax expense as no tax benefit was recognized due to the maintenance of a full valuation allowance.

Other Comprehensive Income

For the first nine months of 2018, foreign currency translation negatively impacted other comprehensive loss by $8, primarily due to an overall weakening of various foreign currencies against the U.S. dollar in the first nine months of 2018.

For the first nine months of 2017, foreign currency positively impacted other comprehensive income by $25, primarily due to the strengthening of the euro against the U.S. dollar in the first nine months of 2017.

Results of Operations by Segment

Following are net sales and Segment EBITDA (earnings before interest, income taxes, depreciation and amortization) by reportable segment. Segment EBITDA is defined as EBITDA adjusted for certain non-cash items and other income and expenses. Segment EBITDA is the primary performance measure used by our senior management, the chief operating decision-maker and the board of directors to evaluate operating results and allocate capital resources among segments. Segment EBITDA is also the profitability measure used to set management and executive incentive compensation goals. Segment EBITDA should not be considered a substitute for net loss or other results reported in accordance with U.S. GAAP. Segment EBITDA may not be comparable to similarly titled measures reported by other companies.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Net Sales [1]:				
Epoxy, Phenolic and Coating Resins	$ 521	$ 528	$ 1,625	$ 1,537
Forest Products Resins	431	386	1,268	1,159
Total	$ 952	$ 914	$ 2,893	$ 2,696
Segment EBITDA:				
Epoxy, Phenolic and Coating Resins	$ 66	$ 45	$ 208	$ 143
Forest Products Resins	76	66	219	195
Corporate and Other	(14)	(15)	(53)	(47)
Total	$ 128	$ 96	$ 374	$ 291

(1) Intersegment sales are not significant and, as such, are eliminated within the selling segment.

Three Months Ended September 30, 2018 vs. Three Months Ended September 30, 2017 Segment Results

Following is an analysis of the percentage change in net sales by segment from the three months ended September 30, 2017 to the three months ended September 30, 2018:

	Volume	Price/Mix	Currency Translation	Impact of Dispositions	Total
Epoxy, Phenolic and Coating Resins	(12)%	12%	(1)%	— %	(1)%
Forest Products Resins	1 %	16%	(4)%	(1)%	12 %

Epoxy, Phenolic and Coating Resins

Net sales in the third quarter of 2018 decreased by $7, or 1%, when compared to the third quarter of 2017. Volumes negatively impacted net sales by $68, which was primarily related to volume decreases in our epoxy businesses largely due to delays in the production of wind turbines in China and margin optimization. Additionally, volumes in our oilfield business decreased due to highly competitive market conditions. Foreign currency translation negatively impacted net sales by $3, due primarily to the strengthening of the U.S. dollar against the euro and Chinese yuan in the third quarter of 2018 compared to the third quarter of 2017. These decreases were partially offset by pricing, which positively impacted net sales by $64 due primarily to improved market conditions in our base epoxy resins business and raw material price increases contractually passed through to customers across many of our businesses.

Segment EBITDA in the third quarter of 2018 increased by $21 to $66 compared to the third quarter of 2017. The increase was driven by increased margins in our base epoxy resins business, as well as the impact of our ongoing cost reduction initiatives, most notably in our phenolic resins business.

Forest Products Resins

Net sales in the third quarter of 2018 increased by $45, or 12%, when compared to the third quarter of 2017. Pricing positively impacted net sales by $64, which was primarily due to raw material price increases contractually passed through to customers across many of our businesses. Volumes positively impacted net sales by $2, driven by increased demand in our North American formaldehyde business. Foreign currency translation negatively impacted net sales by $17 mainly due to the strengthening of the U.S dollar against the Brazilian real in the third quarter of 2018 compared to the third quarter of 2017. Lastly, the disposition of our ATG business in the first quarter of 2018 negatively impacted sales by $4.

Segment EBITDA in the third quarter of 2018 increased by $10, to $76, compared to the third quarter of 2017. This increase was driven by improved performance in our North American formaldehyde and forest products resins businesses, as well as the impact of our ongoing cost reduction initiatives.

Corporate and Other

Corporate and Other is primarily corporate, general and administrative expenses that are not allocated to the other segments, such as shared service and administrative functions, unallocated foreign exchange gains and losses and legacy company costs not allocated to the other segments. Corporate and Other charges in the third quarter of 2018 decreased by $1 compared to the third quarter of 2017 due primarily to our ongoing cost savings efforts.

Nine Months Ended September 30, 2018 vs. Nine Months Ended September 30, 2017 Segment Results

Following is an analysis of the percentage change in net sales by segment from the nine months ended September 30, 2017 to the nine months ended September 30, 2018:

	Volume	Price/Mix	Currency Translation	Impact of Dispositions	Total
Epoxy, Phenolic and Coating Resins	(8)%	10%	4%	— %	6%
Forest Products Resins	1 %	9%	—%	(1)%	9%

Epoxy, Phenolic and Coating Resins

Net sales in the first nine months of 2018 increased by $88, or 6%, when compared to the first nine months of 2017. Pricing positively impacted net sales by $153 due primarily to improved market conditions in our base epoxy resins business and raw material price increases contractually passed through to customers across many of our businesses. Foreign currency translation positively impacted net sales by $61, due primarily to the strengthening of the euro and Chinese yuan against the U.S. dollar in the first nine months of 2018 compared to the first nine months of 2017. Lastly, volumes negatively impacted net sales by $126, primarily related to volume decreases in our epoxy businesses largely due to delays in the production of wind turbines in China and margin optimization. Additionally, volumes in our oilfield business decreased due to highly competitive market conditions.

Segment EBITDA in the first nine months of 2018 increased by $65 to $208 compared to the first nine months of 2017. The increase was driven by increased margins in our base epoxy resins and phenolic resins businesses, as well as the impact of our ongoing cost reduction initiatives, most notably in our phenolic resins business.

Forest Products Resins

Net sales in the first nine months of 2018 increased by $109, or 9%, when compared to the first nine months of 2017. Pricing positively impacted net sales by $116, which was primarily due to raw material price increases passed through to customers across many of our businesses. Volumes positively impacted net sales by $10, and were primarily driven by increases in our Latin American forest products resins business due to ongoing recovery in the Brazilian economy and increased demand in our North American Formaldehyde business. Foreign currency translation negatively impacted net sales by $5, due largely to the strengthening of the U.S. dollar against the Brazilian real partially offset by the strengthening of the euro and Canadian dollar against the U.S. dollar in the first nine months of 2018 compared to the first nine months of 2017. Lastly, the disposition of our ATG business in the first quarter of 2018 negatively impacted sales by $12.

Segment EBITDA in the first nine months of 2018 increased by $24, to $219, compared to the first nine months of 2017. This increase was primarily due to improved performance in our North American formaldehyde business, as well as the impact of our ongoing cost reduction initiatives.

Corporate and Other

Corporate and Other is primarily corporate, general and administrative expenses that are not allocated to the other segments, such as shared service and administrative functions, unallocated foreign exchange gains and losses and legacy company costs not allocated to continuing segments. Corporate and Other charges in the first nine months of 2018 increased by $6 compared to the first nine months of 2017 due primarily to higher compensation costs, partially offset by our ongoing cost savings efforts.

Reconciliation of Net Loss to Segment EBITDA:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Reconciliation:				
Net loss attributable to Hexion Inc.	$ (18)	$ (70)	$ (53)	$ (146)
Net income attributable to noncontrolling interest	—	—	(1)	—
Net loss	(18)	(70)	(52)	(146)
Income tax expense	6	9	17	16
Interest expense, net	83	82	250	247
Depreciation and amortization	27	29	85	85
Accelerated depreciation	2	14	2	14
EBITDA	$ 100	$ 64	$ 302	$ 216
Items not included in Segment EBITDA:				
Asset impairments and write-downs	$ 7	$ 13	$ 32	$ 13
Business realignment costs	5	10	19	27
Gain on disposition	—	—	(44)	—
Realized and unrealized foreign currency losses (gains)	4	(5)	26	(7)
Loss on extinguishment of debt	—	—	—	3
Other	12	14	39	39
Total adjustments	28	32	72	75
Segment EBITDA	$ 128	$ 96	$ 374	$ 291
Segment EBITDA:				
Epoxy, Phenolic and Coating Resins	$ 66	$ 45	$ 208	$ 143
Forest Products Resins	76	66	219	195
Corporate and Other	(14)	(15)	(53)	(47)
Total	$ 128	$ 96	$ 374	$ 291

Items Not Included in Segment EBITDA

Not included in Segment EBITDA are certain non-cash items and other income and expenses. For the three and nine months ended September 30, 2018 and 2017, these items primarily include expenses from retention programs and certain professional fees related to strategic projects. Business realignment costs for the three and nine months ended September 30, 2018 and 2017 primarily include costs related to certain in-process facility rationalizations and cost reduction programs.

Liquidity and Capital Resources

We are a highly leveraged company. Our primary sources of liquidity are cash flows generated from operations and availability under the ABL Facility. Our primary liquidity requirements are interest, working capital and capital expenditures.

At September 30, 2018, we had $3,794 of outstanding debt and $306 in liquidity consisting of the following:

- $121 of unrestricted cash and cash equivalents (of which $86 is maintained in foreign jurisdictions);
- $151 of borrowings available under our ABL Facility ($350 borrowing base less $150 of outstanding borrowings and $49 of outstanding letters of credit); and
- $34 of time drafts and borrowings available under credit facilities at certain international subsidiaries

Our net working capital (defined as accounts receivable and inventories less accounts payable) at September 30, 2018 and December 31, 2017 was $468 and $373, respectively. A summary of the components of our net working capital as of September 30, 2018 and December 31, 2017 is as follows:

	September 30, 2018	% of LTM Net Sales	December 31, 2017	% of LTM Net Sales [1]
Accounts receivable	$ 463	12 %	$ 462	13 %
Inventories	396	10 %	313	9 %
Accounts payable	(391)	(10)%	(402)	(12)%
Net working capital[1]	$ 468	12 %	$ 373	10 %

(1) The components of net working capital at December 31, 2017 exclude $6 of net working capital related to the ATG business, which were classified as held for sale in the December 31, 2017 Consolidated Balance Sheet.

The increase in net working capital of $95 from December 31, 2017 was driven by an increase in inventory $83, as well as a decrease in accounts payable of $11. The increase in inventory was primarily the result of inventory build for turnarounds, as well as price increases in the third quarter of 2018 compared to the fourth quarter of 2017 due to raw material price increases contractually passed through to customers across many of our businesses and seasonality. The decrease in accounts payable was largely related to the timing of vendor payments. To minimize the impact of seasonal changes in net working capital on cash flows, we continue to review inventory safety stock levels, focus on accelerating receivable collections by offering incentives to customers to encourage early payment or through the sale of receivables at a discount and negotiate with vendors or enter into inventory financing arrangements to extend payment terms.

We periodically borrow from the ABL Facility to support our short-term liquidity requirements, particularly when net working capital requirements increase in response to the seasonality of our volumes. As of September 30, 2018, there were $150 of outstanding borrowings under the ABL Facility.

Short-Term Outlook

The following factors will impact cash flows for the remainder of 2018:

- **Interest and Income Taxes:** We expect cash outflows in 2018 related to interest payments on our debt of approximately $315, with the largest components being paid in the second and fourth quarters. We expect our fourth quarter interest payments to be approximately $100, and our total 2018 income tax payments are expected to be between $15 and $20.

- **Capital Spending:** We expect our fourth quarter 2018 capital spending to be between $20 and $25.

- **Working Capital:** In the first nine months of 2018, our net working capital increased by $95 due primarily to inventory build for turnarounds, sequential volume increases, raw material price inflation and seasonality. During the fourth quarter, we expect a decrease in net working capital, consistent with historical trends. For the year we anticipate a slight increase in working capital in 2018, as compared to 2017.

- **Restructuring Activities:** We expect that the 2018 cost savings associated with our cost reduction programs will exceed the one-time cash costs in 2018 associated with these programs and have a net positive impact on our liquidity and cash flows.

- **Sales of Assets:** As mentioned above, we completed the sale of our ATG business in January 2018 for cash proceeds of $49. Also, we continue to evaluate potential divestitures, as well as additional sales of miscellaneous or idle assets, which would further increase our liquidity.

