Huntsman CORP
Form 10-K
February 12, 2019
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

Form 10 K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE FISCAL YEAR ENDED DECEMBER 31, 2018

OR

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

Commission File Number	Exact Name of Registrant as Specified in its Charter, Principal Office Address and Telephone Number	State of Incorporation/Organization	I.R.S. Employer Identification No.
001 32427	Huntsman Corporation 10003 Woodloch Forest Drive The Woodlands, Texas 77380 (281) 719 6000	Delaware	42 1648585
333 85141	Huntsman International LLC 10003 Woodloch Forest Drive The Woodlands, Texas 77380 (281) 719 6000	Delaware	87 0630358

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

Registrant	Title of each class	Name of each exchange on which registered
Huntsman Corporation	Common Stock, par value $0.01 per share	New York Stock Exchange
Huntsman International LLC	None	None

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

Registrant	Title of each class
Huntsman Corporation	None
Huntsman International LLC	None

Indicate by check mark if the registrant is a well known seasoned issuer, as defined in Rule 405 of the Securities Act.

Huntsman Corporation	YES	NO
Huntsman International LLC	YES	NO

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act.

Huntsman Corporation	YES	NO
Huntsman International LLC	YES	NO

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act 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.

Huntsman Corporation	YES	NO
Huntsman International LLC	YES	NO

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Huntsman Corporation	YES	NO
Huntsman International LLC	YES	NO

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S K is not contained herein, and will not be contained, to the best of the registrants' knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10 K or any amendment to this Form 10 K.

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

Huntsman Corporation	Large accelerated filer	Accelerated filer	Non accelerated filer	Smaller reporting company	Emerging Growth Companies
Huntsman International LLC	Large accelerated filer	Accelerated filer	Non accelerated filer	Smaller reporting company	Emerging Growth Companies

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 7(a)(2)(B) of the Securities Act.

Huntsman Corporation	YES	NO
Huntsman International LLC	YES	NO

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b 2 of the Exchange Act).

Huntsman Corporation	YES	NO
Huntsman International LLC	YES	NO

On June 29, 2018, the last business day of the registrants' most recently completed second fiscal quarter, the aggregate market value of voting and non voting common equity held by non affiliates was as follows:

Registrant	Common Equity	Market Value Held by Nonaffiliates
Huntsman Corporation	Common Stock	$6,285,496,925(1)
Huntsman International LLC	Units of Membership Interest	$0(2)

(1)Based on the closing price of $29.20 per share of common stock as quoted on the New York Stock Exchange.

(2)All units of membership interest are held by Huntsman Corporation, an affiliate.

On January 31, 2019, the number of shares outstanding of each of the registrant's classes of common equity were as follows:

Registrant	Common Equity	Outstanding
Huntsman Corporation	Common Stock	233,379,080
Huntsman International LLC	Units of Membership Interest	2,728

This Annual Report on Form 10 K presents information for two registrants: Huntsman Corporation and Huntsman International LLC. Huntsman International LLC is a wholly owned subsidiary of Huntsman Corporation and is the principal operating company of Huntsman Corporation. The information reflected in this Annual Report on Form 10 K is equally applicable to both Huntsman Corporation and Huntsman International LLC, except where otherwise indicated.

Huntsman International LLC meets the conditions set forth in General Instructions (I)(1)(a) and (b) of Form 10 K and, to the extent applicable, is therefore filing this form with a reduced disclosure format.

Documents Incorporated by Reference

Part III: Proxy Statement for the 2018 Annual Meeting of Stockholders to be filed within 120 days of

Huntsman Corporation's fiscal year ended December 31, 2018.

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HUNTSMAN CORPORATION AND SUBSIDIARIES

HUNTSMAN INTERNATIONAL LLC AND SUBSIDIARIES

2018 ANNUAL REPORT ON FORM 10 K

This report includes information with respect to market share, industry conditions and forecasts that we obtained from internal industry research, publicly available information (including industry publications and surveys), and surveys and market research provided by consultants. The publicly available information and the reports, forecasts and other research provided by consultants generally state that the information contained therein has been obtained from sources believed to be reliable. We have not independently verified any of the data from third party sources, nor have we ascertained the underlying economic assumptions relied upon therein. Similarly, our internal research and forecasts are based upon our management's understanding of industry conditions, and such information has not been verified by any independent sources.

For convenience in this report, the terms "Company," "our," "us," or "we" may be used to refer to Huntsman Corporation and, unless the context otherwise requires, its subsidiaries and predecessors. Any references to our "Company," "we," "us" or "our" as of a date prior to October 19, 2004 (the date of our formation) are to Huntsman Holdings, LLC and its subsidiaries (including their respective predecessors). In this report, "Huntsman International" refers to Huntsman International LLC (our 100% owned subsidiary) and, unless the context otherwise requires, its subsidiaries; "AAC" refers to Arabian Amines Company, our consolidated manufacturing joint venture with the Zamil Group; "HPS" refers to Huntsman Polyurethanes Shanghai Ltd. (our consolidated splitting joint venture with Shanghai Chlor Alkali Chemical Company, Ltd); "Sasol Huntsman" refers to Sasol Huntsman GmbH and Co. KG (our consolidated joint venture with Sasol that owns and operates a maleic anhydride facility in Moers, Germany); and "SLIC" refers to Shanghai Liengheng Isocyanate Investment BV (an unconsolidated manufacturing joint venture with BASF and three Chinese chemical companies).

In this report, we may use, without definition, the common names of competitors or other industry participants. We may also use the common names or abbreviations for certain chemicals or products. Many of these terms are defined in the Glossary of Chemical Terms found at the conclusion of "Part I. Item 1. Business" below.

Forward-Looking Statements

With respect to Huntsman Corporation, certain information set forth in this report contains "forward looking statements" within the meaning the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. All statements other than historical factual information are forward looking statements, including without limitation statements regarding: projections of revenue, expenses, profit, profit margins, tax rates, tax provisions, cash flows, pension and benefit obligations and funding requirements, our liquidity position or other projected financial measures; management's plans and strategies for future operations, including statements relating to anticipated operating performance, cost reductions, restructuring activities, new product and service developments, competitive strengths or market position, acquisitions, divestitures, spin offs or other distributions, strategic opportunities, securities offerings, stock repurchases, dividends and executive compensation; growth, declines and other trends in markets we sell into; new or modified laws, regulations and accounting pronouncements; outstanding claims, legal proceedings, tax audits and assessments and other contingent liabilities; foreign currency exchange rates and fluctuations in those rates; general economic and capital markets conditions; the timing of any of the foregoing; assumptions underlying any of the foregoing; and any other statements that address events or developments that we intend or believe will or may occur in the future. In some cases, forward looking statements can be identified by terminology such as "believes," "expects," "may," "will," "should," "anticipa "intends" or the negative of such terms or other comparable terminology, or by discussions of strategy. We may also

make additional forward looking statements from time to time. All such subsequent forward looking statements, whether written or oral, by us or on our behalf, are also expressly qualified by these cautionary statements.

All forward looking statements, including without limitation management's examination of historical operating trends, are based upon our current expectations and various assumptions. Our expectations, beliefs and projections are expressed in good faith and we believe there is a reasonable basis for them, but there can be no assurance that management's expectations, beliefs and projections will result or be achieved. All forward looking statements apply only as of the date made. We undertake no obligation to publicly update or revise forward looking statements whether because of new information, future events or otherwise, except as required by securities and other applicable law.

There are a number of risks and uncertainties that could cause our actual results to differ materially from the forward looking statements contained in or contemplated by this report. Any forward looking statements should be considered in light of the risks set forth in "Part I. Item 1A. Risk Factors" and elsewhere in this report.

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PART I

ITEM 1. BUSINESS

General

We are a global manufacturer of differentiated organic chemical products. Our Company, a Delaware corporation, was formed in 2004 to hold the Huntsman businesses, which were founded by Jon M. Huntsman. Mr. Huntsman founded the predecessor to our Company in 1970 as a small polystyrene plastics packaging company. Since then, we have grown through a series of significant acquisitions and now own a global portfolio of businesses.

We operate all of our businesses through Huntsman International, our 100% owned subsidiary. Huntsman International is a Delaware limited liability company and was formed in 1999.

Our principal executive offices are located at 10003 Woodloch Forest Drive, The Woodlands, Texas 77380, and our telephone number at that location is (281) 719 6000.

RECENT DEVELOPMENTS

Separation and Deconsolidation of Venator

In August 2017, we separated our Titanium Dioxide and Performance Additives business ("the P&A Business") and conducted an initial public offering ("IPO") of ordinary shares of Venator Materials PLC ("Venator"), formerly a wholly-owned subsidiary of Huntsman ("the Separation"). Additionally, in December 2017, we conducted a secondary offering of Venator ordinary shares. All of such ordinary shares were sold by Huntsman, and Venator did not receive any proceeds from the offerings. Venator's ordinary shares began trading on The New York Stock Exchange under the symbol "VNTR" on August 3, 2017. On January 3, 2018, the underwriters purchased an additional 1,948,955 Venator ordinary shares pursuant to their over-allotment option, which reduced Huntsman's ownership interest in Venator to approximately 53%. Beginning in the third quarter of 2017, we reported the results of operations of Venator as discontinued operations.

During the third quarter of 2018, we recognized a net after tax valuation allowance of $270 million to adjust the carrying amount of the assets and liabilities held for sale and the amount of accumulated comprehensive income recorded in equity related to Venator to the lower of cost or estimated fair value, less cost to sell.

On December 3, 2018, we sold an aggregate of 4,334,389, or 4%, of Venator ordinary shares to Bank of America N.A. at a price to be determined based on the average of the daily volume weighted average price of Venator ordinary shares over an agreed period. Over this agreed period, we received aggregate proceeds of $19 million, $16 million of which was received in the first quarter of 2019. This transaction allowed us to deconsolidate Venator beginning in December 2018. Following this transaction, we retained approximately 49% ownership in Venator. In connection with the deconsolidation of Venator, we recorded a pretax loss of $427 million in discontinued operations to record our remaining ownership interest in Venator at fair value. We elected the fair value option to account for our equity method investment in Venator post deconsolidation. Accordingly, at December 31, 2018, we recorded a pretax loss of $57 million to record our equity method investment in Venator at fair value. This loss was recorded in "Fair value adjustments to Venator investment" on our consolidated statements of operations. For more information, see "Note 4. Discontinued Operations and Business Dispositions—Separation and Deconsolidation of Venator" to our consolidated financial statements.

Unsecured Revolving Credit Facility

On May 21, 2018, Huntsman International entered into a new $1.2 billion senior unsecured revolving credit facility (the "2018 Revolving Credit Facility"). Borrowings under the 2018 Revolving Credit Facility will bear interest at the rates specified in the credit agreement governing the 2018 Revolving Credit Facility, which will vary based on the type of loan and Huntsman International's debt ratings. Unless earlier terminated, the 2018 Revolving Credit Facility will mature in May 2023. Huntsman International may increase the 2018 Revolving Credit Facility commitments up to an additional $500 million, subject to the satisfaction of certain conditions. See "Note 14. Debt—Direct and Subsidiary Debt—Credit Facility" to our consolidated financial statements.

In connection with entering into the 2018 Revolving Credit Facility, Huntsman International terminated all commitments and repaid all obligations under its previous $650 million senior secured revolving credit facility (the "Prior Credit Facility"). In addition, we recognized a loss of early extinguishment of debt of $3 million. Upon the

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termination of the Prior Credit Facility, all guarantees of the obligations under the Prior Credit Facility were terminated, and all liens granted under the Prior Credit Facility were released.