We plan to fund these outflows with available cash and cash equivalents, cash from operations and, if necessary, through available borrowings under our ABL Facility. We continue to expect significant improvement in our overall 2018 operating cash flows compared to 2017, driven by anticipated improvement in business performance, the impact of our cost reduction programs and lower restructuring spend. Based on our liquidity position as of September 30, 2018 and projections of operating cash flows, we expect to have sufficient liquidity to fund our operations for the next twelve months.

We have $1.9 billion of First-Priority Senior Secured Notes maturing in April 2020 and $0.6 billion of Second-Priority Senior Secured Notes maturing in November 2020. Additionally, if 91 days prior to the scheduled maturity of these notes, more than $50 aggregate principal amount of maturing notes is outstanding, our ABL Facility, which matures in December 2021, will accelerate and become immediately due and payable.

We regularly review our portfolio and are currently exploring potential divestitures. While there is no guarantee of a transaction, it could include a specific business unit or combination of several businesses. We expect that the proceeds from a transaction or transactions upon completion would be used to help reduce the absolute amount of our debt.

Further, depending upon market, pricing and other conditions, including the current state of the high yield bond market, as well as cash balances and available liquidity, we or our affiliates, may seek to acquire notes or other indebtedness of the Company through open market purchases, privately negotiated transactions, tender offers, redemption or otherwise, upon such terms and at such prices as we or our affiliates may determine (or as may be provided for in the indentures governing the notes), for cash or other consideration.

Sources and Uses of Cash

Following are highlights from our unaudited Condensed Consolidated Statements of Cash Flows:

	Nine Months Ended September 30,	
	2018	**2017**
(Uses) sources of cash:		
Operating activities	$ (49)	$ (205)
Investing activities	(12)	(82)
Financing activities	87	202
Effect of exchange rates on cash flow	(4)	7
Net change in cash and cash equivalents	$ 22	$ (78)

Operating Activities

In the first nine months of 2018, operations used $49 of cash. Net loss of $52 included $99 of net non-cash expense items, consisting of depreciation and amortization of $85, non-cash asset impairments and accelerated depreciation of $30, amortization of deferred financing fees of $13, unrealized foreign currency losses of $12 and loss on sale of assets of $3, partially offset by a gain on disposition of $44. Net working capital used $106, which was largely driven by increases in inventories due primarily to inventory build for turnarounds, raw material price increases and seasonality. Changes in other assets and liabilities and income taxes payable used $10 due to the timing of when items were expensed versus paid, which primarily included interest expense, employee retention programs, incentive compensation, pension plan contributions and taxes.

In the first nine months of 2017, operations used $205 of cash. Net loss of $146 included $116 of net non-cash income items, consisting of depreciation and amortization of $85, amortization of deferred financing fees of $12, loss on debt extinguishment of $3, partially offset by unrealized foreign currency gains of $5, gains on sale of assets of $1 and a deferred tax benefit of $1. Net working capital used $150, which was largely driven by increases in accounts receivable and inventories due primarily to volume increases related to market conditions and the seasonality of our businesses, as well as raw material price inflation. Changes in other assets and liabilities and income taxes payable used $25 due to the timing of when items were expensed versus paid, which primarily included interest expense, employee retention programs, incentive compensation, pension plan contributions and taxes.

Investing Activities

In the first nine months of 2018, investing activities used $12 of cash, primarily driven by capital expenditures of $62, partially offset by net proceeds from the ATG disposition of $49 and proceeds from sale of assets of $1.

In the first nine months of 2017, investing activities used $82 of cash, primarily driven by capital expenditures of $86, partially offset by net proceeds from the sale of assets of $5.

Financing Activities

In the first nine months of 2018, financing activities provided $87 of cash. Net short-term debt borrowings were $6 and net long-term debt borrowings were $82. Our long-term debt borrowings primarily consisted of $69 of additional ABL borrowings in the first nine months of 2018.

In the first nine months of 2017, financing activities provided $202 of cash. Net short-term debt borrowings were $15 and net long-term debt borrowings were $191. Our long-term debt borrowings primarily consisted of $119 in ABL borrowings, and the refinancing our 8.875% Senior Secured Notes due 2018 in February 2017.

There are certain restrictions on the ability of certain of our subsidiaries to transfer funds to Hexion Inc. in the form of cash dividends, loans or otherwise, which primarily arise as a result of certain foreign government regulations or as a result of restrictions within certain subsidiaries' financing agreements limiting such transfers to the amounts of available earnings and profits or otherwise limit the amount of dividends that can be distributed. In either case, we have alternative methods to obtain cash from these subsidiaries in the form of intercompany loans and/or returns of capital in such instances where payment of dividends is limited to the extent of earnings and profits.

Covenant Compliance

The instruments that govern our indebtedness contain, among other provisions, restrictive covenants (and incurrence tests in certain cases) regarding indebtedness, dividends and distributions, mergers and acquisitions, asset sales, affiliate transactions, capital expenditures and, in the case of our ABL Facility, the maintenance of a financial ratio (depending on certain conditions). Payment of borrowings under the ABL Facility and our notes may be accelerated if there is an event of default as determined under the governing debt instrument. Events of default under the credit agreement governing our ABL Facility includes the failure to pay principal and interest when due, a material breach of representations or warranties, most covenant defaults, events of bankruptcy and a change of control. Events of default under the indentures governing our notes include the failure to pay principal and interest, a failure to comply with covenants, subject to a 30-day grace period in certain instances, and certain events of bankruptcy.

The indentures that govern our 6.625% First-Priority Senior Secured Notes, 10.00% First-Priority Senior Secured Notes, 10.375% First-Priority Senior Secured Notes, 13.75% Senior Secured Notes and 9.00% Second-Priority Senior Secured Notes (the "Secured Indentures") contain an Adjusted EBITDA to Fixed Charges ratio incurrence test which may restrict our ability to take certain actions such as incurring additional debt or making acquisitions if we are unable to meet this ratio (measured on a last twelve months, or LTM, basis) of at least 2.0:1. The Adjusted EBITDA to Fixed Charges Ratio under the Secured Indentures is generally defined as the ratio of (a) Adjusted EBITDA to (b) net interest expense excluding the amortization or write-off of deferred financing costs, each measured on an LTM basis. See below for our Adjusted EBITDA to Fixed Charges Ratio calculation.

Our ABL Facility, which is subject to a borrowing base, does not have any financial maintenance covenant other than a minimum fixed charge coverage ratio of 1.0 to 1.0 that would only apply if our availability under the ABL Facility at any time is less than the greater of (a) $35 and (b) 12.5% of the lesser of the borrowing base and the total ABL Facility commitments at such time. The fixed charge coverage ratio under the credit agreement governing the ABL Facility is generally defined as the ratio of (a) Adjusted EBITDA minus non-financed capital expenditures and cash taxes to (b) debt service plus cash interest expense plus certain restricted payments, each measured on an LTM basis. At September 30, 2018, our availability under the ABL Facility exceeded such levels; therefore, the minimum fixed charge ratio covenant did not apply. As of September 30, 2018, we were in compliance with all covenants that govern the ABL Facility. We do not believe that a covenant default under the ABL Facility is reasonably likely to occur in the foreseeable future.

Reconciliation of Last Twelve Months Net Loss to Adjusted EBITDA

Adjusted EBITDA is defined as EBITDA adjusted for certain non-cash and certain non-recurring items and other adjustments calculated on a pro-forma basis, including the expected future cost savings from business optimization programs or other programs and the expected future impact of acquisitions, in each case as determined under the governing debt instrument. As we are highly leveraged, we believe that including the supplemental adjustments that are made to calculate Adjusted EBITDA provides additional information to investors about our ability to comply with our financial covenants and to obtain additional debt in the future. Adjusted EBITDA and Fixed Charges are not defined terms under U.S. GAAP. Adjusted EBITDA is not a measure of financial condition, liquidity or profitability, and should not be considered as an alternative to net income (loss) determined in accordance with U.S. GAAP or operating cash flows determined in accordance with U.S. GAAP. Additionally, EBITDA is not intended to be a measure of free cash flow for management's discretionary use, as it does not take into account certain items such as interest and principal payments on our indebtedness, depreciation and amortization expense (because we use capital assets, depreciation and amortization expense is a necessary element of our costs and ability to generate revenue), working capital needs, tax payments (because the payment of taxes is part of our operations, it is a necessary element of our costs and ability to operate), non-recurring expenses and capital expenditures. Fixed Charges under the Secured Indentures should not be considered an alternative to interest expense.

The following table reconciles net loss to EBITDA and Adjusted EBITDA, and calculates the ratio of Adjusted EBITDA to Fixed Charges as calculated under our Secured Indentures for the period presented:

	September 30, 2018 LTM Period
Net loss	$ (139)
Income tax expense	19
Interest expense, net	332
Depreciation and amortization	116
Accelerated depreciation	2
EBITDA	330
Adjustments to EBITDA:	
Asset impairments and write-downs	32
Business realignment costs (1)	44
Realized and unrealized foreign currency losses	35
Gain on disposition	(44)
Unrealized gains on pension and postretirement benefits (2)	(4)
Other (3)	60
Cost reduction programs savings (4)	17
Adjustment for ATG disposition (5)	(1)
Adjusted EBITDA	$ 469
Pro forma fixed charges (6)	$ 317
Ratio of Adjusted EBITDA to Fixed Charges (7)	1.48

(1) Primarily represents cost related to headcount reduction expenses and plant rationalization costs related to in-process and recently completed cost reduction programs, termination costs and other costs associated with business realignments.

(2) Represents non-cash gains resulting from pension and postretirement benefit plan liability remeasurements.

(3) Primarily includes certain professional fees related to strategic projects, retention program costs, business optimization expenses, management fees and expenses related to legacy liabilities.

(4) Represents pro forma impact of in-process cost reduction programs savings. Cost reduction program savings represent the unrealized headcount reduction savings and plant rationalization savings related to cost reduction programs and other unrealized savings associated with the Company’s business realignments activities, and represent our estimate of the unrealized savings from such initiatives that would have been realized had the related actions been completed at the beginning of the period presented. The savings are calculated based on actual costs of exiting headcount and elimination or reduction of site costs.

(5) Represents pro forma LTM Adjusted EBITDA impact of the ATG disposition, which occurred during the first quarter of 2018.

(6) Reflects pro forma interest expense based on interest rates at September 30, 2018.

(7) The Company’s ability to incur additional indebtedness, among other actions, is restricted under the Secured Indentures, unless the Company has an Adjusted EBITDA to Fixed Charges ratio of at least 2.0 to 1.0. As of September 30, 2018, we did not satisfy this test. As a result, we are subject to restrictions on our ability to incur additional indebtedness and to make investments; however, there are exceptions to these restrictions, including exceptions that permit indebtedness under our ABL Facility (available borrowings of which were $151 at September 30, 2018).

Recently Issued Accounting Standards

See Note 2 in Item 1 of Part I of this Quarterly Report on Form 10-Q for a detailed description of recently issued accounting pronouncements.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

There have been no material developments during the first nine months of 2018 on the matters we have previously disclosed about quantitative and qualitative market risk in our Annual Report on Form 10-K for the year ended December 31, 2017.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, including the President and Chief Executive Officer and the Executive Vice President and Chief Financial Officer, performed an evaluation of the effectiveness of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) as of September 30, 2018. Based upon that evaluation, the President and Chief Executive Officer and the Executive Vice President and Chief Financial Officer concluded that our disclosure controls and procedures were effective at September 30, 2018.

Changes in Internal Control Over Financial Reporting

There have been no changes in the Company's internal control over financial reporting during our most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II - OTHER INFORMATION (dollar amounts in millions)

Item 1. Legal Proceedings

The Louisville Air Pollution Control District (the "District") issued the Company an Agreed Board Order on April 18, 2018 requiring payment of a $0.2 million penalty to resolve alleged violations in 2016, 2017 and 2018 of the District's air pollution laws and the Company's air permit. The Company timely made the payment and the Agreed Board Order is resolved.