Share Repurchase Program

On February 7, 2018 and on May 3, 2018, our Board of Directors authorized us to repurchase up to an additional $950 million in shares of our common stock in addition to the $50 million remaining under our September 2015 share repurchase authorization. During the year ended December 31, 2018, we repurchased 10,405,457 shares of our common stock for approximately $276 million, excluding commissions, under the repurchase program. From January 1, 2019 through January 31, 2019, we repurchased an additional 537,018 shares of our common stock for approximately $11 million, excluding commissions.

Demilec Acquisition

On April 23, 2018, we acquired 100% of the outstanding equity interests of Demilec (USA) Inc. and Demilec Inc. (collectively, "Demilec") for approximately $353 million, including working capital adjustments, in an all-cash transaction ("Demilec Acquisition"), which was funded from our Prior Credit Facility and our U.S. accounts receivable securitization program ("U.S. A/R Program"). Demilec is a leading North American manufacturer and distributor of spray polyurethane foam formulations for residential and commercial applications. The acquired business is being integrated into our Polyurethanes segment. See "Note 3. Business Combination" to our consolidated financial statements.

Overview

We are a global manufacturer of differentiated organic chemical products. We operate in four segments: Polyurethanes, Performance Products, Advanced Materials and Textile Effects. Our products comprise a broad range of chemicals and formulations, which we market globally to a diversified group of consumer and industrial customers. Our products are used in a wide range of applications, including those in the adhesives, aerospace, automotive, construction products, personal care and hygiene, durable and non-durable consumer products, digital inks, electronics, medical, packaging, coatings and construction, power generation, refining, synthetic fiber, textile chemicals and dyes industries. We are a leading global producer in many of our key product lines, including MDI, amines, surfactants, maleic anhydride, epoxy-based polymer formulations, textile chemicals and dyes.

In August 2017, we separated our P&A Business through an IPO of ordinary shares of Venator, formerly our wholly-owned subsidiary. Beginning in the third quarter of 2017, we reported the results of operations of Venator as discontinued operations. On December 3, 2018, we sold an additional 4% of Venator ordinary shares which allowed us to immediately deconsolidate Venator and account for our remaining ownership interest in Venator as an equity method investment using the fair value option. See "Note 4. Discontinued Operations and Business Dispositions—Separation and Deconsolidation of Venator" to our consolidated financial statements. In a series of transactions beginning in 2006, we sold or shut down substantially all of our Australian styrenics operations and our North American polymers and base chemicals operations. We also report the results of these businesses as discontinued operations.

As of December 31, 2018, we employed approximately 10,000 associates worldwide. Our revenues for the years ended December 31, 2018, 2017 and 2016 were $9,379 million, $8,358 million and $7,518 million, respectively.

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Our Products

Our Polyurethanes, Performance Products, Advanced Materials and Textile Effects segments produce differentiated organic chemical products. Growth in our differentiated products has been driven by the substitution of our products for other materials and by the level of global economic activity. Accordingly, the profitability of our differentiated products has been somewhat less influenced by the cyclicality that typically impacts the petrochemical industry.

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(1)Percentage allocations in this chart do not give effect to Corporate and other unallocated items and eliminations. For a reconciliation of adjusted EBITDA to net income attributable to Huntsman Corporation and cash provided by operating activities, see “Part II. Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations.”

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The following table identifies the key products, principal end markets and applications, representative customers, raw materials and representative competitors of each of our business segments:

	Product Line	End Markets / Applications	Representative Customers	Raw Materials	Representative Competitors
Polyurethanes	MDI	Polyurethane chemicals are used to produce rigid and flexible foams, as well as coatings, adhesives, sealants and elastomers. They are also used in refrigeration and appliance insulation, construction products, adhesives, automotive, footwear, furniture, cushioning, specialized engineering applications.	BMW, Electrolux, Firestone, Haier, Henkel, Lear, Louisiana Pacific, Norbord and Recticel	Benzene =>Nitrobenzene and Aniline	Wanhua Chemical Group, BASF, DowDuPont, Covestro and LyondellBasell
	Polyols	Polyols are combined with MDI and other isocynates to create a broad spectrum of polyurethane products, such as rigid foam, flexible foam and other non-foam applications.		Mostly PO, some EO	
	TPU	TPU is a high-quality, fully formulated thermal plastic that can be tailored with unique qualities. It can be used in injection molding and small components for automotive and footwear. It is also extruded into films, wires and cables for use in the coatings, adhesives, sealants and elastomers markets.		Isocyanate (such as MDI) and a polyol	
	Propylene Oxide	PO is an intermediate product used in polyols and PG. PG is used in antifreeze, personal		(Iso)butane, propylene and oxygen	

		care, etc.			
	MTBE	MTBE is an oxygenate that is blended with gasoline to reduce harmful vehicle emissions and to enhance the octane rating of the gasoline.	PMI and Castleton	Tertiary butyl alcohol (byproduct of our PO process) and methanol	LyondellBasell , TPC and Enterprise Products
	Amines	Amines are a family of intermediate chemicals that are valued for their properties as a reactive agent, emulsifier, dispersant, detergent, solvent or corrosion inhibitor. Amines are used in personal care products, polyurethane foam, fuel and lubricant additives, paints and coatings, composites, gas treatment and construction materials.	Afton, Ecolab, Chevron Oronite, Evonik, Hexion, Infineum, Ingevity, Lubrizol, Bayer, Procter & Gamble and PPG	Internal: EO, PO and glycols External: ethylene dichloride, caustic soda, ammonia, hydrogen, methylamines and acrylonitrile	BASF, Delamine, DowDuPont, Eastman, Evonik, Nouryon and Tosoh
	Maleic Anhydride	Maleic anhydride is an intermediate chemical used primarily to produce unsaturated polyester resins (UPRs). UPRs are mainly used in the production of fiberglass reinforced resins for marine, automotive and construction products. Maleic anhydride is also used in the production of lubricants, food additives and food acidulants.	AOC, Ashland, Chevron Oronite, Cranston, Dixie, Ingevity, Lubrizol, MFG Chemical, Polynt-Reichhold and Tate & Lyle	Normal butane	Lanxess, INEOS, Bartek and Ashland
Performance Products	Surfactants	Surfactants are mainly used for their detergency and cleaning in laundry detergent, personal care, industrial and institutional cleaning applications. They are	Bayer, Procter & Gamble, Henkel, Unilever, Innospec, Stepan, NuFarm, Lubrizol, Ingevity and Ecolab	Internal: EO, EG and PO External: synthetic and natural alcohols, alpha olefin, tallow amine and nonylphenol	Shell, Sasol, DowDuPont, Clariant, BASF, Croda and Oxiteno

	also valued for their emulsification, foaming, dispersing and wetting properties. Specialty surfactants are used in agrochemicals, oilfield, fuel and lubricant additives, electronic chemical, mining, construction, coating and textile treatment.			
Linear Alkyl-Benzene (LAB)	LAB is a surfactant intermediate that is primarily used in producing linear alkyl-benzene sulfonate (LAS). LAS is used in laundry detergent. Additionally, specialty alkylate can be used in lubricant additive and oilfield applications.	Procter & Gamble, Colgate, Lubrizol, Unilever, Henkel and Church & Dwight	Benzene, normal paraffin and alpha olefin	Cepsa, Sasol, Isu, Formosan Union Chemical and Jin Tung Petrochemical
Ethylene Glycol (EG)	EG is primarily used in the production of polyester fibers, PET packaging and antifreeze.	DAK Americas, Helm and used internally	Internally produced EO	MEGlobal, Shell and Sabic
Ethylene Oxide (EO)	EO is an intermediate chemical used internally to produce EG, surfactants, carbonates, amines and polyols.	Used internally	Ethylene	Internal consumption
Olefins	Ethylene and propylene are used internally to produce EO & PO	Used internally	Ethane	Internal consumption

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	Product Line	End Markets / Applications	Representative Customers	Raw Materials	Representative Competitors
Advanced Materials	Technologically advanced epoxy, acrylic and polyurethane based polymer formulations	Aerospace and industrial adhesives, composites for aerospace, automotive, oil and gas and wind power generation; construction and civil engineering; industrial coatings; electrical power transmission; consumer electronics and DIY adhesives.	Acciona Blades, Bodo Moeller, Freeman, Hilti, Lianyungang, Schneider, Siemens, Speed Fair, Syngenta and Viasystems	BLR, epichlorohydrin, amines, polyols, isocyanates, acrylic materials, hardeners and fillers	Henkel, Sika, 3M, Sumitomo, Hexion, Elantas and Olin
	High performance thermoset resins and curing agents	High performance chemical building blocks sold to formulators who develop formulations for aerospace, automotive, oil and gas, coatings, construction, electronics, electrical insulation applications.	Cytec, Hexcel and Toray	Epichlorohydrin (ECH), amines, phenols, aminophenols, fatty acids	Hexion, Olin, Sumitomo and Evonik
	Base Liquid Resins (BLR), Base Solid Resins (BSR)	BLR is used internally and is the basic building block for many of our downstream products. Approximately 69% of what we produce is used internally and the rest is sold into	Akzo, Omya and Sherwin Williams	Epichlorohydrin, bisphenol A (BPA), BLR, MDA and phenol and aminophenols	Olin, Hexion, Kukdo and NanYa

		the merchant market.			
Textile Effects	Chemicals, Dyes & Inks	Textile dyes add color to textiles from cotton, polyester and nylon, while textile chemicals improve the performance characteristics of the textile. These are used in apparel, home and technical textiles. Home and institutional textiles include textiles that are used within the home or institutions such as hotels. Functional and technical textiles include automotive textiles, carpet, military fabrics protective wear, nonwoven and other technical fabrics.	Esquel Group, Fruit of the Loom, Guilford Mills, Hanesbrands, Kahatex, Nice Cotton, Sage Automotive, Tencate, Y.R.C. and Zaber & Zubair	Thousands of raw materials, with no one representing more than 5% of raw material costs	Dyes: Archroma, DyStar, Longsheng, Runtu and Jihua Chemicals: Archroma, DyStar, Transfar/Tannatex, CHT and Rudolf Digital Inks: JK Group, Sensient/Xennia, DowDuPont, DyStar, and SPG

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Polyurethanes

General

We are a leading global manufacturer and marketer of a broad range of polyurethane chemicals, including MDI products, PO, polyols, PG and TPU (each discussed in more detail below under "—Products and Markets"). Polyurethane chemicals are used to produce rigid and flexible foams, as well as coatings, adhesives, sealants and elastomers. We focus on the higher margin, higher growth markets for specialty MDI and MDI based polyurethane systems. Volume growth in our Polyurethanes segment has been driven primarily by the continued substitution of MDI based products for other materials across a broad range of applications. We operate six primary polyurethane manufacturing facilities in the U.S., Europe and China. We operate six primary polyurethane manufacturing facilities in the U.S., Europe and China. We also operate 29 strategically located downstream facilities, 25 of them are polyurethane formulation facilities, commonly referred to in the chemical industry as "systems houses," located in close proximity to our customers worldwide (see facilities listed in "—Item 2. Properties" below), which enables us to focus on customer support, technical service and a differentiated product offering. We also operate a specialty polyol manufacturing facility focused on the insulation market and three downstream TPU manufacturing facilities in the U.S., Europe and China.