The United States Environmental Protection Agency ("U.S. EPA") issued the Company a Notice of Intent to File Administrative Complaint related to alleged violations of the Emergency Right-to-Know Act identified in a 2017 voluntary self-disclosure made by the Company. The Notice was issued on October 24, 2018 and seeks a penalty of $0.2 million. The Company does not agree with the penalty and intends to work cooperatively with U.S. EPA to resolve this matter.

The U.S. EPA issued the Company a General Notice Letter seeking reimbursement of costs spent by U.S. EPA on a removal action associated with a site in Houston, Texas. A private party also seeks recovery from the Company and several other parties associated with past and future remediation costs at the same site. The Company does not agree with the alleged liability and is working cooperatively with the involved parties to resolve this matter. Potential future exposure related to this claim is less than $0.5 million.

Item 1A. Risk Factors

Following are our principal risks. These factors may or may not occur, and we cannot express a view on the likelihood that any of these may occur. Other factors may exist that we do not consider significant based on information that is currently available or that we are not currently able to anticipate. Any of the following risks could materially adversely affect our business, financial condition or results of operations and prospects.

Risks Related to Our Business

If global economic conditions are weak or deteriorate, it will negatively impact our business operations, results of operations and financial condition.

Changes in global economic and financial market conditions could impact our business operations in a number of ways including, but not limited to, the following:

- reduced demand in key customer segments, such as oil and gas, automotive, building, construction and electronics, compared to prior years;
- weak economic conditions in our primary regions of operations: U.S., Europe, and Asia;
- payment delays by customers and reduced demand for our products caused by customer insolvencies and/or the inability of customers to obtain adequate financing to maintain operations;
- insolvency of suppliers or the failure of suppliers to meet their commitments resulting in product delays;
- more onerous credit and commercial terms from our suppliers such as shortening the required payment period for outstanding accounts receivable or reducing or eliminating the amount of trade credit available to us; and
- potential delays in accessing our senior secured asset based revolving credit facility (the "ABL Facility") or obtaining new credit facilities on terms we deem commercially reasonable or at all, and the potential inability of one or more of the financial institutions included in our syndicated ABL Facility to fulfill their funding obligations. Should a bank in our syndicated ABL Facility be unable to fund a future draw request, we could find it difficult to replace that bank in the facility.

Due to worldwide economic volatility and uncertainty, the short-term outlook for our business is difficult to predict.

Fluctuations in direct or indirect raw material costs could have an adverse impact on our business.

Raw materials costs made up approximately 75% of our cost of sales in the first nine months of 2018. The prices of our direct and indirect raw materials have been, and we expect them to continue to be, volatile. If the cost of direct or indirect raw materials increases significantly and we are unable to offset the increased costs with higher selling prices, our profitability will decline. Increased selling prices for our products to offset the increased cost of raw materials could also hurt our ability to remain both competitive and profitable in the markets in which we compete.

Although some of our materials contracts include competitive price clauses that allow us to buy outside the contract if market pricing falls below contract pricing, and certain contracts have minimum-maximum monthly volume commitments that allow us to take advantage of spot pricing, we may be unable to purchase raw materials at market prices. In addition, some of our customer contracts have fixed prices for a certain term, and as a result, we may not be able to pass on raw material price increases to our customers immediately, if at all. Due to differences in timing of the pricing trigger points between our sales and purchase contracts, there is often a “lead-lag” impact. In many cases this “lead-lag” impact can negatively impact our margins in the short term in periods of rising raw material prices and positively impact them in the short term in periods of falling raw material prices. Future raw material prices may be impacted by new laws or regulations, suppliers’ allocations to other purchasers, changes in our supplier manufacturing processes as some of our products are byproducts of these processes, interruptions in production by suppliers, natural disasters, volatility in the price of crude oil and related petrochemical products and changes in exchange rates.

An inadequate supply of direct or indirect raw materials and intermediate products could have a material adverse effect on our business.

Our manufacturing operations require adequate supplies of raw materials and intermediate products on a timely basis. The loss of a key source or a delay in shipments could have a material adverse effect on our business. Raw material availability may be subject to curtailment or change due to, among other things:

- new or existing laws or regulations;
- suppliers’ allocations to other purchasers;
- interruptions in production by suppliers; and
- natural disasters.

Many of our raw materials and intermediate products are available in the quantities we require from a limited number of suppliers. Should any of our key suppliers fail to deliver these raw materials or intermediate products to us or no longer supply us, we may be unable to purchase these materials in necessary quantities, which could adversely affect our volumes, or may not be able to purchase them at prices that would allow us to remain competitive. During the past several years, certain of our suppliers have experienced force majeure events rendering them unable to deliver all, or a portion of, the contracted-for raw materials. On these occasions, we have been forced to limit production or were forced to purchase replacement raw materials in the open market at significantly higher costs or place our customers on an allocation of our products. In the past, some of our customers have chosen to discontinue or decrease the use of our products as a result of these measures. For example, in 2014, Shell notified us of a supply interruption event at its Moerdijk, Netherlands facility, which provides key raw materials to us, and this event resulted in us allocating certain products to our customers through mid-2015, at which point the disruption was resolved, but we experienced losses to some of our customer base due to the interruption. In addition, we cannot predict whether new regulations or restrictions may be imposed in the future which may result in reduced supply or further increases in prices. We cannot assure investors that we will be able to renew our current materials contracts or enter into replacement contracts on commercially acceptable terms, or at all. Fluctuations in the price of these or other raw materials or intermediate products, the loss of a key source of supply or any delay in the supply could result in a material adverse effect on our business.

Our production facilities are subject to significant operating hazards which could cause environmental contamination, personal injury and loss of life, and severe damage to, or destruction of, property and equipment.

Our production facilities are subject to hazards associated with the manufacturing, handling, storage and transportation of chemical materials and products, including human exposure to hazardous substances, pipeline and equipment leaks and ruptures, explosions, fires, inclement weather and natural disasters, mechanical failures, unscheduled downtime, transportation interruptions, remedial complications, chemical spills, discharges or releases of toxic or hazardous substances or gases, storage tank leaks and other environmental risks. Additionally, a number of our operations are adjacent to operations of independent entities that engage in hazardous and potentially dangerous activities. Our operations or adjacent operations could result in personal injury or loss of life, severe damage to or destruction of property or equipment, environmental damage, or a loss of the use of all or a portion of one of our key manufacturing facilities. Such events at our facilities, or adjacent third-party facilities, could have a material adverse effect on us.

We may incur losses beyond the limits or coverage of our insurance policies for liabilities that are associated with these hazards. In addition, various kinds of insurance for companies in the chemical industry have not been available on commercially acceptable terms, or, in some cases, have been unavailable altogether. In the future, we may not be able to obtain coverage at current levels, and our premiums may increase significantly on coverage that we maintain.

Environmental obligations and liabilities could have a substantial negative impact on our financial condition, cash flows and profitability.

Our operations involve the use, handling, processing, storage, transportation and disposal of hazardous materials and are subject to extensive and complex U.S. federal, state, local and non-U.S. supranational, national, provincial, and local environmental, health and safety laws and regulations. These environmental laws and regulations include those that govern the discharge of pollutants into the air and water, the generation, use, storage, transportation, treatment and disposal of hazardous materials and wastes, the cleanup of contaminated sites, occupational health and safety and those requiring permits, licenses, or other government approvals for specified operations or activities. Our products are also subject to a variety of international, national, regional, state, and provincial requirements and restrictions applicable to the manufacture, import, export or subsequent use of such products. In addition, we are required to maintain, and may be required to obtain in the future, environmental, health and safety permits, licenses, or government approvals to continue current operations at most of our manufacturing and research facilities throughout the world.

Compliance with environmental, health and safety laws and regulations, and maintenance of permits, can be costly and complex, and we have incurred and will continue to incur costs, including capital expenditures and costs associated with the issuance and maintenance of letters of credit, to comply with these requirements. In 2017, we incurred capital expenditures of $25 to comply with environmental, health and safety laws and regulations and to make other environmental improvements. If we are unable to comply with environmental, health and safety laws and regulations, or maintain our permits, we could incur substantial costs, including fines and civil or criminal sanctions, third party property damage or personal injury claims or costs associated with upgrades to our facilities or changes in our manufacturing processes in order to achieve and maintain compliance, and may also be required to halt permitted activities or operations until any necessary permits can be obtained or complied with, or decide to close the impacted facility. In addition, future developments or increasingly stringent regulations could require us to make additional unforeseen environmental expenditures, which could have a material adverse effect on our business.

Environmental, health and safety requirements change frequently and have tended to become more stringent over time. We cannot predict what environmental, health and safety laws and regulations or permit requirements will be enacted or amended in the future, how existing or future laws or regulations will be interpreted or enforced or the impact of such laws, regulations or permits on future production expenditures, supply chain or sales. Our costs of compliance with current and future environmental, health and safety requirements could be material. Such future requirements include legislation designed to reduce emissions of carbon dioxide and other substances associated with climate change (“greenhouse gases”). The European Union has enacted greenhouse gas emissions legislation and continues to expand the scope of such legislation. The U.S. Environmental Protection Agency (the “USEPA”) has promulgated regulations applicable to projects involving greenhouse gas emissions above a certain threshold, and the United States and certain states within the United States have enacted, or are considering, limitations on greenhouse gas emissions. These requirements to limit greenhouse gas emissions could significantly increase our energy costs, and may also require us to incur material capital costs to modify our manufacturing facilities.

In addition, we are subject to liability associated with hazardous substances in soil, groundwater and elsewhere at a number of sites. These include sites that we formerly owned or operated and sites where hazardous wastes and other substances from our current and former facilities and operations have been sent, treated, stored, or recycled or disposed of, as well as sites that we currently own or operate. Depending upon the circumstances, our liability may be strict, joint and several, meaning that we may be held responsible for more than our proportionate share, or even all, of the liability involved regardless of our fault or whether we are aware of the conditions giving rise to the liability. Even where liability has been allocated among parties, we may be subject to material changes in such allocation in the future for a number of reasons, including the discovery of new contamination, the insolvency of a responsible party, or a heightened nexus to the remediation site. Environmental conditions at these sites can lead to environmental cleanup liability and claims against us for personal injury or wrongful death, property damages and natural resource damages, as well as to claims and obligations for the investigation and cleanup of environmental conditions. The extent of any of these liabilities is difficult to predict, but in the aggregate such liabilities could be material.

We have been notified that we are or may be responsible for environmental remediation at a number of sites in North America, Europe and South America. We are also performing a number of voluntary cleanups. The most significant sites at which we are performing or participating in environmental remediation are sites formerly owned by us in Geismar, Louisiana and Plant City, Florida. As the result of former, current or future operations, there may be additional environmental remediation or restoration liabilities or claims of personal injury by employees or members of the public due to exposure or alleged exposure to hazardous materials in connection with our operations, properties or products. Sites sold by us in past years may have significant site closure or remediation costs and our share, if any, may be unknown to us at this time. These environmental liabilities or obligations, or any that may arise or become known to us in the future, could have a material adverse effect on our financial condition, cash flows and profitability.

Future chemical regulatory actions may decrease our profitability.

Several governmental agencies have enacted, are considering or may consider in the future, regulations that may impact our ability to sell certain chemical products in certain geographic areas. The European Registration, Evaluation and Authorization of Chemicals (“REACH”) regulation requires manufacturers, importers and consumers of certain chemicals manufactured in, or imported into, the European Union to register such chemicals and evaluate their potential impacts on human health and the environment. REACH may result in certain chemicals being further regulated, restricted or banned from use in the European Union. In addition, the Frank R. Lautenberg Chemical Safety for the 21st Century Act (“LCSA”) was signed into law on June 22, 2016, and updates and revises the Toxic Substances Control Act. LCSA requires the implementing agency to conduct risk evaluations on high priority chemicals, which could include chemical products we manufacture. Other countries have implemented, or are considering implementation of, similar chemical regulatory programs. When fully implemented and applied, REACH, LCSA and other similar regulatory programs may result in significant adverse market impacts on the affected chemical products. If we fail to comply with REACH, LCSA or other similar laws and regulations, we may be subject to penalties or other enforcement actions, including fines, injunctions, recalls or seizures, which would have a material adverse effect on our financial condition, cash flows and profitability. Additionally, studies conducted in association with these regulatory programs, or otherwise conducted through trade associations, may result in new information regarding the health effects and environmental impact of our products and raw materials. Such studies could result in future regulations restricting the manufacture or use of our products, liability for adverse environmental or health effects linked to our products, and/or de-selection of our products for specific applications. These restrictions, liability, and product de-selection could have a material adverse effect on our business, our financial condition and/or liquidity.

Because of certain government public health agencies' concerns regarding the potential for adverse human health effects, formaldehyde is a regulated chemical and public health agencies continue to evaluate its safety. A division of the World Health Organization, the International Agency for Research on Cancer, or IARC, and the National Toxicology Program, or NTP, within the U.S. Department of Health and Human Services, have classified formaldehyde as being carcinogenic to humans. The USEPA, under its Integrated Risk Information System, or IRIS, released a draft of its toxicological review of formaldehyde in 2010, stating that formaldehyde meets the criteria to be described as "carcinogenic to humans." The National Academy of Sciences peer reviewed the draft IRIS toxicological review and issued a report in April 2011 that criticized the draft IRIS toxicological review and stated that the methodologies and the underlying science used in the draft IRIS review did not clearly support a conclusion of a causal link between formaldehyde exposure and leukemia. USEPA may issue a revised draft IRIS toxicological review to reflect the NAS findings, including the conclusions regarding a causal link between formaldehyde exposure and leukemia. Effective January 1, 2016, ECHA classified formaldehyde as a Category 2 Mutagen, but rejected reclassification as a Category 1A Carcinogen. It is possible that new regulatory requirements could be promulgated to limit human exposure to formaldehyde, that we could incur substantial additional costs to meet any such regulatory requirements, and that there could be a reduction in demand for our formaldehyde-based products. These additional costs and reduced demand could have a material adverse effect on our operations and profitability.

Bisphenol A ("BPA"), which is manufactured and used as an intermediate at our Deer Park, Texas and Pernis, Netherlands manufacturing facilities, and is also sold directly to third parties, is currently considered under certain state and international regulatory programs as a reproductive toxicant and an "endocrine disrupter," meaning BPA could disrupt normal biological processes. BPA continues to be subject to scientific, regulatory and legislative review and negative media attention. In Europe, the EU Committee for Risk Assessment adopted an opinion to change the existing harmonized classification and labeling of BPA from a category 2 reproductive Toxicant to a category 1B reproductive Toxicant. This classification change became effective March 1, 2018. The EU Member State Committee agreed to add BPA to the Substance of Very High Concern ("SVHC") candidate list based upon its classification as a reproductive toxicant, as well as for its endocrine disrupting properties to both human health and the environment. The REACH Risk Management Option Analysis (RMOA) was released July 6, 2017, in which BPA is identified as an endocrine disruptor for the environment with no safe threshold, and REACH restrictions are identified as the preferred risk management measure. The California Environmental Protection Agency's Office of Environmental Health Hazard Assessment ("OEHHA") listed BPA under Proposition 65 as a developmental and reproductive toxicant, requiring warning labels unless BPA exposures are shown to be less than a risk-based level (the maximum allowable dose level ("MADL")). As of May 11, 2016, products containing BPA sold into California must comply with Proposition 65's requirements. Despite these hazard designations and listings, the US Food and Drug Administration ("FDA") is also actively engaged in the scientific and regulatory review of BPA and, in a letter submitted to OEHHA dated April 6, 2015, reaffirmed that BPA is safe as currently permitted in FDA-regulated food contact uses and concluded that FDA's National Center for Toxicological Research study did not support the listing of BPA as a reproductive toxicant. In December 2012, France enacted a law that bans direct contact of packaging containing BPA with food and consumer products. In January 2015, the European Food Safety Authority ("EFSA") concluded that BPA poses no health risk to consumers of any age group (including unborn children, infants and adolescents) at currently permitted exposure levels. EFSA confirmed this conclusion in October 2016. Regulatory and legislative initiatives such as these, or product de-selection resulting from such regulatory actions, may result in a reduction in demand for BPA and our products containing BPA and could also result in additional liabilities as well as an increase in operating costs to meet more stringent regulations. Such increases in operating costs and/or reduction in demand could have a material adverse effect on our operations and profitability.

Scientists periodically conduct studies on the potential human health and environmental impacts of chemicals, including products we manufacture and sell. Also, nongovernmental advocacy organizations and individuals periodically issue public statements alleging human health and environmental impacts of chemicals, including products we manufacture and sell. Based upon such studies or public statements, our customers may elect to discontinue the purchase and use of our products, even in the absence of any government regulation. Such actions could significantly decrease the demand for our products and, accordingly, have a material adverse effect on our business, financial condition, cash flows and profitability.

We are subject to certain risks related to litigation filed by or against us, and adverse results may harm our business.

We cannot predict with certainty the cost of defense, of prosecution or of the ultimate outcome of litigation and other proceedings filed by or against us, including penalties or other civil or criminal sanctions, or remedies or damage awards, and adverse results in any litigation and other proceedings may materially harm our business. Litigation and other proceedings may include, but are not limited to, actions relating to intellectual property, international trade, commercial arrangements, product liability, environmental, health and safety, joint venture agreements, labor and employment or other harms resulting from the actions of individuals or entities outside of our control. In the case of intellectual property litigation and proceedings, adverse outcomes could include the cancellation, invalidation or other loss of material intellectual property rights used in our business and injunctions prohibiting our use of business processes or technology that are subject to third-party patents or other third-party intellectual property rights. Litigation based on environmental matters or exposure to hazardous substances in the workplace or based upon the use of our products could result in significant liability for us, which could have a material adverse effect on our business, financial condition and/or profitability.

Because we manufacture and use materials that are known to be hazardous, we are subject to, or affected by, certain product and manufacturing regulations, for which compliance can be costly and time consuming. In addition, we may be subject to personal injury or product liability claims as a result of human exposure to such hazardous materials.

We produce hazardous chemicals that require care in handling and use that are subject to regulation by many U.S. and non-U.S. national, supra-national, state and local governmental authorities. In some circumstances, these authorities must review and, in some cases approve, our products and/or manufacturing processes and facilities before we may manufacture and sell some of these chemicals. To be able to manufacture and sell certain new chemical products, we may be required, among other things, to demonstrate to the relevant authority that the product does not pose an unreasonable risk during its intended uses and/or that we are capable of manufacturing the product in compliance with current regulations. The process of seeking any necessary approvals can be costly, time consuming and subject to unanticipated and significant delays. Approvals may not be granted to us on a timely basis, or at all. Any delay in obtaining, or any failure to obtain or maintain, these approvals would adversely affect our ability to introduce new products and to generate revenue from those products. New laws and regulations may be introduced in the future that could result in additional compliance costs, bans on product sales or use, seizures, confiscation, recall or monetary fines, any of which could prevent or inhibit the development, distribution or sale of our products and could increase our customers' efforts to find less hazardous substitutes for our products. We are subject to ongoing reviews of our products and manufacturing processes.

As discussed above, we manufacture and sell products containing formaldehyde, and certain governmental bodies have stated that there is a causal link between formaldehyde exposure and certain types of cancer, including myeloid leukemia and NPC. These conclusions could adversely impact our business and also become the basis of product liability litigation.

Other products we have made or used have been and could be the focus of legal claims based upon allegations of harm to human health. While we cannot predict the outcome of pending suits and claims, we believe that we maintain adequate reserves, in accordance with our policy, to address currently pending litigation and are adequately insured to cover currently pending and foreseeable future claims. However, an unfavorable outcome in these litigation matters could have a material adverse effect on our business, financial condition and/or profitability and cause our reputation to decline.

We are subject to claims from our customers and their employees, environmental action groups and neighbors living near our production facilities.

We produce and use hazardous chemicals that require appropriate procedures and care to be used in handling them or in using them to manufacture other products. As a result of the hazardous nature of some of the products we produce and use, we may face claims relating to incidents that involve our customers' improper handling, storage and use of our products. We have historically faced lawsuits, including class action lawsuits that claim liability for death, injury or property damage caused by products that we manufacture or that contain our components. Additionally, we may face lawsuits alleging personal injury or property damage by neighbors living near our production facilities. These lawsuits, and any future lawsuits, could result in substantial damage awards against us, which in turn could encourage additional lawsuits and could cause us to incur significant legal fees to defend such lawsuits, either of which could have a material adverse effect on our business, financial condition and/or profitability. In addition, the activities of environmental action groups could result in litigation or damage to our reputation.

Our manufacturing facilities are subject to disruption due to operating hazards

The storage, handling, manufacturing and transportation of chemicals at our facilities and adjacent facilities could result in leaks, spills, fires or explosions, which could result in production downtime, production delays, raw material supply delays, interruptions and environmental hazards. We have experienced incidents at our own facilities and a raw material supplier located adjacent to our facility that have resulted mostly in short term, but some long term, production delays. Production interruption may also result from severe weather, particularly with respect to our southern U.S. operations near the Gulf Coast. Production lapses caused by any such delays can often be absorbed by our other manufacturing facilities, and we maintain insurance to cover such potential events. However, such events could negatively affect our operations.

As a global business, we are subject to numerous risks associated with our international operations that could have a material adverse effect on our business.

We have significant manufacturing and other operations outside the United States. Some of these operations are in jurisdictions with unstable political or economic conditions. There are numerous inherent risks in international operations, including, but not limited to:

- exchange controls and currency restrictions;
- currency fluctuations and devaluations;
- tariffs and trade barriers imposed by the current U.S. administration or foreign governments;
- renegotiation of trade agreements by the current U.S. administration;
- export duties and quotas;
- changes in local economic conditions;
- changes in laws and regulations;
- exposure to possible expropriation or other government actions;
- acts by national or regional banks, including the European Central Bank, to increase or restrict the availability of credit;
- hostility from local populations;
- diminished ability to legally enforce our contractual rights in non-U.S. countries;
- restrictions on our ability to repatriate dividends from our subsidiaries; and
- unsettled political conditions and possible terrorist attacks against U.S. interests.

Our international operations expose us to different local political and business risks and challenges. For example, we may face potential difficulties in staffing and managing local operations, and we may have to design local solutions to manage credit risks of local customers and distributors. In addition, some of our operations are located in regions that may be politically unstable, having particular exposure to riots, civil commotion or civil unrests, acts of war (declared or undeclared) or armed hostilities or other national or international calamity. In some of these regions, our status as a U.S. company also exposes us to increased risk of sabotage, terrorist attacks, interference by civil or military authorities or to greater impact from the national and global military, diplomatic and financial response to any future attacks or other threats.

In addition, intellectual property rights may be more difficult to enforce in non-U.S. or non-Western European countries.

If global economic and market conditions, or economic conditions in Europe, China, Brazil, Australia, the United States or other key markets remain uncertain or deteriorate further, the value of associated foreign currencies and the global credit markets may weaken. Additionally, general financial instability in countries where we do not transact a significant amount of business could have a contagion effect and contribute to the general instability and uncertainty within a particular region or globally. If this were to occur, it could adversely affect our customers and suppliers and in turn have a materially adverse effect on our international business and results of operations.

Our overall success as a global business depends, in part, upon our ability to succeed under different economic, social and political conditions. We may fail to develop and implement policies and strategies that are effective in each location where we do business, and failure to do so could have a material adverse effect on our business, financial condition and results of operations.

Our business is subject to foreign currency risk.

In the first nine months of 2018, approximately 60% of our net sales originated outside the United States. In our consolidated financial statements, we translate our local currency financial results into U.S. dollars based on average exchange rates prevailing during a reporting period or the exchange rate at the end of that period. During times of a strengthening U.S. dollar, at a constant level of business, our reported international revenues and earnings would be reduced because the local currency would translate into fewer U.S. dollars.

In addition to currency translation risks, we incur a currency transaction risk whenever we enter into a purchase or a sales transaction or indebtedness transaction using a different currency from the currency in which we record revenues. Given the recent volatility of exchange rates, we may not manage our currency transaction and/or translation risks effectively, and volatility in currency exchange rates may materially adversely affect our financial condition or results of operations, including our tax obligations. Since the vast majority of our indebtedness is denominated in U.S. dollars, a strengthening of the U.S. dollar could make it more difficult for us to repay our indebtedness.