Our customers produce polyurethane products through the combination of an isocyanate, such as MDI, with polyols, which are derived largely from PO and EO. We are able to produce over 2,500 distinct MDI based polyurethane products by modifying the MDI molecule through varying the proportion and type of polyol used and by introducing other chemical additives to our MDI formulations. As a result, polyurethane products, especially those derived from MDI, are continuing to replace traditional products in a wide range of end use markets, including insulation in construction and appliances, cushioning for automotive and furniture, coatings, adhesives, wood binders for construction and furniture, footwear and other specialized engineering applications.

We are one of three North American producers of PO. We and some of our customers process PO into derivative products, such as polyols for polyurethane products, PG and various other chemical products. End uses for these derivative products include applications in the home furnishings, construction, appliances, packaging, automotive and transportation, food, paints and coatings and cleaning products industries. We also produce MTBE as a co product of our PO manufacturing process. MTBE is an oxygenate that is blended with gasoline to reduce harmful vehicle emissions and to enhance the octane rating of gasoline. See "—Item 1A. Risk Factors."

In 1992, we were the first global supplier of polyurethane chemicals to open a technical service center in China. We have since expanded this facility to include an integrated polyurethanes formulation facility and a world scale research and development campus. In January 2003, we entered into two related joint ventures to build MDI production and finishing facilities near Shanghai, China in Caojing. In June 2006, HPS, a consolidated joint venture, began production at our MDI finishing plant. In September 2006, SLIC, an unconsolidated joint venture, began production at the MNB, aniline and crude MDI plants. We completed capacity expansions of these facilities during the first quarter of 2018. These world scale facilities strengthen our ability to service our customers in the critical Chinese market, the largest MDI market in the world, and will support the long term demand growth that we believe this region will continue to experience. Additionally, in November 2012, we entered into an agreement with Sinopec to form a joint venture to build a world scale PO/MTBE plant in Nanjing, China utilizing our proprietary PO/MTBE manufacturing technology. The facility was completed in early 2017 and beneficial commercial operations began in the second half of 2017. We own a 49% interest in the joint venture and account for our interest in the joint venture as an equity method investment.

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Products and Markets

MDI is used primarily in rigid foam applications and in a wide variety of customized, higher value flexible foam as well as coatings, adhesives, sealants and elastomers. Polyols, including polyether and polyester polyols, are used in conjunction with MDI in rigid foam, flexible foam and other non foam applications. PO is one of the principal raw materials for producing polyether polyols. The following chart illustrates the range of product types and end uses for polyurethane chemicals. We produce MDI, PO, Polyols and TPU products and do not produce TDI products.

Polyurethane chemicals are sold to customers who combine the chemicals to produce polyurethane products. Depending on their needs, customers will use either component polyurethane chemicals produced for mass sales or polyurethane systems tailored for their specific requirements. By varying the blend, additives and specifications of the polyurethane chemicals, manufacturers are able to develop and produce a breadth and variety of polyurethane products.

Our strategy is focused on growing our differentiated product offering (specialty MDI and polyols, formulated MDI systems and TPU), which requires a greater emphasis on formulating capability to provide our downstream customers with the end effect required in their applications These differentiated products tend to require technical solutions, offer higher margins, lower volatility and are less dependent on industry utilization rates compared to sales of component MDI or component polyols.

MDI. MDI has grown substantially over the past three decades, increasing by a factor of 6% to 7% CAGR, well in excess of global GDP. MDI has a substantially larger market size and a higher growth rate than other polyurethane isocyanates. This is primarily because MDI can be used to make polyurethanes with a broader range of properties and can therefore be used in a wider range of applications. We believe that MDI and formulated MDI systems, which combine MDI and polyols, will continue to grow at approximately double the rate of global GDP driven by the mega trends of energy management, food preservation, demographics and urbanization/transportation. MDI offers key products benefits of energy efficiency, comfort and durability aligned with these megatrends. We believe that MDI and formulated MDI systems will continue to substitute for alternative materials such as fiberglass in insulation, phenol formaldehyde in wood binders and TDI in automotive and furniture. Specialty cushioning and insulation applications, thermoplastic polyurethanes and adhesives and coatings will further contribute to the continued growth of MDI. MDI experiences some seasonality in its sales reflecting its exposure to seasonal construction related end markets such as insulation and composite wood products. Sales generally peak during the spring and summer months in the northern hemisphere, resulting in greater sales volumes during the second and third quarters of the year. MTBE also experiences some seasonality in its sales revenue in the northern hemisphere (primarily North America and Europe) during the summer driving season. Demand for MTBE, an additive to gasoline, increases during that time, resulting in increased selling prices for MTBE during the second and third quarters.

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TPU. TPU is a high quality, fully formulated thermal plastic derived from the reaction of MDI or an aliphatic isocyanate with polyols to produce unique qualities such as durability, flexibility, strength, abrasion resistance, shock absorbency and chemical resistance. We can tailor the performance characteristics of TPU to meet the specific requirements of our customers. TPU is used in injection molding and small components for the automotive and footwear industries. It is also extruded into films for apparel, wires and cables for industrial use and in a wide variety of applications in the coatings, adhesives, sealants and elastomers markets.

Polyols. Polyols are combined with MDI and other isocyanates to create a broad spectrum of formulated polyurethane systems. Demand for specialty polyols has been growing at approximately the same rate at which MDI consumption has grown.

Aniline. Aniline is an intermediate chemical used primarily to manufacture MDI. The majority of our aniline is consumed internally with some sold to third parties. We believe that the lack of a significant spot market for aniline means that in order to remain competitive, MDI manufacturers must either be integrated with an aniline manufacturing facility or have a long term, cost competitive aniline supply contract.

PO. PO is an intermediate chemical used mainly to produce a wide range of polyols and PG. Demand for PO depends largely on overall economic demand, especially that of consumer durables. Strategically, we use PO produced at our world scale PO/MTBE facility in Port Neches, Texas, downstream in our formulated MDI systems. We also constructed a PO/MTBE facility in Nanjing, China with the strategic aim of supplying PO downstream into our China business, accelerating our differentiated growth in the world's largest PU market. In addition, we also have an important internal strategic outlet for PO, downstream into our Performance Products amines business, which generates significant added value to the PO molecule.

MTBE. MTBE is an oxygenate that is blended with gasoline to reduce harmful vehicle emissions and to enhance the octane rating of gasoline. While MTBE has been effectively eliminated in the U.S., demand continues to grow in other regions of the world. See "—Item 1A. Risk Factors." In 2011, we announced the signing of a license agreement with Chinese chemicals manufacturer Yantai Wanhua Polyurethanes Co., Ltd, for the production of PO and MTBE. In November 2012, we entered into an agreement to form a joint venture with Sinopec to construct and operate a PO/MTBE facility in China. Under the joint venture agreement, we hold a 49% interest in the joint venture and Sinopec holds a 51% interest. See "—Manufacturing and Operations" below and "Part II. Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations."

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It is important to recognize the strategic link between PO, polyols and MDI. MTBE is a co product of the PO manufacturing process and is used in the gasoline market. Our strategic focus is on growing our differentiated (specialty MDI and polyols, formulated MDI based systems and TPU) sales and the diagram below provides an overview of that focus with an approximation of the number of grades, formulations, products and stock keeping units which we produce and sell.

Sales and Marketing

We market our polyurethane chemicals to over 6,000 customers in more than 90 countries. Our sales, marketing and technical resources are organized to support major regional markets and key end use markets, some of which requires a coordinated global approach, such as key accounts across the automotive sector. These key end use markets include the commercial and residential insulation, appliance, automotive, footwear, furniture and coatings, adhesives, sealants and elastomers industries. We sell both directly and indirectly to customers, the latter via a network of distributors and agents who in turn sell our products to customers who cannot be served as cost effectively by our internal sales groups.

We provide a wide variety of polyurethane solutions as components (i.e., the isocyanate or the polyol) or in the form of “systems” in which we provide the total isocyanate and polyol formulation to our customers. Our ability to deliver a range of polyurethane solutions and technical support tailored to meet our customers’ needs is critical to our long term success. We have strategically located our downstream polyurethane systems houses close to our customers, enabling us to focus on customer support and technical service. We believe this customer support and technical service system contributes to customer retention and also provides opportunities for identifying further product and service needs of customers.

Our strategy is to grow the number of and capability of our downstream facilities both organically and inorganically. As a result, we have made a number of “bolt on” acquisitions in recent years to expand our downstream footprint and align with our strategic intent.

We believe that the extensive market knowledge and industry experience of our sales teams and technical experts, in combination with our strong emphasis on customer relationships, have facilitated our ability to establish and maintain long term customer supply positions. Our sales strategy is to continue to increase sales to existing customers and to attract new customers by providing innovative solutions, quality products, reliable supply, competitive prices and superior customer service.

Manufacturing and Operations

Our world scale MDI production facilities are located in Geismar, Louisiana; Rotterdam, The Netherlands; and through our joint ventures in Caojing, China. These facilities receive aniline, which is a primary material used in the production of MDI, from our facilities located in Geismar, Louisiana; Wilton, U.K.; and Caojing, China. We believe that this relative scale and product integration of our large facilities is necessary to provide cost competitiveness in MDI

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production. The following table sets forth the annual production capacity of polyurethane chemicals at each of our polyurethanes facilities:

	MDI	Polyols	TPU	Aniline	Nitrobenzene	PO	PG	MTBE
	(millions of pounds)							(millions of gallons)
Caojing, China	825 (1)							
Geismar, Louisiana	1,060	160		706 (2)	1,000 (2)			
Houston, Texas		170						
Jinshan, China			40					
Nanjing, China						529 (3)		260 (3)
Osnabrück, Germany		26	59					
Port Neches, Texas						525	145	260
Ringwood, Illinois			28					
Rotterdam, The Netherlands	1,036	190						
Wilton, U.K.				783	1,045			
Total	2,921	546	127	1,489	2,045	1,054	145	520

(1) Represents our share of capacity from SLIC.

(2) Represents our approximately 78% share of capacity under our consolidated Rubicon LLC manufacturing joint venture with Lanxess AG.

(3) Represents our approximately 49% share of capacity under joint venture agreement with Sinopec Jinling Company, a subsidiary of Sinopec.

At our Geismar, Rotterdam and Caojing facilities we utilize sophisticated proprietary technology to produce MDI. This technology contributes to our position as a low-cost MDI producer. In addition to MDI, we use a proprietary manufacturing process to manufacture PO. We own or license all technology and know how developed and utilized at our PO facility. Our process combines isobutane and oxygen in proprietary oxidation (peroxidation) reactors, thereby forming TBHP and TBA, which are further processed into PO and MTBE, respectively. Because our PO production process is less expensive relative to other technologies and allows PO co products to be processed into saleable or useable materials, we believe that our PO production technology possesses several distinct advantages over its alternatives.

Joint Ventures

Rubicon Joint Venture. Lanxess AG ("Lanxess") is our joint venture partner in Rubicon LLC, which owns aniline, nitrobenzene and DPA manufacturing facilities in Geismar, Louisiana. We are entitled to approximately 85% of the nitrobenzene and aniline production capacity of Rubicon LLC, and Lanxess is entitled to 100% of the DPA production. In addition to operating the joint venture's aniline, nitrobenzene and DPA facilities, Rubicon LLC operates our wholly owned MDI, polyol and maleic anhydride facilities at Geismar and is responsible for providing other auxiliary services to the entire Geismar complex. As a result of this joint venture, we are able to achieve greater scale and lower costs for our products than we would otherwise have been able to obtain. Rubicon LLC is consolidated in our financial statements.

Chinese MDI Joint Ventures. We are involved in two related joint ventures which operate MDI production facilities in Caojing, China. SLIC, our manufacturing joint venture with BASF and three Chinese chemical companies, produces MNB, aniline and crude MDI. We effectively own 35% of SLIC and account for our investment under the equity method. HPS, our splitting joint venture with Shanghai Chlor Alkali Chemical Company, Ltd, manufactures pure MDI, polymeric MDI, MDI variants and formulated MDI systems. We own 70% of HPS and it is consolidated in our financial statements. These projects have been funded by a combination of equity invested by the joint venture partners and borrowed funds. We completed capacity expansions of these facilities in the first quarter of 2018. The total production capacity of the SLIC facilities is 1,280 million pounds per year of MDI, of which HPS is entitled to 825 million pounds.

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Chinese PO/MTBE Joint Venture. In November 2012, we entered into an agreement to form a joint venture with Sinopec. The joint venture involves the construction and operation of a PO/MTBE facility in China. Under the joint venture agreement, we hold a 49% interest in the joint venture and Sinopec holds a 51% interest. At the end of 2018, cumulative capital contributions were approximately $76 million, net of license fees from the joint venture. We received additional license fees of $7 million during 2018. Beneficial commercial operations began during the second half of 2017.

Raw Materials

The primary raw materials for MDI based polyurethane chemicals are benzene and PO. Benzene is a widely available commodity that is the primary feedstock for the production of MDI and aniline. Historically, benzene has been the largest component of our raw material costs. We purchase benzene from third parties to manufacture nitrobenzene and aniline, almost all of which we then use to produce MDI.

A major cost in the production of polyols is attributable to the costs of PO. The integration of our PO business with our polyurethane chemicals business gives us access to a competitively priced, strategic source of PO and the opportunity to develop polyols that enhance our range of MDI products. The primary raw materials used in our PO production process are butane/isobutane, propylene, methanol and oxygen.

Competition

Our major competitors in the polyurethane chemicals market include BASF, Covestro, DowDuPont, Wanhua Chemical Group and LyondellBasell. While these competitors and others produce various types and quantities of polyurethane chemicals, we focus on MDI and MDI based formulated polyurethane systems. Our downstream business is fragmented with different competitors in various markets and regions. Our competitors in downstream markets include Kingspan, Carlisle and Coim. Our polyurethane chemicals business competes in two basic ways: (1) where price is the dominant element of competition, our polyurethane chemicals business differentiates itself by its high level of customer support, including cooperation on technical and safety matters; and (2) elsewhere, we compete on the basis of product performance, our ability to react quickly to changing customer needs and providing customers with innovative solutions to their needs.

Performance Products

General

Our Performance Products segment has leading global positions in the manufacture and sale of amines, surfactants and maleic anhydride and serves a wide variety of consumer and industrial end markets. Our Performance Products segment is organized by region and product family. Our product families are: amines, maleic anhydride (including catalyst and licensing), surfactants (including LAB) and upstream intermediates.

We produce a wide range of amines, many of which are sold into specialty markets such as epoxy curing agents, oil exploration and production, agrochemicals, and fuel and lubricant additives. We believe we are the largest global producer of polyetheramines, one of the largest producers of 2 (2 amino ethoxy) ethanol, sold under our DGA™ brand, the largest global producer making the full range of ethyleneamines, the second largest producer of morpholine and the second largest North American producer of ethanolamines. We are the only producer and largest supplier of propylene carbonate and ethylene carbonate in North America. Many of the markets for these products have growth rates in excess of global GDP.

We believe we are the largest global producer of maleic anhydride, a highly versatile chemical intermediate that is used to produce UPRs, which are mainly used in the production of fiberglass reinforced resins for marine, automotive and construction products. Maleic anhydride is also used in the production of lubricants, food additives and artificial sweeteners. We are also the leading licensor of maleic anhydride manufacturing technology and are amongst the largest suppliers of fixed bed catalyst used in the manufacture of maleic anhydride from n-butane.

We consume internally produced and third party sourced base petrochemicals in the manufacture of our surfactants, LAB and ethanolamines products. We produce a broad range of surfactants, which are primarily used in detergency, personal care, agrochemical, oilfield and industrial applications. We manufacture LAB for use as an intermediate in laundry detergents and a higher molecular weight alkylate used as a lubricant additive.

We also use internally produced and third party sourced ethylene to produce EG, which is primarily used in the production of polyester fibers, PET packaging and antifreeze.

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Beginning in 2013, our Performance Products segment initiated a restructuring program to refocus its surfactants business in Europe. In connection with this program, in 2014 we completed the sale of our European commodity surfactants business, including the ethoxylation facility in Lavera, France to Wilmar. Additionally, in 2014 we ceased production at our Patrica, Italy surfactants facility. In December 2015, we announced plans for a reorganization of our commercial and technical functions and a refocused divisional business strategy to better position our segment for growth in coming years and we launched a program to capture growth opportunities, improve manufacturing cost efficiency and reduce inventories. In 2016, we expanded our EO capacity by 265 million pounds at our Port Neches, Texas facility. In December 2016, we completed the sale of our European differentiated surfactants business to Innospec Inc. for $199 million in cash plus our retention of trade receivables and payables for an enterprise value of $225 million. We remain committed to our global surfactants business, including in the U.S. and Australia, where our differentiated surfactants businesses are backward integrated into essential feedstocks.

We operate 14 Performance Products manufacturing facilities in North America, Europe, the Middle East, Asia and Australia.

The following chart illustrates the primary raw materials used and range of product types produced by the Performance Products segment:

Products and Markets

Amines. Amines are a family of intermediate chemicals that are produced by reacting ammonia with various ethylene and propylene derivatives. Generally, amines are valued for their properties as a reactive agent, emulsifier, dispersant, solvent or corrosion inhibitor. Growth in demand for amines is highly correlated with GDP growth. However, certain segments of the amines market, such as polyetheramines, have historically grown at rates in excess of GDP growth due to new product development, technical innovation and end use substitution. As amines are generally sold based upon the performance characteristics that they provide to customer specific end use applications, pricing does not

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generally fluctuate directly with movements in underlying raw materials. Our amines business is organized around the following product groups:

Product Group	Applications
Polyetheramines	Epoxy composites, polyurethane foams and insulation, construction and flooring, paints and coatings, lubricant and fuel additives, adhesives, agrochemicals, oilfield chemicals, printing inks, pigment dispersion
Ethyleneamines	Chemical building block used in lubricant and fuel additives, epoxy hardeners, wet strength resins, chelating agents, fungicides
Ethanolamines	Wood preservatives, herbicides, construction products, gas treatment, metalworking, personal care
Other specialty amines, including DGA™ Agent	Gas treating, agricultural chemicals, personal care, lubricant and fuel additives, polyurethane foams, fabric softeners, paints and coatings, refinery processing, water treating

Polyetheramines are produced by reacting polyol with ammonia. They provide sophisticated performance characteristics as an additive in the manufacture of highly customized epoxy formulations, enabling customers to penetrate new markets and substitute for traditional curing materials.

Our ethyleneamines are manufactured by reacting EDC and caustic soda with ammonia to produce a range of various ethyleneamines homologues having different molecular weights. Most other producers utilize a reductive amination process, which yields a light slate of ethyleneamines. We believe our heavier slate of homologues allows access to a greater range of markets.

Ethanolamines are produced by the reaction of EO with ammonia. There are three primary homologues (MEA, DEA, and TEA) with a wide range of market applications as noted above. Competition is limited due to the technical and cost barriers to entry.

Our amines are used in a wide variety of mainly industrial applications, including composites, paints and coatings, polyurethane foam, fuel and lubricant additives, and solvents. Our key amines customers include Afton, Chevron-Oronite, Ecolab, Evonik, Hexion, Infineum, Ingevity, Lubrizol, Bayer, Procter & Gamble and PPG.

Maleic Anhydride (including catalyst and licensing). Maleic anhydride is a highly versatile chemical intermediate that is used to produce UPRs, which are the main ingredient in fiberglass reinforced resins used for marine and automotive applications and commercial and residential construction products. Maleic anhydride is also used in the production of lubricants, food additives and artificial sweeteners.

Product Group	Applications
Maleic anhydride	Boat hulls, automotive, construction, lubricant and fuel additives, countertops, agrochemicals, paper and food additives
Maleic anhydride catalyst and technology licensing	Maleic anhydride, 1-4 butanediol (BDO) and its derivatives, including polybutylene terephthalate (PBT) production

Maleic anhydride is produced by oxidizing either benzene or normal butane through the use of a catalyst. Our maleic anhydride technology is a proprietary fixed bed butane-based process with a solvent recovery and refining system. We believe that our process is superior in the areas of feedstock and energy efficiency and solvent recovery. The maleic anhydride based route to BDO manufacture is currently the preferred process technology and is favored over the other

routes, which utilize PO, butadiene or acetylene as feedstocks. As a result, the growth in demand for BDO supports growing demand for our maleic anhydride technology and catalyst. Generally, changes in price have resulted from a combination of changes in industry capacity utilization and underlying raw material costs.

We license our maleic anhydride technology and supply our catalysts to licensees and to worldwide merchant customers. Revenue from licensing and catalyst comes from new plant commissioning, as well as current plant retrofits and routine catalyst changes. Our licensing group also licenses technology on behalf of other Performance Products businesses and other segments.

Our key maleic anhydride customers include AOC, Ashland, Chevron Oronite, Cranston, Dixie, Ingevity, Lubrizol, MFG Chemical, Polynt-Reichhold and Tate & Lyle.

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Surfactants (including LAB). Surfactants or “surface active agents” are substances that combine a water soluble component with a water insoluble component in the same molecule. While surfactants are most commonly used for their detergency in cleaning applications, they are also valued for their emulsification, foaming, dispersing, penetrating and wetting properties in a variety of industries.

We are a leading global manufacturer of nonionic surfactants products and are characterized by our breadth of product offering and market coverage. Following the sale of our European surfactants business to Innospec at the end of 2016, we now have certain products toll manufactured in Europe.

Product Group	Applications
Surfactants	Home and personal care, agricultural chemicals, construction, paper de inking and lubricants
Specialty alkylates	Precursors for lubricant additives
LAB	Consumer, industrial and institutional detergents

Demand growth for surfactants used in basic detergency applications is relatively stable and exhibits little cyclicality. However, many product applications for surfactants can demand new formulations with improved performance characteristics, which affords considerable opportunity for innovative surfactants manufacturers like us to provide surfactants and blends with differentiated specifications and properties. We continue to strengthen and diversify our surfactant product offering into formulated specialty surfactant products for use in various industrial applications such as leather and textile treatment, foundry and construction, agrochemicals, fuels and lubricants, personal care and polymers and coatings.

For basic surfactants, pricing tends to have a strong relationship to underlying raw material prices and usually lags raw material price movements. Surfactants used in more specialty applications are generally sold based upon the performance characteristics that they provide to customer specific end use application. Our key surfactants customers include Bayer, Procter & Gamble, Henkel, Unilever, Innospec, Stephan, NuFarm, Lubrizol, Ingevity and Ecolab.

LAB is a surfactant intermediate, which is produced through the reaction of benzene with either normal paraffins or linear alpha olefins. Nearly all the LAB produced globally is converted into LAS, a major anionic surfactant used worldwide for the production of consumer, industrial and institutional laundry detergents. We also manufacture a higher molecular weight alkylate, which is used as an additive to lubricants. Our key customers for LAB and specialty alkylates include Procter & Gamble, Colgate, Lubrizol, Unilever, Henkel and Church & Dwight.