We have entered and expect to continue to enter into various hedging and other programs in an effort to protect against adverse changes in the non-U.S. exchange markets and attempt to minimize potential material adverse effects. These hedging and other programs may be unsuccessful in protecting against these risks. Our results of operations could be materially adversely affected if the U.S. dollar strengthens against non-U.S. currencies and our protective strategies are not successful. Likewise, a strengthening U.S. dollar provides opportunities to source raw materials more cheaply from foreign countries.

Fluctuations in energy costs could have an adverse impact on our profitability and negatively affect our financial condition.

Oil and natural gas prices have fluctuated greatly over the past several years and we anticipate that they will continue to do so. Natural gas and electricity are essential to our manufacturing processes, which are energy-intensive. Our energy costs represented approximately 5% of our total cost of sales for the the first nine months of 2018.

Our operating expenses will increase if our energy prices increase. Increased energy prices may also result in greater raw materials costs. If we cannot pass these costs through to our customers, our profitability may decline. Increased energy costs may also negatively affect our customers and the demand for our products. In addition, as oil and natural gas prices fall, while having a positive effect on our overall costs, such falling prices can have a negative impact on our oilfield business, as the number of oil and natural gas wells drilled declines in response to market condition.

If energy prices decrease, we expect benefits in the short-run with decreased operating expenses and increased operating income, but may face increased pricing pressure from competitors that are similarly impacted by energy prices. As a result, profitability may decrease over an extended period of time of lower energy prices. Moreover, any future increases in energy prices after a period of lower energy prices may have an adverse impact on our profitability for the reasons described above.

We face increased competition from other companies and from substitute products, which could force us to lower our prices, which would adversely affect our profitability and financial condition.

Several of the markets that we operate in are highly competitive, and this competition could harm our results of operations, cash flows and financial condition. Our competitors include major international producers as well as smaller regional competitors. We believe that the most significant competitive factor that impacts demand for certain of our products is selling price. We may be forced to lower our selling price based on our competitors' pricing decisions, which would reduce our profitability. Certain markets that we serve have become commoditized in recent years and have given rise to several industry participants, resulting in strong price competition in these markets. In addition, we face competition from a number of products that are potential substitutes for our products. Growth in substitute products could adversely affect our market share, net sales and profit margins.

Additional trends include current and anticipated consolidation among our competitors and customers which may cause us to lose market share as well as put downward pressure on pricing. There is also a trend in our industries toward relocating manufacturing facilities to lower cost regions, such as Asia, which may permit some of our competitors to lower their costs and improve their competitive position. Furthermore, there has been an increase in new competitors based in these regions.

Some of our competitors are larger, have greater financial resources, have a lower cost structure, and/or have less debt than we do. As a result, those competitors may be better able to withstand a change in conditions within our industry and in the economy as a whole. If we do not compete successfully, our operating margins, financial condition, cash flows and profitability could be adversely affected. Furthermore, if we do not have adequate capital to invest in technology, including expenditures for research and development, our technology could be rendered uneconomical or obsolete, negatively affecting our ability to remain competitive.

We expect substantial cost savings from our ongoing strategic initiatives, and if we are unable to achieve these cost savings, or sustain our current cost structure, it could have a material adverse effect on our business operations, results of operations and financial condition.

We have not yet realized all of the cost savings and synergies we expect to achieve from our ongoing strategic initiatives. A variety of risks could cause us not to realize the expected cost savings and synergies, including but not limited to, higher than expected severance costs related to staff reductions; higher than expected retention costs for employees that will be retained; higher than expected stand-alone overhead expenses; delays in the anticipated timing of activities related to our cost-savings plans; and other unexpected costs associated with operating our business. In November 2017, we initiated new cost reduction programs that we expect to generate approximately $44 of annual savings once fully implemented. As of September 30, 2018, we had $17 of total in-process cost savings related to new and existing programs.

If we are unable to achieve these cost savings or synergies it could adversely affect our profitability and financial condition. In addition, while we have been successful in reducing costs and generating savings, factors may arise that may not allow us to sustain our current cost structure. As market and economic conditions change, we may also make changes to our operating cost structure.

Our success depends in part on our ability to protect our intellectual property rights, and our inability to enforce these rights could have a material adverse effect on our competitive position.

We rely on the patent, trademark, copyright and trade-secret laws of the United States and the countries where we do business to protect our intellectual property rights. We may be unable to prevent third parties from using our intellectual property without our authorization. The unauthorized use of our intellectual property could reduce any competitive advantage we have developed, reduce our market share or otherwise harm our business. In the event of unauthorized use of our intellectual property, litigation to protect or enforce our rights could be costly, and we may not prevail.

Many of our technologies are not covered by any patent or patent application, and our issued and pending U.S. and non-U.S. patents may not provide us with any competitive advantage and could be challenged by third parties. Our inability to secure issuance of our pending patent applications may limit our ability to protect the intellectual property rights these pending patent applications were intended to cover. Our competitors may attempt to design around our patents to avoid liability for infringement and, if successful, our competitors could adversely affect our market share. Furthermore, the expiration of our patents may lead to increased competition.

Our pending trademark applications may not be approved by the responsible governmental authorities and, even if these trademark applications are granted, third parties may seek to oppose or otherwise challenge these trademark applications. A failure to obtain trademark registrations in the United States and in other countries could limit our ability to protect our products and their associated trademarks and impede our marketing efforts in those jurisdictions.

In addition, effective patent, trademark, copyright and trade secret protection may be unavailable or limited in some foreign countries. In some countries we do not apply for patent, trademark or copyright protection. We also rely on unpatented proprietary manufacturing expertise, continuing technological innovation and other trade secrets to develop and maintain our competitive position. While we generally enter into confidentiality agreements with our employees and third parties to protect our intellectual property, these confidentiality agreements are limited in duration and could be breached, and may not provide meaningful protection of our trade secrets or proprietary manufacturing expertise. Adequate remedies may not be available if there is an unauthorized use or disclosure of our trade secrets and manufacturing expertise. In addition, others may obtain knowledge about our trade secrets through independent development or by legal means. The failure to protect our processes, apparatuses, technology, trade secrets and proprietary manufacturing expertise, methods and compounds could have a material adverse effect on our business by jeopardizing critical intellectual property.

Where a product formulation or process is kept as a trade secret, third parties may independently develop or invent and patent products or processes identical to our trade-secret products or processes. This could have an adverse impact on our ability to make and sell products or use such processes and could potentially result in costly litigation in which we might not prevail.

We could face intellectual property infringement claims that could result in significant legal costs and damages and impede our ability to produce key products, which could have a material adverse effect on our business, financial condition and results of operations.

Our production processes and products are specialized; however, we could face intellectual property infringement claims from our competitors or others alleging that our processes or products infringe on their proprietary technology. If we were subject to an infringement suit, we may be required to change our processes or products, or stop using certain technologies or producing the infringing product entirely. Even if we ultimately prevail in an infringement suit, the existence of the suit could cause our customers to seek other products that are not subject to infringement suits. Any infringement suit could result in significant legal costs and damages and impede our ability to produce key products, which could have a material adverse effect on our business, financial condition and results of operations.

We depend on certain of our key executives and our ability to attract and retain qualified employees.

Our ability to operate our business and implement our strategies depends, in part, on the skills, experience and efforts of key members of our leadership team. We do not maintain any key-man insurance on any of these individuals. In addition, our success will depend on, among other factors, our ability to attract and retain other managerial, scientific and technical qualified personnel, particularly research scientists, technical sales professionals, and engineers who have specialized skills required by our business and focused on the industries in which we compete. Competition for qualified employees in the chemicals industry is intense and the loss of the services of any of our key employees or the failure to attract or retain other qualified personnel could have a material adverse effect on our business or business prospects. Further, if any of these executives or employees joins a competitor, we could lose customers and suppliers and incur additional expenses to recruit and train personnel, who require time to become productive and to learn our business.

Our majority shareholder’s interest may conflict with or differ from our interests.

Apollo controls our ultimate parent company, Hexion Holdings LLC, or Hexion Holdings, which indirectly owns 100% of our common equity. In addition, Apollo has significant representation on Hexion Holdings’ Board of Managers. As a result, Apollo can significantly influence our ability to enter into significant corporate transactions such as mergers, tender offers and the sale of all or substantially all of our assets. The interests of Apollo and its affiliates could conflict with or differ from our interests. For example, the concentration of ownership held by Apollo could delay, defer or prevent a change of control of our company or impede a merger, takeover or other business combination which may otherwise be favorable for us.

Additionally, Apollo is in the business of making investments in companies and may, from time to time, acquire and hold interests in businesses that compete, directly or indirectly with us. Apollo may also pursue acquisition opportunities that may be complementary to our business, and as a result, those acquisition opportunities may not be available to us. Additionally, even if Apollo invests in competing businesses through Hexion Holdings, such investments may be made through a newly-formed subsidiary of Hexion Holdings. Any such investment may increase the potential for the conflicts of interest discussed in this risk factor.

So long as Apollo continues to indirectly own a significant amount of the equity of Hexion Holdings, even if such amount is less than 50%, they will continue to be able to substantially influence or effectively control our ability to enter into any corporate transactions.

Because our equity securities are not and will not be registered under the securities laws of the United States or in any other jurisdiction and are not listed on any U.S. securities exchange, we are not subject to certain of the corporate governance requirements of U.S. securities authorities or to any corporate governance requirements of any U.S. securities exchanges.

If we fail to extend or renegotiate our collective bargaining agreements with our works councils and labor unions as they expire from time to time, if disputes with our works councils or unions arise, or if our unionized or represented employees were to engage in a strike or other work stoppage, our business and operating results could be materially adversely affected.

As of December 31, 2017, approximately 37% of our employees were unionized or represented by works councils that were covered by collective bargaining agreements. In addition, some of our employees reside in countries in which employment laws provide greater bargaining or other employee rights than the laws of the United States. These rights may require us to expend more time and money altering or amending employees’ terms of employment or making staff reductions. For example, most of our employees in Europe are represented by works councils, which generally must approve changes in conditions of employment, including restructuring initiatives and changes in salaries and benefits. A significant dispute could divert our management’s attention and otherwise hinder our ability to conduct our business or to achieve planned cost savings.

We may be unable to timely extend or renegotiate our collective bargaining agreements as they expire. We have collective bargaining agreements which will expire during the next two years. We also may be subject to strikes or work stoppages by, or disputes with, our labor unions. If we fail to extend or renegotiate our collective bargaining agreements, if disputes with our works councils or unions arise or if our unionized or represented workers engage in a strike or other work stoppage, we could incur higher labor costs or experience a significant disruption of operations, which could have a material adverse effect on our business, financial position and results of operations.

Our pension plans are unfunded or under-funded and our required cash contributions could be higher than we expect, each of which could have a material adverse effect on our financial condition and liquidity.

We sponsor various pension and similar benefit plans worldwide.

Our U.S. and non-U.S. defined benefit pension plans were under-funded in the aggregate by $25 and $224, respectively, as of December 31, 2017. We are legally required to make contributions to our pension plans in the future, and those contributions could be material.

In 2018, we do not expect to make any contributions to our U.S. defined benefit pension plan and we expect to contribute approximately $23 to our non-U.S. defined benefit pension plans, which we believe is sufficient to meet the minimum funding requirements as set forth in employee benefit and tax laws.

Our future funding obligations for our employee benefit plans depend upon the levels of benefits provided for by the plans, the future performance of assets set aside for these plans, the rates of interest used to determine funding levels, the impact of potential business dispositions, actuarial data and experience, and any changes in government laws and regulations. In addition, certain of our funded employee benefit plans hold a significant amount of equity securities. If the market values of these securities decline, our pension expense and funding requirements would increase and, as a result, could have a material adverse effect on our business.

Any decrease in interest rates and asset returns, if and to the extent not offset by contributions, could increase our obligations under these plans. If the performance of assets in the funded plans does not meet our expectations, our cash contributions for these plans could be higher than we expect, which could have a material adverse effect on our financial condition and liquidity.