Upstream Intermediates. We consume internally produced and third party sourced base petrochemicals in the manufacture of our surfactants, LAB, and ethanolamines products, which are primarily used in detergency, consumer products and industrial applications. We also produce EG, which is primarily used in the production of polyester fibers and PET packaging.

We consume internally produced EO to produce three homologues of EG: MEG, DEG and TEG. MEG is consumed primarily in the polyester (fiber and bottle resin) and antifreeze markets and is also used in a wide variety of industrial applications including synthetic lubricants, plasticizers, solvents and emulsifiers. DEG is consumed internally to produce Morpholine and DGA™ Agent and polyols. TEG is used internally to produce polyols and is sold into the market for dehydration of natural gas. We continue to optimize our EO and EG operations depending on the fundamental market demand for EG.

Product Group	Applications
EG	

Polyester fibers and PET bottle resins, heat transfer and hydraulic fluids, chemical intermediates, natural gas and hydrocarbon treating agents, unsaturated polyester resins, polyester polyols, plasticizers, solvent

Sales and Marketing

We sell over 1,000 products to over 2,000 customers globally through our Performance Products regional sales and marketing organizations, which have extensive market knowledge, considerable chemical industry experience and well-established customer relationships.

In more specialty markets (e.g., energy, materials, additives, processing chemicals and agrochemicals), our marketing efforts are focused on how our product offerings perform in certain customer applications. We believe that

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this approach enhances the value of our product offerings and creates opportunities for ongoing differentiation in our development activities with our customers.

Our intermediate surfactants are sold mainly into the home and personal care market for which we have a dedicated marketing group. We also sell EG directly.

We provide extensive pre and post sales technical service support to our customers where our technical service professionals work closely with our research and development functions to tailor our product offerings to meet our customers unique and changing requirements. These technical service professionals interact closely with our marketing managers and business leadership teams to help guide future offerings and market approach strategies. In addition to our focused direct sales efforts, we maintain an extensive global network of distributors and agents that also sell our products. These distributors and agents typically promote our products to smaller end use customers who cannot be served cost effectively by our direct sales forces.

Manufacturing and Operations

Our Performance Products segment has the capacity to produce more than six billion pounds annually of a wide variety of products and formulations at 14 manufacturing locations in North America, EAME, Asia and Australia. These production capacities are as follows:

	Current capacity			
Product Area	North America	EAME	APAC(1)	Total
	(millions of pounds)			
Amines	1,063	237 (2)	107	1,407
Surfactants	660		135	795
LAB	400			400
Maleic anhydride	340	231 (3)		571
Carbonates	52			52
EG	1,000		55	1,055
EO	1,300		100	1,400
Ethylene	480			480
Propylene	140			140

(1) Asia Pacific region including India (“APAC”).

(2) Includes up to 30 million pounds of ethyleneamines that are made available from DowDuPont’s Terneuzen, The Netherlands facility by way of a long term supply arrangement and 70 million pounds from AAC, our consolidated 50% owned joint venture, located in Jubail, Saudi Arabia.

(3) Represents total capacity of a facility owned by Sasol Huntsman, of which we own a 50% equity interest and Sasol owns the remaining 50% interest. We have consolidated the financial results of this entity since April 2011.

Our amines facilities are located globally. These facilities have a competitive cost base and use modern manufacturing units that allow for flexibility in production capabilities and technical innovation.

Almost all of our surfactants facilities in the U.S. and Asia have integrated EO supply, which we believe gives us a competitive cost advantage.

Our primary ethylene, propylene, EO, EG and ethanolamines facilities are located in Port Neches, Texas alongside our Polyurethanes PO/MTBE facility. The Port Neches, Texas facility benefits from extensive logistics infrastructure, which allows for efficient sourcing of other raw materials and distribution of finished products.

A number of our facilities are located within large integrated petrochemical manufacturing complexes. We believe this results in greater scale and lower costs for our products than we would be able to obtain if these facilities were stand alone operations. These include our LAB facility in Chocolate Bayou, Texas; our maleic anhydride facilities in Pensacola, Florida, Geismar, Louisiana and Moers, Germany and our ethyleneamines facility in Freeport, Texas.

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Joint Ventures

Ethyleneamines Joint Venture. Since July 1, 2010, we have consolidated the results of AAC, our 50% owned joint venture with the Zamil Group. AAC operates an ethyleneamines manufacturing plant in Jubail, Saudi Arabia. The plant has an approximate annual capacity of 60 million pounds. We purchase and sell all of the production from this joint venture.

Maleic Anhydride Joint Venture. Since the second quarter of 2011, we have consolidated the results of Sasol Huntsman, our 50% owned maleic anhydride joint venture. This entity operates a manufacturing facility in Moers, Germany with the capacity to produce 230 million pounds of maleic anhydride. The output from the facility is sold in the European region.

Raw Materials

We have the capacity to produce 480 million pounds of ethylene and 140 million pounds of propylene, depending on feedstocks, at our Port Neches, Texas facility. All of the ethylene is used to produce EO and all of the propylene is used to produce PO at our Port Neches, Texas facility (primarily for our Polyurethanes segment). We have the capacity to use approximately 1.0 billion pounds of ethylene each year in the production of EO and ethyleneamines. Accordingly, we purchase or toll the remainder of our ethylene requirements from third parties. We consume all our EO in the manufacture of our EG, surfactants, carbonates and amines products. We also use internally produced PO and EG in the manufacture of these products.

In addition to internally produced raw materials, the main raw materials used in the production of our amines are EDC, caustic soda, ammonia, hydrogen, methylamines and acrylonitrile. The majority of these raw materials are available from multiple sources in the merchant market at competitive prices.

Maleic anhydride is produced by the reaction of normal butane with oxygen using our proprietary catalyst. The principal raw material is normal butane, which is purchased pursuant to long term contracts and delivered to our Pensacola, Florida site by barge, to our facility in Geismar, Louisiana via pipeline and to our Moers, Germany joint venture site by railcar. Our maleic anhydride catalyst is toll manufactured by a third party according to our proprietary methods. These raw materials are available from multiple sources at competitive prices.

In the production of surfactants and LAB, our primary raw materials, in addition to internally produced EO and internally produced and third-party sourced ethylene, are synthetic and natural alcohols, paraffin, alpha olefins, benzene and nonylphenol. All of these raw materials are widely available in the merchant market at competitive prices.

Competition

There are a small number of competitors for many of our amines due to the considerable customization of product formulations, the proprietary nature of many of our product applications and manufacturing processes and the relatively high research and development and technical costs involved. Our global competitors include AkzoNobel, BASF, Delamine, DowDuPont, Evonik and Tosoh. We compete primarily on the basis of product performance, new product innovation and, to a lesser extent, on the basis of price.

In our maleic anhydride market, we compete primarily on the basis of price, customer service, technical support and logistics management. Our competitors include Lanxess, INEOS, Bartek and Ashland. We are a leading global supplier of fixed bed catalyst for the manufacture of maleic anhydride from n-butane. The main competitors in the fixed bed n-butane based maleic anhydride catalyst market include Clariant and Polynt-Reichhold. In our maleic

anhydride technology licensing market, our primary competitor is Conser. We compete primarily on the basis of technological performance and service.

In surfactants, we compete in a broad range of markets with major global suppliers as well as various smaller or more local competitors. Our major competitors include Shell, Sasol, DowDuPont, Clariant, BASF and Croda. For our more specialty offerings into markets such as agrochemicals, oilfield and personal care, we compete on the basis of the performance of our product in customer applications, service and price. Competition in much of the detergency market is based principally on price and reliability of supply.

There are numerous global producers of EG. Our main competitors include global companies such as MEGlobal, Shell and Sabic, as well as various smaller or more local competitors. We compete primarily on the basis of price.

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Advanced Materials

General

Our Advanced Materials segment is a leading global manufacturer and marketer of technologically advanced epoxy, acrylic and polyurethane based polymer products. We focus on formulations and systems that are used to address customer specific needs in a wide variety of industrial and consumer applications. Our products are used either as replacements for traditional materials or in applications where traditional materials do not meet demanding engineering specifications. For example, structural adhesives are used to replace metal rivets and advanced composites are used to replace traditional aluminum panels and other steel materials to lighten structures in aerospace, automotive and other transportation. Our Advanced Materials segment is characterized by the breadth of our product offering, our expertise in complex chemistry, our long standing relationships with our customers, our ability to develop and adapt our technology and our applications expertise for new markets and new applications.

We operate synthesis, formulating and production facilities in North America, Europe, Asia, and South America. We sell to more than 1,800 customers in the following end markets: aerospace, automotive, liquid natural gas transport, coatings and construction, printed circuit boards, consumer, industrial and automotive electronics, consumer and industrial appliances, wind power generation, consumer/do it yourself (“DIY”), electrical power transmission and distribution, recreational sports equipment, medical appliances and food and beverage packaging.

Products and Markets

Aerospace. Our Advanced Materials segment is a leading global supplier of advanced, high performance materials for the fabrication and repair of aircraft components. We supply leading aerospace companies with innovations in composites, adhesives, laminating and repair systems.

We offer a wide range of materials to the aerospace market under the ARALDITE®, EPIBOND®, EPOCAST® and URALANE® brands. Many of these products are qualified under the specification of major aerospace original equipment manufacturers (“OEM”), complying with appropriate regulations governing large civil aircraft.

Transportation and Industrial. We offer to the automotive, recreational sports equipment and industrial composite markets, including leading automotive OEM’s and Tier 1 suppliers, high end composite formulations. Lightweight, strength, flexibility, shorter cycle time and fatigue resistance are key requirements of our industrial partners. Our Advanced Materials segment had numerous awards from the JEC Composite Association for innovation in the composite industry.

ARALDITE® is an important brand in high performance adhesive technologies. We offer formulation expertise in various chemistries, including epoxies, polyurethanes, methacrylates and phenolics. Our materials address requirements such as long open times for large area applications, fast curing adhesives for early removal and rapid through put, resistance to high temperature, water and chemicals, thixotropy for gap filling or vertical applications, and toughness, impact resistance and elasticity to cope with different thermal expansions when bonding larger structures. Our adhesives are used in a large variety of industrial applications and in the consumer / do it yourself (DIY) market.

Electrical Engineering and Electronics. We are a leading global supplier of insulating materials for motors, generators, switchgears, distribution and instrument transformers, and insulators and bushings for utility and industrial applications. The products formulated by our Advanced Materials segment are designed to provide an extended service life and meet specific industry requirements for electrical insulation in indoor and outdoor environments.

In the field of electronics, our Advanced Materials segment has a long history delivering a wide range of solutions meeting stringent requirements for electronics applications, such as high temperature and chemical resistance, flame retardancy and excellent mechanical and dielectric properties. The strong global push for e-vehicles opens up new opportunities in e-motor encapsulation.

Coatings and Construction. We offer expertise in curing technologies and a portfolio of specialized resins and additives to the manufacturers of paints and construction materials. Our specialty resins and additives, including epoxy hardeners and high solid or water based components, enable customers to address challenging industry requirements such as resistance to aggressive chemicals and high temperature, adhesion to difficult substrates, excellent mechanical properties, high drying speed and easy re-coatability, low temperature and sub-zero cure. Our product technologies enhance performance and productivity at low VOC and environmental impact in several coatings and construction applications, like heavy duty protection, marine, transportation, food packaging, flooring and chemical anchoring.

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Wind and Base Resins. Our products are used by leading wind blade manufacturers on a large range of applications from plugs to complete composite turbine blade production, as well as its assembly and repair. Our portfolio includes standard products as well as custom made solutions formulated to meet specific customer requirements.

We also offer basic liquid and solid epoxy resins to the general formulators market.

Sales and Marketing

We maintain multiple routes to market to service our diverse and fragmented customer base throughout the world. These routes to market range from using our own direct sales force, technically oriented distribution to mass distribution. Our direct sales force focuses on engineering solutions for our major customers who purchase significant amount of product. We use technically oriented specialist distributors to augment our sales effort in niche markets and applications where we do not believe it is appropriate to develop direct sales resources. We use mass general distribution channels to sell our products into a wide range of general applications where technical expertise is less important, which reduces our overall selling expenses. We believe our use of multiple routes to market enables us to reach a broader customer base at an efficient cost.

We conduct sales activities through dedicated regional sales teams in EMEAI, Asia and the Americas. Our global customers are covered by key account managers who are familiar with the specific requirements of these customers. The management of long standing customer relationships is critical to the sales and marketing process.

For our consumer/DIY range, with the exception of the Indian market, we have entered into branding and distribution arrangements. Under these arrangements, our distribution partners fund advertising and sales promotions, negotiate and sell to major retail chains, own inventories and provide store deliveries (and sometimes shelf merchandising) in exchange for ARALDITE® branded, ready to sell packaged products.

Manufacturing and Operations

We are a global business serving customers in three principal geographic regions: EAMEI, Asia and the Americas. To service our customers efficiently, we maintain manufacturing plants around the world with a strategy of global, regional and local manufacturing employed to optimize the level of service and minimize the cost to our customers. The following table summarizes the plants that we operate:

Raw Materials

The principal raw materials we purchase for the manufacture of basic and advanced epoxy resins are epichlorohydrin, bisphenol A, MDA, phenol and aminophenols. We also purchase amines, polyols, isocyanates, acrylic materials, hardeners and fillers for the production of our formulated polymer systems and complex chemicals and additives. Raw material costs constitute a sizeable percentage of the costs for certain applications. We have supply contracts with a number of suppliers. The terms of our supply contracts vary, but, in general, these contracts contain provisions that set forth the quantities of product to be supplied and purchased. Formula pricing is sometimes used if advantageous for the business.

Additionally, we produce large volumes of some of our most important raw materials, such as BLR and its basic derivatives, which are the basic building blocks of many of our products. Approximately 70% of the BLR we produce is consumed internally in our downstream products. The balance of our BLR is sold in the merchant market, allowing us to increase the utilization of our production plants and lower our overall BLR production cost.

We consume certain amines produced by our Performance Products segment and isocyanates produced by our Polyurethanes segment, which we use to formulate Advanced Materials products.

Competition

The markets in which Advanced Materials competes are diverse and require an appropriate human capital and asset footprint to compete effectively. The competitive intensity, capital investment and development of proprietary technology and maintenance of product research and development are all market specific. We operate dedicated technology centers in Basel, Switzerland; The Woodlands, Texas; and Shanghai, China in support of our product and technology development. Among our competitors are some of the world’s largest chemical companies with integrated raw material value chains to formulation companies that leverage intellectual and highly proprietary technology for problem solving.

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Aerospace. Our leading market position is driven by our specialty resins and formulations offerings backed by customer specific certifications, quality and consistency. These products are value added, and differentiated, backed by many years of reliable global supply and service. Our major competitors include Hexion, Sumitomo, Wakayama Seika, 3M and Henkel.

Transportation and Industrial. Our composite and adhesive markets are being driven by light weighting, cost effective production and assembling, and are serviced by our leading positions in systems formulations backed by application and process manufacturing knowledge. Our product offering allows for reliable and competitive solutions, with a strong ARALDITE® brand reputation, a robust supply chain and a specialized distribution channel to fulfill customers' expectant demand for service & quality. Our major competitors include Dow, Hexion, Henkel, Sika and 3M.

Electrical Engineering and Electronics. Our competitive position in these diverse markets is primarily based on formulations expertise, product reliability and performance, process expertise and technical support. Our competitive strengths result from our focus on defined market segment needs, our long standing customer relationships, product reliability and technical performance, and reputation and recognition as a quality supplier. Our major competitors in these markets are Hexion, Hitachi, Nagase, Xiongrun, Peters, Taiyo, Elantas, 3M and Lord.

Coatings and Construction. Our long-standing position in these markets is served by our specialty resins and additives. Our additives and specialty resins offerings, including epoxy hardeners and high solid or water based components, are value added products that allow our customers to differentiate their own products. Our major competitors include AirProducts / Evonik, Allnex, Hexion, BASF, EMS, Nissan and Kukdo.

Wind and Base Resins. The wind market for thermoset resins is being driven by light weighting and energy efficiency and our product offering with standard products and custom-made formulations allows for competitively priced solutions backed by an effective supply chain. The market for basic liquid and solid epoxy resins is driven by global supply-and demand and industry consolidation and rationalization continues as a trend as macro economic factors affect profitability and supply balance. Our major competitors in these markets include OLIN, Hexion, NanYa, Kukdo, Chang Chun and Adytia Birla.

Textile Effects

Our Textile Effects segment is a major global solutions provider in the wet processing of textiles across pretreatment, coloration, printing and finishing and provides a diverse portfolio of textile chemicals, dyes and digital inks. Our textile solutions provide color and enhance the aesthetic, durability and performance of finished textiles, including functionality such as wrinkle resistance and water and stain repellence. Our Textile Effects segment is characterized by the breadth of our product offering and long standing relationships with our customers and downstream brands and retailers and OEMs (e.g., in the automotive sector).

We market products to customers in multiple end markets, including consumer fashion apparel, sportswear, career and uniform apparel, military, automotive, home and institutional textiles and furnishings, carpet and other functional textiles. Competition within these markets is generally fragmented with few competitors who can offer complete solutions for each market. We develop and adapt our technology and our applications expertise for new markets and new applications to improve our competitive offering. Increased environmental regulations, particularly in many parts of Asia, and consumer awareness about the environmental impact of the apparel industry has resulted in increased demand for sustainably produced textiles. We are at the forefront of developing sustainable textiles with advanced technology such as non fluorinated durable water repellence, and eco friendly digital printing. Our award winning AVITERA® reactive dyeing technology meets global industry environmental standards and helps textile mills increase yield, improve productivity and reduce processing costs by significantly reducing water and energy consumption. We operate 12 synthesis and formulation production sites in Asia, Europe and the Americas.

Since 2011, our Textile Effects segment has implemented a plan (the "Textile Effects Restructuring Plan") to significantly restructure its business including geographically and commercially repositioning operations, optimizing supply chains and improving operational efficiency. The segment closed large, inefficient operations, transferred most of its production to facilities located closer to its customers, formed strategic partnerships and expanded in Mexico, Thailand and India, which has resulted in improved cash flows in the segment.

Products and Markets

Textile Chemicals. Our product offering in textile chemicals covers process and effect chemicals for the entire wet processing of textiles, such as pretreatment, optical brightener, dyeing and printing processes and finishing effects such as UV protection, flame retardancy, wrinkle resistance, water and oil repellency, moisture management and enhanced textile comfort.

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We own a portfolio of textile chemical brands such as PHOBOTEX®, which is used in the sportswear sector and for outdoor textiles for products that provide non fluorinated durable water repellency, UVITEX®, which is used for products that provide lasting white in the apparel sector to T shirts and formal shirts as well as in in the home textile sector for towels and bed sheeting, and PYROVATEX®, which is used for products that provide non halogenated flame retardancy to functional textiles like protective workwear and textile insulation material used in the automotive sector.

Dyes. We provide dyes for all major fibers, including cotton, polyester, wool, nylon, silk and acrylic, each of which requires different dye chemistry for optimum results. We develop and offer processes for technological applications of dyes that enable our customers to improve their production yield and reduce their water and energy consumption. We focus on high quality specialty dyes, which sets us apart from our Asian competitors who are primarily focused on commodity dyes. Because we provide dyes for all major fibers, we are able to differentiate ourselves from industry competitors by providing solutions for a broad range of fiber blended fabrics.

We own a portfolio of dye brands such as AVITERA®, for dyes used in T shirts, formal shirts and towels for achieving sustainability, NOVACRON®, for dyes used widely across casual wear and home textiles, LANASOL®, for dyes used in wool formal suits, TERASIL®, for dyes used in sportswear, outerwear, home textiles and furnishings, ERIOFAST®, for dyes used in high end intimate apparel and lingerie, TERATOP®, for dyes used across the automotive industry and NOVASOL®, for dyes used across military, protective wear and other technical textiles.

Digital Inks. We are at the forefront of the emerging trend in digital textile printing, including the time to market pressures of rapidly changing fashion trends and environmental concerns. Our range of digital inks solutions cover cotton, polyester, nylon, silk and other types of fiber blends, and are available for all mainstream digital printing technologies from plotters to industrial printers. Our innovative and sustainable digital inks technology is designed to help mills improve process efficiency, print reliability and improve overall environmental performance.

We own a portfolio of digital inks brands such as LANASET® and TERASIL®, used for inks primarily for apparel and sportswear, and LYOSPERSE®, TERASIL® and NOVACRON®, used for inks for apparel and home textiles. We have digital ink solutions designed for the fast growing segments of soft signage and technical textiles.

Markets. Textiles generally involve a complex matrix of fibers, colors, effects and functionality, and the resulting products range from fashion apparel to bulletproof vests, home and institutional textiles to carpet, and upholstery to automotive interiors. Our broad range of dyes, chemicals and digital inks enhance both the aesthetic appearance of these products and the functionality needed to ensure that they perform in their end use markets. To meet the emerging digital market landscape and increasing demands for sustainable textiles, our Textile Effects segment has a comprehensive range of digital inks to meet this trend and new market opportunity. Since the requirements for these markets vary dramatically, our business strategy focuses on three major end markets—apparel, home and institutional furnishings, and functional and technical textiles. We work to provide the right balance of products and service to meet the technical and environmental challenges in each of these markets.

The apparel market focuses on products that provide an aesthetic effect through colors, as well as comfort and performance effects. Our solutions also extend to improving the processing efficiency within the textile mill. We offer a complete range of colors for cotton, polyester, wool and nylon that cover the range of shades needed for casualwear, sportswear, intimate apparel, and formal wear. Our dyes have been developed to ensure that they offer the highest levels of color durability currently available in the market. The Textile Effects segment's AVITERA® dyes meet global industry environmental standards and helps textile mills increase yield, improve productivity and reduce processing costs by reducing water and energy consumption. Pretreatment and dyeing auxiliaries ensure that these fabrics are processed efficiently and effectively—cleaning the fabrics with fewer chemicals, less energy and less water and thereby minimizing the environmental footprint and reducing the processing costs. Silicone softeners may be used

to enhance the feel of products. Textile Effects has developed advanced non fluorinated durable water repellent technology that enhances the performance levels of sportswear and outdoor wear offering comfort and durability.

Home and institutional textiles include bed linen, towels, curtains carpets, upholstery, mattress ticking and other textiles that are used within the home or institutions such as hotels. Dyes, chemicals and digital ink technology for these applications enhance color and shape durability, comfort, prevent color fading and enable limitless design possibilities for consumers. Optical brighteners and other pretreatment products provide “bright white” effects for towels and sheeting.