Natural or other disasters have, and could in the future, disrupt our business and result in loss of revenue or higher expenses.

Any serious disruption at any of our facilities or our suppliers’ facilities due to hurricane, fire, earthquake, flood, terrorist attack or any other natural or man-made disaster could impair our ability to use our facilities and have a material adverse impact on our revenues and increase our costs and expenses. If there is a natural disaster or other serious disruption at any of our facilities or our suppliers’ facilities, it could impair our ability to adequately supply our customers and negatively impact our operating results. For example, our manufacturing facilities in the U.S. Gulf Coast region were impacted by Hurricane Harvey in 2017. In addition, many of our current and potential customers are concentrated in specific geographic areas. A disaster in one of these regions could have a material adverse impact on our operations, operating results and financial condition. Our business interruption insurance may not be sufficient to cover all of our losses from a disaster, in which case our unreimbursed losses could be substantial. Some of our operations are located in regions with particular exposure to natural disasters such as storms, floods, fires and earthquakes. It would be difficult or impossible for us to relocate these operations and, as a result, any of the aforementioned occurrences could materially adversely affect our business.

Cyber security attacks and other disruptions to our information systems could interfere with our operations, and could compromise our information and the information of our customers and suppliers, which would adversely affect our relationships with business partners and harm our brands, reputation and financial results.

In the ordinary course of business, we rely upon information systems, some of which are managed by third parties, to process, transmit and store digital information, and to manage or support a variety of business processes and activities, including supply chain, manufacturing, distribution, invoicing, and collection of payments from customers. We use information systems to record, process and summarize financial information and results of operations for internal reporting purposes and to comply with regulatory financial reporting, legal and tax requirements. Additionally, we collect and store sensitive data, including intellectual property, proprietary business information, the proprietary business information of our customers, suppliers and Momentive Performance Materials Inc. ("MPM") under the Shared Services Agreement, as well as personally identifiable information of our customers, suppliers and employees and MPM. The secure operation of our systems, and the processing and maintenance of this information is critical to our business operations and strategy. Despite actions to mitigate or eliminate risk, our information systems may be vulnerable to damage, disruptions or shutdowns due to the activity of hackers, employee error or malfeasance, or other disruptions including, power outages, telecommunication or utility failures, natural disasters or other catastrophic events. The occurrence of any of these events could compromise our systems and the information stored there could be accessed, publicly disclosed, lost or stolen. Any such access, disclosure or other loss of information could result in legal claims or proceedings, liability or regulatory penalties under laws protecting the privacy of personal information, disrupt operations, and damage our reputation which could adversely affect our business, financial condition and results of operations.

Divestitures that we pursue may present unforeseen obstacles and costs and alter the synergies we expect to continue to achieve from our ongoing cost reduction programs. Acquisitions and joint ventures that we pursue may present unforeseen integration obstacles and costs, increase our leverage and negatively impact our performance.

We have selectively made, and may in the future, pursue divestitures of certain of our businesses as one element of our portfolio optimization strategy. Divestitures may require us to separate integrated assets and personnel from our retained businesses and devote our resources to transitioning assets and services to purchasers, resulting in disruptions to our ongoing business and distraction of management. Divestitures may alter synergies we expect to continue to achieve from our ongoing cost reduction programs. In the event of a large divestiture, we could use a significant amount of net operating losses which could result in our U.S. Company incurring future cash taxes. In addition, divestitures may result in the retention of certain current and future liabilities as well as obligations to indemnify or reimburse a buyer for certain liabilities of a divested business. These potential obligations could have an adverse effect on our results of operations and financial condition if triggered.

In addition, we have made acquisitions of related businesses, and entered into joint ventures in the past and could selectively pursue acquisitions of, and joint ventures with, related businesses as one element of our growth strategy. If such acquisitions are consummated, the risk factors we describe above and below, and for our business generally, may be intensified.

We could face additional income tax obligations based on tax reform.

On December 22, 2017, the United States enacted tax reform legislation that included a broad range of business tax provisions, including but not limited to a reduction in the U.S. federal tax rate from 35% to 21% as well as provisions that limit or eliminate various deductions or credits. The legislation also causes U.S. expenses, such as interest and general administrative expenses, to be taxed and imposes a new tax on U.S. cross-border payments. Furthermore, the legislation includes a one-time transition tax on accumulated foreign earnings and profits.

Many aspects of the Tax Reform remain unclear, and although further clarifying guidance was issued and more is expected to be issued in the future (by the Internal Revenue Service ("IRS"), the U.S. Treasury Department or via a technical correction law change), it may not be clarified for some time. In addition, many U.S. states have not updated their laws to take into account the new federal legislation. Aspects of U.S. tax reform may lead foreign jurisdictions to respond by enacting additional tax legislation that is unfavorable to us. As a result, we have not yet been able to determine the full impact of the new laws on our results of operations and financial condition. It is possible that U.S. tax reform, or interpretations under it, could change and could have an adverse effect on us, and such effect could be material.

If we fail to establish and maintain an effective internal control environment, our ability to both timely and accurately report our financial results could be adversely affected.

Section 404 of the Sarbanes-Oxley Act of 2002 requires companies to conduct a comprehensive evaluation of their internal control over financial reporting. To comply with this statute, each year we are required to document and test our internal control over financial reporting, our management is required to assess and issue a report concerning our internal control over financial reporting.

The existence of one or more material weaknesses has resulted in, and could continue to result in, errors in our financial statements, and substantial costs and resources may be required to rectify these errors or other internal control deficiencies and may cause us to incur other costs, including potential legal expenses. If we cannot produce reliable financial reports, investors could lose confidence in our reported financial information, and we may be unable to obtain additional financing to operate and expand our business and our business and financial condition could be harmed.

We have an established process to remediate identified control deficiencies timely and we continue to take appropriate actions to strengthen our internal control over financial reporting, but we cannot assure you that the measures we have taken to date, or any measures we may take in the future, will be sufficient to avoid potential future material weaknesses.

Risks Related to Our Indebtedness

We may be unable to generate sufficient cash flows from operations to meet our consolidated debt service payments or unable to refinance our debt obligations on commercially reasonable terms.

During the first quarter of 2017, we issued $485 aggregate principal amount of 10.375% First Priority Senior Secured Notes due 2022 (the “New First Lien Notes”) and $225 aggregate principal amount of 13.75% Senior Secured Notes due 2022 (the “New Senior Secured Notes”). During the second quarter of 2017, we issued $75 aggregate principal amount of New First Lien Notes. These notes mature in February 2022 and have substantially the same terms as the New First Lien Notes issued in February 2017. In connection with the issuance of the new notes in February 2017, certain lenders under our ABL Facility provided extended revolving facility commitments in an aggregate principal amount of $350 with a maturity date of December 5, 2021 (subject to early maturity triggers), the existing commitments were terminated and the size of the ABL facility was reduced from $400 to $350.

We have substantial consolidated indebtedness. As of September 30, 2018, we had approximately $3.8 billion of consolidated outstanding indebtedness, including payments due within the next twelve months and short-term borrowings. In addition, we had a $151 undrawn revolver under our ABL Facility, subject to a borrowing base, after giving effect to $49 of outstanding letters of credit. In 2018, our annualized cash interest expense is projected to be approximately $317 based on consolidated indebtedness and interest rates at September 30, 2018, of which $309 represents cash interest expense on fixed-rate obligations.

As of September 30, 2018, approximately $162, or 4%, of our borrowings were at variable interest rates and expose us to interest rate risk. If interest rates increase, our debt service obligations on the variable rate indebtedness would increase even though the amount borrowed remained the same. Assuming our consolidated variable interest rate indebtedness outstanding as of September 30, 2018 remains the same, an increase of 1% in the interest rates payable on our variable rate indebtedness would increase our annual estimated debt service requirements by approximately $2.

Our ability to generate sufficient cash flows from operations to make scheduled debt service payments depends on a range of economic, competitive and business factors, many of which are outside of our control. We maintain normal commercial terms with our major vendors and customers. If certain of our commercial counterparties request changes to our terms, it could put additional pressure on our liquidity position and our business may generate insufficient cash flows from operations to meet our debt service and other obligations, and currently anticipated cost savings, working capital reductions and operating improvements may not be realized on schedule, or at all. If we are unable to meet our expenses and debt service obligations, we may need to refinance all or a portion of our indebtedness on or before maturity, sell assets or issue additional equity securities. We may be unable to refinance any of our indebtedness, sell assets or issue equity securities on commercially reasonable terms, or at all, which could cause us to default on our obligations and result in the acceleration of our debt obligations. Our inability to generate sufficient cash flows to satisfy our outstanding debt obligations, or to refinance our obligations on commercially reasonable terms, would have a material adverse effect on our business, financial condition and results of operations.

Our substantial indebtedness could adversely affect our ability to raise additional capital to fund our operations and limit our ability to react to changes in the economy or our industry.

Our substantial consolidated indebtedness could have other important consequences, including but not limited to the following:

- it may limit our flexibility in planning for, or reacting to, changes in our operations or business;
- we are more highly leveraged than many of our competitors, which may place us at a competitive disadvantage;
- it may make us more vulnerable to downturns in our business or in the economy;
- a substantial portion of our cash flows from operations will be dedicated to the repayment of our indebtedness and will not be available for other purposes;
- it may restrict us from making strategic acquisitions, introducing new technologies or exploiting business opportunities;
- it may make it more difficult for us to satisfy our obligations with respect to our existing indebtedness;
- it may adversely affect terms under which suppliers provide material and services to us;
- it may limit our ability to borrow additional funds or dispose of assets; and
- it may limit our ability to fully achieve possible cost savings from the Shared Services Agreement with MPM.

There would be a material adverse effect on our business and financial condition if we were unable to service our indebtedness or obtain additional financing, as needed.

Despite our substantial indebtedness, we may still be able to incur additional indebtedness. This could intensify the risks described above and below.

We may be able to incur additional indebtedness in the future. Although the terms governing our indebtedness contain restrictions on our ability to incur additional indebtedness, these restrictions are subject to numerous qualifications and exceptions, and the indebtedness we may incur in compliance with these restrictions could be substantial. Increasing our indebtedness could intensify the risks described above and below.

The terms governing our outstanding debt, including restrictive covenants, may adversely affect our operations.

The terms governing our outstanding debt contain, and any future indebtedness we incur would likely contain, numerous restrictive covenants that impose significant operating and financial restrictions on our ability to, among other things:

- incur or guarantee additional debt;
- pay dividends and make other distributions to our shareholders;
- create or incur certain liens;
- make certain loans, acquisitions, capital expenditures or investments;
- engage in sales of assets and subsidiary stock;
- enter into sale/leaseback transactions;
- enter into transactions with affiliates; and
- transfer all or substantially all of our assets or enter into merger or consolidation transactions.

In addition, the credit agreement governing our ABL Facility requires us to maintain a minimum fixed charge coverage ratio of 1.0 to 1.0 at any time when the availability is less than the greater of (x) $35 and (y) 12.5% of the lesser of the borrowing base and the total ABL Facility commitments at such time. The fixed charge coverage ratio under the credit agreement governing the ABL Facility is generally defined as the ratio of (a) Adjusted EBITDA minus non-financed capital expenditures and cash taxes to (b) debt service plus cash interest expense plus certain restricted payments, each measured for the four most recent quarters for which financial statements have been delivered. We may not be able to satisfy such ratio in future periods. If we anticipate we will be unable to meet such ratio, we expect not to allow our availability under the ABL Facility to fall below such levels.

A breach of our fixed charge coverage ratio covenant, if in effect, would result in an event of default under our ABL Facility. Pursuant to the terms of our ABL Facility, our direct parent company will have the right, but not the obligation, to cure such default through the purchase of additional equity in up to two of any four consecutive quarters and seven total during the term of the ABL Facility. If a breach of a fixed charge coverage ratio covenant is not cured or waived, or if any other event of default under the ABL Facility occurs, the lenders under such credit facility:

- would not be required to lend any additional amounts to us;
- could elect to declare all borrowings outstanding under the ABL Facility, together with accrued and unpaid interest and fees, due and payable and could demand cash collateral for all letters of credit issued thereunder;
- could apply all of our available cash that is subject to the cash sweep mechanism of the ABL Facility to repay these borrowings; and/or
- could prevent us from making payments on our notes;

any or all of which could result in an event of default under our notes.