Functional and technical textiles include automotive textiles, carpet, military fabrics protective wear, nonwoven and other technical fabrics. Though the product groups may differ in their end uses, the articles must provide a high level of functionality, durability and performance in their respective markets. High lightfast dyes and UV absorbers are used

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in automotive interiors and outdoor furnishings to provide colors that do not fade when exposed to sunlight and heat. Powerful stain repellent and release technology imparts durable protection for upholstery, military and medical fabrics, without affecting the color, breathability or feel of the fabric. Specialized dyes and prints create unique camouflage patterns for military uniforms, backpacks and tarps that will not fade through wash and wear or during exposure to the elements.

Textile Effects is at the forefront of the emerging trend in digital textile printing including the time to market pressures of rapidly changing fashion trends and environmental concerns. The segment's range of digital ink solutions cover cotton, polyester, silk and other types of fiber blends. The innovative and sustainable digital ink technology is designed to help mills improve process efficiency, print reliability and improve overall environmental performance.

Sales and Marketing

During 2018, approximately 62% of our sales were generated with approximately 1,600 direct customers through our global sales and technical services network and the remaining 38% is generated through our distribution partners. Our sales and technical services representatives work directly with our existing customers forming strong relationships and uncovering new opportunities. Demand for our products is subject to fabric trends and seasonal changes in connection with summer and winter fashion trends. As such, sales generally peak in the second quarter of the year as textile mills prepare for the winter fashion trends which tend to use darker shades and heavier fabric, thereby using more of our products.

In determining the markets on which we focus, we look at growth opportunity and value proposition. Consumption markets are primarily in developed economies, such as Europe and North America, while production markets are primarily in Asia, particularly China, India, Taiwan, Vietnam, Indonesia and Bangladesh. Our downstream marketing team engages with leading brands and retailers in developed economies while our sales force and manufacturing footprint are primarily in Asia, closer to the manufacturing and sourcing base for textiles. We believe that this set up also enables us to take advantage of continuous demand growth due to demographic and lifestyle changes in emerging markets.

For our textile effects products, we focus on providing effect competence and process competence to our customers. Effect competence, which we define as delivering value added effects to our customers' products, enables us to capitalize on new and innovative technologies and to assist our customers in their efforts to differentiate themselves from competitors. Process competence, which we define as applying know how and expertise to improve customers' processes, allows us to utilize our technical service to reduce cost, enhance efficiency and offer recommendations to improve the ecological and environmental footprint in the wet processing of textiles.

We maintain strong customer relationships through the delivery of high levels of technical service and product innovation. There are 13 technical services laboratories in North America, South America, Europe and Asia that are close to our customers in these markets, which enables us to serve our customers with greater speed and flexibility.

Manufacturing and Operations

We are a global business serving customers in three principal geographic regions: EAME, the Americas and Asia. To service our customers efficiently, we maintain manufacturing plants around the world with a strategy of global,

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regional and local manufacturing employed to optimize the level of service and minimize the cost to our customers. The following table summarizes the capabilities of each of the plants that we operate:

	Description of Facility				
	Textile Chemicals		Textile Dyes		Inks
Location	Synthesis	Formulation	Synthesis	Formulation	Formulation
Atotonilquillo, Mexico					
Baroda, India					
Bogota, Colombia					
Charlotte, North Carolina					
Fraijanes, Guatemala					
Gandaria, Jakarta, Indonesia					
Hangzhou, China					
Karachi, Pakistan					
Langweid am Leich, Germany					
Panyu, China(1)					
Samutsakorn (Mahachai), Thailand					
Taboão da Serra, Brazil					

(1) 95% owned and consolidated manufacturing joint venture with Guangzhou Sheng'an Package Company Limited.

Joint Venture

In September 2015, our Textile Effects segment established Huntsman Pürsan Chemicals Kimya Sanayi ve Ticaret Limited Şirketi ("HPC"), a 60%-owned joint venture company in Turkey, for the formulation, sale and marketing of textile chemicals and dyes. HPC ceased operating in the third quarter of 2018. The shareholders of HPC are in the process of appointing a liquidator to liquidate the company.

Raw Materials

The manufacture of textile effects products requires a wide selection of raw materials (approximately 1,000 different chemicals), including amines, ethoxylates, acrylics and sulfones. No one raw material represents greater than 5% of our textile effects raw material expenditures. Raw material costs constitute a sizeable percentage of sales for certain applications. We have tolling arrangements with several Chinese suppliers, but the majority of our raw materials are not purchased under long term contracts. The terms of our supply contracts vary, but, in general, these contracts contain provisions that set forth the quantities of product to be supplied and purchased.

Competition

We are a major global solutions provider for textile chemicals, dyes and digital inks in our chosen markets. Competition within the textile chemicals and dyes markets is generally fragmented with few competitors who can offer complete solutions for the entire textile markets. Key competitors within dyes include Archroma, Longsheng, Runtu, Jihua and DyStar. Key competitors within textile chemicals include Archroma, DyStar, Transfar/Tannatex,

CHT and Rudolf. Key competitors within digital inks include JK Group, Sensient/Xennia, DowDuPont, DyStar and SPG.

We believe that our competitive strengths include our product offering, which is characterized by its broad and deep technology range, high quality, significant integration between products and service, reliable technical expertise, long standing relationships with customers, and strong business infrastructure in Asia. We are a leader in environmentally sustainable chemistry with products that help customers enhance efficiency and reduce their environmental footprint. We believe that we have more customer service capability and account management capability than any of our competitors worldwide. In addition, we engage regularly with downstream brands and retailers on industry and sustainability issues.

RESEARCH AND DEVELOPMENT

We support our business with a major commitment to research and development, technical services and process engineering improvement. Our research and development centers are located in The Woodlands, Texas; Everberg,

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Belgium; and Shanghai, China. Other regional development/technical service centers are located in Auburn Hills, Michigan (polyurethanes for the automotive industry); Derry, New Hampshire, Shanghai, China, Deggendorf, Germany and Ternate, Italy (polyurethanes); Melbourne, Australia (surfactants); Port Neches, Texas (process engineering support); Basel, Switzerland and Panyu, China (advanced materials and textile effects); and Mumbai, India (textile effects).

INTELLECTUAL PROPERTY RIGHTS

Proprietary protection of our processes, apparatuses, and other technology and inventions is important to our businesses. We own approximately 2,850 unexpired patents and have approximately 1,160 patent applications (including provisionals) currently pending. While a presumption of validity exists with respect to issued U.S. patents, we cannot assure that any of our patents will not be challenged, invalidated, circumvented or rendered unenforceable. Furthermore, we cannot assure the issuance of any pending patent application, or that if patents do issue, that these patents will provide meaningful protection against competitors or against competitive technologies. Additionally, our competitors or other third parties may obtain patents that restrict or preclude our ability to lawfully produce or sell our products in a competitive manner.

We also rely upon unpatented proprietary know how and continuing technological innovation and other trade secrets to develop and maintain our competitive position. There can be no assurance, however, that confidentiality and other agreements into which we enter and have entered will not be breached, that they will provide meaningful protection for our trade secrets or proprietary know how, or that adequate remedies will be available in the event of an unauthorized use or disclosure of such trade secrets and know how. In addition, there can be no assurance that others will not obtain knowledge of these trade secrets through independent development or other access by legal means.

In addition to our own patents and patent applications and proprietary trade secrets and know how, we are a party to certain licensing arrangements and other agreements authorizing us to use trade secrets, know how and related technology and/or operate within the scope of certain patents owned by other entities. We also have licensed or sub licensed intellectual property rights to third parties.

We have associated brand names with a number of our products, and we have approximately 4,370 trademark registrations and 150 pending trademark applications globally. These registrations and applications include extensions of protection under the Madrid system for the international registration of marks. However, there can be no assurance that the trademark registrations will provide meaningful protection against the use of similar trademarks by competitors, or that the value of our trademarks will not be diluted.

Because of the breadth and nature of our intellectual property rights and our business, we do not believe that any single intellectual property right (other than certain trademarks for which we intend to maintain the applicable registrations) is material to our business. Moreover, we do not believe that the termination of intellectual property rights expected to occur over the next several years, either individually or in the aggregate, will materially adversely affect our business, financial condition or results of operations.

EMPLOYEES

As of December 31, 2018, we employed approximately 10,000 associates in our operations around the world. Approximately 3,000 of these employees are located in the U.S., while approximately 7,000 are located in other countries. We believe our relations with our employees are good.

ENVIRONMENTAL, HEALTH AND SAFETY MATTERS

General

We are subject to extensive federal, state, local and international laws, regulations, rules and ordinances relating to occupational health and safety, process safety, pollution, protection of the environment and natural resources, product management and distribution, and the generation, storage, handling, transportation, treatment, disposal and remediation of hazardous substances and waste materials. In the ordinary course of business, we are subject to frequent environmental inspections and monitoring and occasional investigations by governmental enforcement authorities. In addition, our production facilities require operating permits that are subject to renewal, modification and, in certain circumstances, revocation. Actual or alleged violations of safety laws, environmental laws or permit requirements could result in restrictions or prohibitions on plant operations or product distribution, substantial civil or criminal sanctions, or injunctions limiting or prohibiting our operations altogether. In addition, some environmental laws may impose liability on a strict, joint and several basis. Moreover, changes in environmental regulations could inhibit or interrupt our

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operations, or require us to modify our facilities or operations and make significant environmental compliance expenditures. Accordingly, environmental or regulatory matters may cause us to incur significant unanticipated losses, costs or liabilities. Information related to environmental, health and safety ("EHS") matters may also be found in other areas of this report including "—Item 1A. Risk Factors," "Note 2. Summary of Significant Accounting Policies—Environmental Expenditures" to our consolidated financial statements and "Note 20. Environmental Health and Safety Matters" to our consolidated financial statements.

Environmental, Health and Safety Systems

We are committed to achieving and maintaining compliance with all applicable EHS legal requirements, and we have developed policies and management systems that are intended to identify the multitude of EHS legal requirements applicable to our operations, enhance compliance with applicable legal requirements, improve the safety of our employees, contractors, community neighbors and customers and minimize the production and emission of wastes and other pollutants. We cannot guarantee, however, that these policies and systems will always be effective or that we will be able to manage EHS legal requirements without incurring substantial costs. Although EHS legal requirements are constantly changing and are frequently difficult to comply with, these EHS management systems are designed to assist us in our compliance goals while also fostering efficiency and improvement and reducing overall risk to us.

Environmental Remediation

We have incurred, and we may in the future incur, liability to investigate and clean up waste or contamination at our current or former facilities or facilities operated by third parties at which we may have disposed of waste or other materials. Similarly, we may incur costs for the cleanup of waste that was disposed of prior to the purchase of our businesses. Under some circumstances, the scope of our liability may extend to damages to natural resources.

In cases where our potential liability arises from historical contamination based on operations and other events occurring prior to our ownership of a business or specific facility, we frequently obtain an indemnity agreement from the prior owner addressing remediation liabilities arising from pre closing conditions. We have successfully exercised our rights under these contractual covenants for a number of sites and, where applicable, mitigated our ultimate remediation liability. We cannot assure you, however, that the liabilities for all such matters subject to indemnity will be honored by the prior owner or that our existing indemnities will be sufficient to cover our liabilities for such matters.

Based on available information and the indemnification rights we believe are likely to be available, we believe that the costs to investigate and remediate known contamination will not have a material effect on our financial statements. However, if such indemnities are not honored or do not fully cover the costs of investigation and remediation or we are required to contribute to such costs, then such expenditures may have a material effect on our financial statements. At the current time, we are unable to estimate the total cost, exclusive of indemnification benefits, to remediate contaminated sites.