The ABL Facility provides for “springing control” over the cash in our deposit accounts constituting collateral for the ABL Facility, and such cash management arrangements includes a cash sweep at any time that availability under the ABL Facility is less than the greater of (x) $35 and (y) 12.5% of the lesser of the borrowing base and the total ABL Facility commitments at such time. Such cash sweep, if in effect, will cause all our available cash to be applied to outstanding borrowings under our ABL Facility. If we satisfy the conditions to borrowings under the ABL Facility while any such cash sweep is in effect, we may be able to make additional borrowings under the ABL Facility to satisfy our working capital and other operational needs. If we do not satisfy the conditions to borrowing, we will not be permitted to make additional borrowings under our ABL Facility, and we will not have sufficient cash to satisfy our working capital and other operational needs.

In addition, the terms governing our indebtedness limit our ability to sell assets and also restrict the use of proceeds from that sale. We may be unable to sell assets quickly enough or for sufficient amounts to enable us to meet our obligations. Furthermore, a substantial portion of our assets is, and may continue to be, intangible assets. Therefore, it may be difficult for us to pay our consolidated debt obligations in the event of an acceleration of any of our consolidated indebtedness.

Repayment of our debt, including required principal and interest payments, depends on cash flows generated by our subsidiaries, which may be subject to limitations beyond our control.

Our subsidiaries own a significant portion of our consolidated assets and conduct a significant portion of our consolidated operations. Repayment of our indebtedness depends, to a significant extent, on the generation of cash flows and the ability of our subsidiaries to make cash available to us by dividend, debt repayment or otherwise. Our subsidiaries may not be able to, or may not be permitted to, make distributions to enable us to make payments on our indebtedness. Each subsidiary is a distinct legal entity and, under certain circumstances, legal and contractual restrictions may limit our ability to obtain cash from subsidiaries. While there are limitations on the ability of our subsidiaries to incur consensual restrictions on their ability to pay dividends or make intercompany payments, these limitations are subject to certain qualifications and exceptions. In the event that we are unable to receive distributions from our subsidiaries, we may be unable to make required principal and interest payments on our indebtedness.

A downgrade in our debt ratings could restrict our access to, and negatively impact the terms of, current or future financings or trade credit.

Standard & Poor's Ratings Services ("S&P") and Moody's Investors Service ("Moody's") maintain credit ratings on us and certain of our debt. Each of these ratings is currently below investment grade. Any decision by these or other ratings agencies to downgrade such ratings in the future could restrict our access to, and negatively impact the terms of, current or future financings and trade credit extended by our suppliers of raw materials or other vendors.

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

None.

Item 3. Defaults upon Senior Securities

None.

Item 4. Mine Safety Disclosures

This item is not applicable to the registrant.

Item 5. Other Information

None.

Item 6. Exhibits

4.1	Fourth Supplemental Indenture, dated as of June 19, 2018, by and among Hexion Inc., Hexion Deer Park LLC and Wilmington Trust, National Association, as trustee, related to the 6.625% First-Priority Senior Secured Notes due 2020.
4.2	First Supplemental Indenture, dated as of June 19, 2018, by and among Hexion Inc., Hexion Deer Park LLC and Wilmington Trust, National Association, as trustee, related to the 10.00% First-Priority Senior Secured Notes due 2020.
4.3	Third Supplemental Indenture, dated as of June 19, 2018, by and among Hexion Inc., Hexion Deer Park LLC and Wilmington Trust, National Association, as trustee, related to the 10.375% First-Priority Senior Secured Notes due 2022.
4.4	First Supplemental Indenture, dated as of June 19, 2018, by and among Hexion Inc., Hexion Deer Park LLC and Wilmington Trust, National Association, as trustee, related to the 13.75% Senior Secured Notes due 2022.
4.5	Second Supplemental Indenture, dated as of June 19, 2018, by and among Hexion Inc., Hexion Nova Scotia Finance ULC, Hexion Deer Park LLC and Wilmington Trust Company, as trustee, related to the 9.00% Second-Priority Senior Secured Notes due 2020.
31.1	Rule 13a-14 Certifications:
	(a) Certificate of the Chief Executive Officer
	(b) Certificate of the Chief Financial Officer
32.1	Section 1350 Certifications
101.INS*	XBRL Instance Document
101.SCH*	XBRL Schema Document
101.CAL*	XBRL Calculation Linkbase Document
101.DEF*	XBRL Definition Linkbase Document
101.LAB*	XBRL Label Linkbase Document
101.PRE*	XBRL Presentation Linkbase Document

* Attached as Exhibit 101 to this report are documents formatted in XBRL (Extensible Business Reporting Language). The financial information in the XBRL-related documents is “unaudited” or “unreviewed.”

SIGNATURE

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.

	HEXION INC.
Date: November 13, 2018	/s/ George F. Knight
	George F. Knight
	Executive Vice President and Chief Financial Officer
	(Principal Financial Officer)

EXECUTION VERSION

FOURTH SUPPLEMENTAL INDENTURE

FOURTH SUPPLEMENTAL INDENTURE (this "Supplemental Indenture"), dated as of June 19, 2018, among Hexion Deer Park LLC (the "Additional Subsidiary Guarantor"), a Delaware limited liability company and a direct subsidiary of Hexion Inc. (f/k/a Momentive Specialty Chemicals Inc.) (or its permitted successor) ("Holdings"), and Holdings (as successor by merger to Hexion U.S. Finance Corp.), a New Jersey corporation (the "Issuer"), and Wilmington Trust, National Association, as trustee (the "Trustee").

W I T N E S S E T H :

WHEREAS the Issuer and the Subsidiary Guarantors have heretofore executed and delivered to the Trustee an Indenture, dated as of March 14, 2012 (as amended, restated, supplemented or otherwise modified from time to time, the "Indenture"), providing for the issuance of the 6.625% First-Priority Senior Secured Notes due 2020 (the "Notes");

WHEREAS, Section 4.11 and Section 10.06 of the Indenture provide that under certain circumstances Holdings will cause the Additional Subsidiary Guarantor to execute and deliver to the Trustee a guaranty agreement pursuant to which the Additional Subsidiary Guarantor will Guarantee payment of the Notes on the same terms and conditions as those set forth in Article 10 of the Indenture; and

WHEREAS, pursuant to Section 9.01(iv) of the Indenture, the Trustee and the Issuer are authorized to execute and deliver this Supplemental Indenture.

NOW, THEREFORE, in consideration of the foregoing and for good and valuable consideration, the receipt of which is hereby acknowledged, the Issuer, the Additional Subsidiary Guarantor and the Trustee mutually covenant and agree for the equal and ratable benefit of the Holders of the Notes as follows:

SECTION 1. Capitalized Terms. Capitalized terms used herein but not defined shall have the meanings assigned to them in the Indenture.

SECTION 2. Guarantees. The Additional Subsidiary Guarantor hereby agrees, jointly and severally with all other Guarantors, to guarantee the Issuer's obligations under the Notes on the terms and subject to the conditions set forth in Article 10 of the Indenture and to be bound by all other applicable provisions of the Indenture (including Article 11).

SECTION 3. Ratification of Indenture; Supplemental Indentures Part of Indenture. Except as expressly amended hereby, the Indenture is in all respects ratified and confirmed and all the terms, conditions and provisions thereof shall remain in full force and effect. This Supplemental Indenture shall form a part of the Indenture for all purposes, and every holder of Notes heretofore or hereafter authenticated and delivered shall be bound hereby.

SECTION 4. Governing Law. **This Supplemental Indenture shall be governed by, and construed in accordance with, the laws of the state of New York.**

SECTION 5. Trustee Makes No Representation. The Trustee makes no representation as to the validity or sufficiency of this Supplemental Indenture.

SECTION 6. Counterparts. The parties may sign any number of copies of this Supplemental Indenture. Each signed copy shall be an original, but all of them together represent the same agreement.

SECTION 7. Effect of Headings. The Section headings herein are for convenience only and shall not affect the construction of this Supplemental Indenture.

[Signature Pages Follow]

IN WITNESS WHEREOF, the parties have caused this Supplemental Indenture to be duly executed as of the date first written above.

HEXION INC.,

by
/s/ Mark D. Bidstrup
Name: Mark D. Bidstrup

Title: Senior Vice President and Treasurer

Hexion Deer Park LLC,

by
/s/ Mark D. Bidstrup
Name: Mark D. Bidstrup

Title: Senior Vice President and Treasurer

WILMINGTON TRUST, NATIONAL ASSOCIATION, as Trustee

by

/s/ Jane Schweiger

Name: Jane Schweiger

Title: Vice President

FIRST SUPPLEMENTAL INDENTURE

FIRST SUPPLEMENTAL INDENTURE (this "Supplemental Indenture"), dated as of June 19, 2018, among Hexion Inc., a New Jersey corporation (the "Issuer"), Hexion Deer Park LLC (the "Additional Subsidiary Guarantor"), a Delaware limited liability company and a direct subsidiary of the Issuer (or its permitted successor), and Wilmington Trust, National Association, as trustee (the "Trustee").

W I T N E S S E T H :

WHEREAS the Issuer and the Subsidiary Guarantors have heretofore executed and delivered to the Trustee an Indenture (the "Indenture"), dated as of April 15, 2015, providing for the issuance of the 10.00% First-Priority Senior Secured Notes due 2020 (the "Notes");

WHEREAS, Section 4.11 and Section 10.06 of the Indenture provide that under certain circumstances the Issuer will cause the Additional Subsidiary Guarantor to execute and deliver to the Trustee a guaranty agreement pursuant to which the Additional Subsidiary Guarantor will Guarantee payment of the Notes on the same terms and conditions as those set forth in Article 10 of the Indenture; and

WHEREAS, pursuant to Section 9.01(iv) of the Indenture, the Trustee and the Issuer are authorized to execute and deliver this Supplemental Indenture.

NOW, THEREFORE, in consideration of the foregoing and for good and valuable consideration, the receipt of which is hereby acknowledged, the Issuer, the Additional Subsidiary Guarantor and the Trustee mutually covenant and agree for the equal and ratable benefit of the Holders of the Notes as follows:

SECTION 1. Capitalized Terms. Capitalized terms used herein but not defined shall have the meanings assigned to them in the Indenture.

SECTION 2. Guarantees. The Additional Subsidiary Guarantor hereby agrees, jointly and severally with all other Guarantors, to guarantee the Issuer's obligations under the Notes on the terms and subject to the conditions set forth in Article 10 of the Indenture and to be bound by all other applicable provisions of the Indenture (including Article 11).

SECTION 3. Ratification of Indenture; Supplemental Indentures Part of Indenture. Except as expressly amended hereby, the Indenture is in all respects ratified and confirmed and all the terms, conditions and provisions thereof shall remain in full force and effect. This Supplemental Indenture shall form a part of the Indenture for all purposes, and every holder of Notes heretofore or hereafter authenticated and delivered shall be bound hereby.

SECTION 4. Governing Law. **This Supplemental Indenture shall be governed by, and construed in accordance with, the laws of the state of New York.**

SECTION 5. Trustee Makes No Representation. The Trustee makes no representation as to the validity or sufficiency of this Supplemental Indenture.

SECTION 6. Counterparts. The parties may sign any number of copies of this Supplemental Indenture. Each signed copy shall be an original, but all of them together represent the same agreement.

SECTION 7. Effect of Headings. The Section headings herein are for convenience only and shall not affect the construction of this Supplemental Indenture.

[Signature Pages Follow]

IN WITNESS WHEREOF, the parties have caused this Supplemental Indenture to be duly executed as of the date first written above.

HEXION INC.,

by
/s/ Mark D. Bidstrup
Name: Mark D. Bidstrup

Title: Senior Vice President and Treasurer

Hexion Deer Park LLC,

by
/s/ Mark D. Bidstrup
Name: Mark D. Bidstrup

Title: Senior Vice President and Treasurer

WILMINGTON TRUST, NATIONAL ASSOCIATION, as Trustee

by
/s/ Jane Schweiger
Name: Jane Schweiger

Title: Vice President

THIRD SUPPLEMENTAL INDENTURE

THIRD SUPPLEMENTAL INDENTURE (this "Supplemental Indenture"), dated as of June 19, 2018, among Hexion Inc., a New Jersey corporation (the "Issuer"), Hexion Deer Park LLC (the "Additional Subsidiary Guarantor"), a Delaware limited liability company and a direct subsidiary of the Issuer (or its permitted successor), and Wilmington Trust, National Association, as trustee (the "Trustee").

W I T N E S S E T H :

WHEREAS, the Issuer and the Subsidiary Guarantors have heretofore executed and delivered to the Trustee an Indenture, dated as of February 8, 2017 (as amended, restated, supplemented or otherwise modified from time to time, the "Indenture"), providing for the issuance of the 10.375% First-Priority Senior Secured Notes due 2022 (the "Notes");

WHEREAS, Section 4.11 and Section 10.06 of the Indenture provide that under certain circumstances the Issuer will cause the Additional Subsidiary Guarantor to execute and deliver to the Trustee a guaranty agreement pursuant to which the Additional Subsidiary Guarantor will Guarantee payment of the Notes on the same terms and conditions as those set forth in Article 10 of the Indenture; and

WHEREAS, pursuant to Section 9.01(iv) of the Indenture, the Trustee and the Issuer are authorized to execute and deliver this Supplemental Indenture.

NOW, THEREFORE, in consideration of the foregoing and for good and valuable consideration, the receipt of which is hereby acknowledged, the Issuer, the Additional Subsidiary Guarantor and the Trustee mutually covenant and agree for the equal and ratable benefit of the Holders of the Notes as follows:

SECTION 1. Capitalized Terms. Capitalized terms used herein but not defined shall have the meanings assigned to them in the Indenture.

SECTION 2. Guarantees. The Additional Subsidiary Guarantor hereby agrees, jointly and severally with all other Guarantors, to guarantee the Issuer's obligations under the Notes on the terms and subject to the conditions set forth in Article 10 of the Indenture and to be bound by all other applicable provisions of the Indenture (including Article 11).

SECTION 3. Ratification of Indenture; Supplemental Indentures Part of Indenture. Except as expressly amended hereby, the Indenture is in all respects ratified and confirmed and all the terms, conditions and provisions thereof shall remain in full force and effect. This Supplemental Indenture shall form a part of the Indenture for all purposes, and every holder of Notes heretofore or hereafter authenticated and delivered shall be bound hereby.

SECTION 4. Governing Law. **This Supplemental Indenture shall be governed by, and construed in accordance with, the laws of the state of New York.**

SECTION 5. Trustee Makes No Representation. The Trustee makes no representation as to the validity or sufficiency of this Supplemental Indenture.

SECTION 6. Counterparts. The parties may sign any number of copies of this Supplemental Indenture. Each signed copy shall be an original, but all of them together represent the same agreement.

SECTION 7. Effect of Headings. The Section headings herein are for convenience only and shall not affect the construction of this Supplemental Indenture.

[Signature Pages Follow]

IN WITNESS WHEREOF, the parties have caused this Supplemental Indenture to be duly executed as of the date first written above.

HEXION INC.,

by
/s/ Mark D. Bidstrup
Name: Mark D. Bidstrup

Title: Senior Vice President and Treasurer

Hexion Deer Park LLC,

by
/s/ Mark D. Bidstrup
Name: Mark D. Bidstrup

Title: Senior Vice President and Treasurer

WILMINGTON TRUST, NATIONAL ASSOCIATION, as Trustee

by
/s/ Jane Schweiger
Name: Jane Schweiger

Title: Vice President

EXECUTION VERSION

FIRST SUPPLEMENTAL INDENTURE

FIRST SUPPLEMENTAL INDENTURE (this “Supplemental Indenture”), dated as of June 19, 2018, among Hexion Inc., a New Jersey corporation (the “Issuer”), Hexion Deer Park LLC (the “Additional Subsidiary Guarantor”), a Delaware limited liability company and a direct subsidiary of the Issuer (or its permitted successor), and Wilmington Trust, National Association, as trustee (the “Trustee”).

W I T N E S S E T H :

WHEREAS, the Issuer and the Subsidiary Guarantors have heretofore executed and delivered to the Trustee an Indenture (the “Indenture”), dated as of February 8, 2017, providing for the issuance of the 13.75% Senior Secured Notes due 2022 (the “Notes”);

WHEREAS, Section 4.11 and Section 10.06 of the Indenture provide that under certain circumstances the Issuer will cause the Additional Subsidiary Guarantor to execute and deliver to the Trustee a guaranty agreement pursuant to which the Additional Subsidiary Guarantor will Guarantee payment of the Notes on the same terms and conditions as those set forth in Article 10 of the Indenture; and

WHEREAS, pursuant to Section 9.01(iv) of the Indenture, the Trustee and the Issuer are authorized to execute and deliver this Supplemental Indenture.

NOW, THEREFORE, in consideration of the foregoing and for good and valuable consideration, the receipt of which is hereby acknowledged, the Issuer, the Additional Subsidiary Guarantor and the Trustee mutually covenant and agree for the equal and ratable benefit of the Holders of the Notes as follows:

SECTION 1. Capitalized Terms. Capitalized terms used herein but not defined shall have the meanings assigned to them in the Indenture.

SECTION 2. Guarantees. The Additional Subsidiary Guarantor hereby agrees, jointly and severally with all other Guarantors, to guarantee the Issuer’s obligations under the Notes on the terms and subject to the conditions set forth in Article 10 of the Indenture and to be bound by all other applicable provisions of the Indenture (including Article 11).

SECTION 3. Ratification of Indenture; Supplemental Indentures Part of Indenture. Except as expressly amended hereby, the Indenture is in all respects ratified and confirmed and all the terms, conditions and provisions thereof shall remain in full force and effect. This Supplemental Indenture shall form a part of the Indenture for all purposes, and every holder of Notes heretofore or hereafter authenticated and delivered shall be bound hereby.

SECTION 4. Governing Law. **This Supplemental Indenture shall be governed by, and construed in accordance with, the laws of the state of New York.**

SECTION 5. Trustee Makes No Representation. The Trustee makes no representation as to the validity or sufficiency of this Supplemental Indenture.

SECTION 6. Counterparts. The parties may sign any number of copies of this Supplemental Indenture. Each signed copy shall be an original, but all of them together represent the same agreement.

SECTION 7. Effect of Headings. The Section headings herein are for convenience only and shall not affect the construction of this Supplemental Indenture.

[Signature Pages Follow]

IN WITNESS WHEREOF, the parties have caused this Supplemental Indenture to be duly executed as of the date first written above.

HEXION INC.,

by
/s/ Mark D. Bidstrup
Name: Mark D. Bidstrup

Title: Senior Vice President and Treasurer

Hexion Deer Park LLC,

by
/s/ Mark D. Bidstrup
Name: Mark D. Bidstrup

Title: Senior Vice President and Treasurer

WILMINGTON TRUST, NATIONAL ASSOCIATION, as Trustee

by

/s/ Jane Schweiger

Name: Jane Schweiger

Title: Vice President

EXECUTION VERSION

SECOND SUPPLEMENTAL INDENTURE

SECOND SUPPLEMENTAL INDENTURE (this "Supplemental Indenture"), dated as of June 19, 2018 among Hexion Deer Park LLC (the "Additional Subsidiary Guarantor"), a Delaware limited liability company and a direct subsidiary of Hexion Inc. (f/k/a Momentive Specialty Chemicals Inc.) (or its permitted successor) ("Holdings"), Holdings (as successor by merger to Hexion U.S. Finance Corp.), a New Jersey corporation, and Hexion Nova Scotia Finance, ULC, a Nova Scotia unlimited liability company (the "Issuers"), and Wilmington Trust Company, as trustee (the "Trustee").

W I T N E S S E T H :

WHEREAS the Issuers and the Subsidiary Guarantors have heretofore executed and delivered to the Trustee an Indenture, dated as of November 5, 2010 (as amended, restated, supplemented or otherwise modified from time to time, the "Indenture"), providing for the issuance of the 9.0% Second-Priority Senior Secured Notes due 2020 (the "Notes");

WHEREAS, Section 4.11 and Section 10.06 of the Indenture provide that under certain circumstances Holdings will cause the Additional Subsidiary Guarantor to execute and deliver to the Trustee a guaranty agreement pursuant to which the Additional Subsidiary Guarantor will Guarantee payment of the Notes on the same terms and conditions as those set forth in Article 10 of the Indenture; and

WHEREAS, pursuant to Section 9.01(iv) of the Indenture, the Trustee and the Issuers are authorized to execute and deliver this Supplemental Indenture.

NOW THEREFORE, in consideration of the foregoing and for good and valuable consideration, the receipt of which is hereby acknowledged, the Issuers, the Additional Subsidiary Guarantor and the Trustee mutually covenant and agree for the equal and ratable benefit of the Holders of the Notes as follows:

SECTION 1. Capitalized Terms. Capitalized terms used herein but not defined shall have the meanings assigned to them in the Indenture.

SECTION 2. Guarantees. The Additional Subsidiary Guarantor hereby agrees, jointly and severally with all other Guarantors, to guarantee the Issuers' obligations under the Notes on the terms and subject to the conditions set forth in Article 10 of the Indenture and to be bound by all other applicable provisions of the Indenture (including Article 11).

SECTION 3. Ratification of Indenture; Supplemental Indentures Part of Indenture. Except as expressly amended hereby, the Indenture is in all respects ratified and confirmed and all the terms, conditions and provisions thereof shall remain in full force and effect. This Supplemental Indenture shall form a part of the Indenture for all purposes, and every holder of Notes heretofore or hereafter authenticated and delivered shall be bound hereby.

SECTION 4. Governing Law. **THIS SUPPLEMENTAL INDENTURE SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK.**

SECTION 5. Trustee Makes No Representation. The Trustee makes no representation as to the validity or sufficiency of this Supplemental Indenture.

SECTION 6. Counterparts. The parties may sign any number of copies of this Supplemental Indenture. Each signed copy shall be an original, but all of them together represent the same agreement.

SECTION 7. Effect of Headings. The Section headings herein are for convenience only and shall not effect the construction of this Supplemental Indenture.

[Signature Pages Follow]

IN WITNESS WHEREOF, the parties have caused this Supplemental Indenture to be duly executed as of the date first written above.

HEXION INC.,

by
/s/ Mark D. Bidstrup
Name: Mark D. Bidstrup

Title: Senior Vice President and Treasurer

HEXION NOVA SCOTIA FINANCE, ULC,

by
/s/ Mark D. Bidstrup
Name: Mark D. Bidstrup

Title: Senior Vice President and Treasurer

Hexion Deer Park LLC,

by
/s/ Mark D. Bidstrup
Name: Mark D. Bidstrup

Title: Senior Vice President and Treasurer

WILMINGTON TRUST COMPANY, as Trustee

by
/s/ John T. Needham, Jr.
Name: John T. Needham, Jr.

Title: Vice President

Exhibit 31.1(A)

Certification of Financial Statements and Internal Controls

I, Craig A. Rogerson, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Hexion Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 13, 2018

/s/ Craig A. Rogerson

Craig A. Rogerson
Chief Executive Officer

Exhibit 31.1(B)

Certification of Financial Statements and Internal Controls

I, George F. Knight, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Hexion Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 13, 2018

/s/ George F. Knight

George F. Knight

Chief Financial Officer

Exhibit 32.1

Certification Pursuant To
18 U.S.C. Section 1350,
As Adopted Pursuant to
Section 906 Of The Sarbanes-Oxley Act of 2002

In connection with the Quarterly Report of Hexion Inc. (the “Company”) on Form 10-Q for the period ended September 30, 2018 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), the undersigned, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15 (d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Craig A. Rogerson	/s/ George F. Knight
Craig A. Rogerson	George F. Knight
Chief Executive Officer	Chief Financial Officer
November 13, 2018	November 13, 2018

A signed original of this statement required by Section 906 has been provided to Hexion Inc. and will be retained by Hexion Inc. and furnished to the Securities and Exchange Commission or its staff upon request.