Regulatory Matters

Greenhouse Gas Regulation and Climate Change

Globally, our operations are increasingly subject to regulations that seek to reduce emissions of greenhouse gases ("GHGs"), such as carbon dioxide and methane, which may be contributing to changes in the earth's climate. At the Durban negotiations of the Conference of the Parties to the Kyoto Protocol in 2012, a limited group of nations, including the European Union (the "EU"), agreed to a second commitment period for the Kyoto Protocol, an international treaty that provides for reductions in GHG emissions. More significantly, the EU GHG Emissions

Trading System ("ETS"), established pursuant to the Kyoto Protocol to reduce GHG emissions in the EU, continues in its third phase. The EU parliament has used a process to formalize "backloading"—the withholding of GHG allowances during the trading period from 2014 to 2016 with additional allowances auctioned during 2019 to 2020—to prop up carbon prices. As backloading is only a temporary measure, a sustainable solution to the imbalance between supply and demand requires structural changes to the ETS. The European Commission proposes to establish a market stability reserve to address the current surplus of allowances and improve the system's resilience. The reserve will start operating in 2019. In addition, the EU has announced the binding target to reduce domestic GHG emissions by at least 40% below the 1990 level by 2030. The EU has set a binding target of increasing the share of renewable energy to at least 27% of the EU's energy consumption by 2030, and additional proposals have been made to increase the target to 35%.

In addition, at the 2015 United Nations Framework Convention on Climate Change in Paris, the U.S. and nearly 200 other nations entered into an international climate agreement, which went into effect in November 2016 (the "Paris

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Agreement"). Although the agreement does not create any binding obligations for nations to limit their GHG emissions, it does include pledges to voluntarily limit or reduce future emissions. However, in August 2017 the U.S. informed the United Nations that it is withdrawing from the Paris Agreement. The Paris Agreement provides for a four-year exit process.

Federal climate change legislation in the U.S. appears unlikely in the near term. As a result, domestic efforts to curb GHG emissions will continue to be led by the U.S. Environmental Protection Agency's (the "EPA") GHG regulations and similar programs of certain states. To the extent that our domestic operations are subject to the EPA's GHG regulations, we may face increased capital and operating costs associated with new or expanded facilities. Significant expansions of our existing facilities or construction of new facilities may be subject to the Clean Air Act's (the "CAA") requirements for pollutants regulated under the Prevention of Significant Deterioration and Title V programs. Some of our facilities are also subject to the EPA's Mandatory Reporting of Greenhouse Gases rule, and any further regulation may increase our operational costs.

We are already managing and reporting GHG emissions, to varying degrees, as required by law for our sites in locations subject to U.S. federal and state requirements, Kyoto Protocol obligations and/or ETS requirements. Although these sites are subject to existing GHG legislation, few have experienced or anticipate significant cost increases as a result of these programs, although it is possible that GHG emission restrictions may increase over time. Potential consequences of such restrictions include capital requirements to modify assets to meet GHG emission restrictions and/or increases in energy costs above the level of general inflation, as well as direct compliance costs. Currently, however, it is not possible to estimate the likely financial impact of potential future regulation on any of our sites.

Finally, it should be noted that some scientists have concluded that increasing concentrations of GHGs in the earth's atmosphere may produce climate changes that have significant physical effects, such as increased frequency and severity of storms, droughts, and floods and other climatic events. If any of those effects were to occur, they could have an adverse effect on our assets and operations.

AVAILABLE INFORMATION

We maintain an internet website at http://www.huntsman.com. Our annual reports on Form 10 K, quarterly reports on Form 10 Q, current reports on Form 8 K and amendments to these reports are available free of charge through our website as soon as reasonably practicable after we file this material with the SEC. We also provide electronic or paper copies of our SEC filings free of charge upon request.

GLOSSARY OF CHEMICAL TERMS

BDO—butane diol

BLR—base liquid resin

DEG—di ethylene glycol

DGA® Agent—DIGLYCOLAMINE® agent

DPA—diphenylamine

EDC—ethylene dichloride

EG—ethylene glycol

EO—ethylene oxide

LAB—linear alkyl benzene

LAS—linear alkylbenzene sulfonate

MDA—methylene dioxy amphetamine

MDI—methyl diphenyl diisocyanate

MEG—mono ethylene glycol

MNB—mononitrobenzene

MTBE—methyl tertiary butyl ether

PBT—polybutylene terephthalate

PET—polyethylene tesephthalate

PG—propylene glycol

PO—propylene oxide

Polyols—a substance containing several hydroxyl groups. A diol, triol and tetrol contain two, three and four hydroxyl groups, respectively.

TBA—tertiary butyl alcohol

TBHP—tert butyl hydroperoxide

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TDI—toluene diisocyanate

TEG—tri ethylene glycol

TPU—thermoplastic polyurethane

UPR—unsaturated polyester resin

ITEM 1A. RISK FACTORS

Any of the following risks could materially and adversely affect our business, results of operations, financial condition and liquidity.

RISKS RELATED TO OUR BUSINESS

Our industry is affected by global economic factors including risks associated with volatile economic conditions.

Our financial results are substantially dependent on overall economic conditions in the U.S., Europe and Asia. Declining economic conditions in all or any of these locations—or negative perceptions about economic conditions—could result in a substantial decrease in demand for our products and could adversely affect our business. The timing and extent of any changes to currently prevailing market conditions is uncertain, and supply and demand may be unbalanced at any time. Uncertain economic conditions and market instability make it particularly difficult for us to forecast demand trends. As a consequence, we may not be able to accurately predict future economic conditions or the effect of such conditions on our financial condition or results of operations. We can give no assurances as to the timing, extent or duration of the current or future economic cycles impacting the industries in which we operate.

Disruptions in production at our manufacturing facilities may have a material adverse impact on our business, results of operations and/or financial condition.

Manufacturing facilities in our industry are subject to planned and unplanned production shutdowns, turnarounds, outages and other disruptions. Any serious disruption at any of our facilities could impair our ability to use our facilities and have a material adverse impact on our revenues and increase our costs and expenses. Alternative facilities with sufficient capacity may not be available, may cost substantially more or may take a significant time to increase production or qualify with our customers, any of which could negatively impact our business, results of operations and/or financial condition. Long term production disruptions may cause our customers to seek alternative supply which could further adversely affect our profitability.

Unplanned production disruptions may occur for external reasons including natural disasters, weather, disease, strikes, transportation interruption, government regulation, political unrest or terrorism, or internal reasons, such as fire, unplanned maintenance or other manufacturing problems. Any such production disruption could have a material impact on our operations, operating results and financial condition.

In addition, we rely on a number of vendors, suppliers, and in some cases sole source suppliers, service providers, toll manufacturers and collaborations with other industry participants to provide us with chemicals, feedstocks and other raw materials, along with energy sources and, in certain cases, facilities that we need to operate our business. If the business of these third parties is disrupted, some of these companies could be forced to reduce their output, shut down their operations or file for bankruptcy protection. If this were to occur, it could adversely affect their ability to provide us with the raw materials, energy sources or facilities that we need, which could materially disrupt our operations, including the production of certain of our products. Moreover, it could be difficult to find replacements for certain of

our business partners without incurring significant delays or cost increases. All of these risks could have a material adverse effect on our business, results of operations, financial condition and liquidity.

While we maintain business recovery plans that are intended to allow us to recover from natural disasters or other events that could disrupt our business, we cannot provide assurances that our plans would fully protect us from the effects of all such disasters or from events that might increase in frequency or intensity due to climate change. In addition, insurance may not adequately compensate us for any losses incurred as a result of natural or other disasters. In areas prone to frequent natural or other disasters, insurance may become increasingly expensive or not available at all. Furthermore, some potential climate driven losses, particularly inundation due to sea level rise, may pose long term risks to our physical facilities such that operations cannot be restored in their current locations.

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The markets for many of our products are cyclical and volatile, and we may experience depressed market conditions for such products.

The cyclicality that the markets for many of our products experience occurs as a result of alternating periods of tight supply, causing prices and margins to increase, followed by periods of lower capacity utilization, resulting in oversupply and declining prices and margins. The volatility these markets experience occurs as a result of changes in the demand for products as a consequence of global economic activity, changes in energy prices and changes in customers' requirements. For example, demand for our products depends in part on the housing and construction industries, which are cyclical in nature and have historically been impacted by downturns in the economy. In addition, margins for MTBE sales are volatile and seasonal. The supply demand balance is also impacted by capacity additions or reductions that result in changes in utilization rates. The cyclicality and volatility of our industry results in significant fluctuations in profits and cash flow from period to period and over the business cycle.

Our results of operations may be adversely affected by international business risks, including fluctuations in currency exchange rates, legal restrictions and taxes.

We conduct a majority of our business operations outside the U.S., and these operations are subject to risks normally associated with international operations. These risks include the need to convert currencies that may be received for our products into currencies in which we purchase raw materials or pay for services, which could result in a gain or loss depending on fluctuations in exchange rates. We transact business in many foreign currencies, including euros, Swiss francs, Chinese renminbi, Indian rupees, Brazilian reals and Thai bahts. We translate our local currency financial results into U.S. dollars based on average exchange rates prevailing during the reporting period or the exchange rate at the end of that period. During times of a strengthening U.S. dollar, our reported international sales and earnings may be reduced because the local currency may translate into fewer U.S. dollars. Because we currently have significant operations located outside the U.S., we are exposed to fluctuations in global currency rates which may result in gains or losses on our financial statements.

Other risks of international operations include trade barriers, tariffs, exchange controls, cash repatriation restrictions, national and regional labor strikes, social and political risks, general economic risks and required compliance with a variety of U.S. and foreign laws, including monetary policies, tax laws, the Foreign Corrupt Practices Act (and foreign equivalents), export controls and regulations administered by the Office of Foreign Assets Control. Any changes in tariffs or trade barriers could make our products less competitive compared to other producers not subject to the same tariffs or trade barriers. Any decision to repatriate cash as dividends could subject us to foreign and U.S. federal and state income taxes without any offsetting foreign tax credit relief. Although we maintain an anti corruption compliance program throughout our company, violations of our compliance program may result in criminal or civil sanctions, including material monetary fines, penalties and other costs against us or our employees, and may have a material adverse effect on our business. Furthermore, in foreign jurisdictions where legal processes may vary from country to country, we may experience difficulty in enforcing agreements. In jurisdictions where bankruptcy laws and practices vary, we may experience difficulty collecting foreign receivables through foreign legal systems. The occurrence of these risks, among others, could disrupt the businesses of our international subsidiaries, which could significantly affect their ability to make distributions to us.

We operate in a significant number of jurisdictions, which contributes to the volatility of our effective tax rate. Changes in tax laws or the interpretation of tax laws in the jurisdictions in which we operate may affect our effective tax rate. In addition, generally accepted accounting principles in the U.S. ("GAAP" or "U.S. GAAP") have required us to place valuation allowances against our net operating losses and other deferred tax assets in a number of tax jurisdictions. These valuation allowances result from analysis of positive and negative evidence supporting the realization of tax benefits. Negative evidence includes a cumulative history of pre tax operating losses in specific tax jurisdictions. Changes in valuation allowances have resulted in material fluctuations in our effective tax rate.

Economic conditions or changes in tax laws may dictate the continued imposition of current valuation allowances and, potentially, the establishment of new valuation allowances. While significant valuation allowances remain, our effective tax rate will likely continue to experience significant fluctuations. Furthermore, certain foreign jurisdictions may take actions to delay our ability to collect value added tax refunds.

Significant price volatility or interruptions in supply of our raw materials may result in increased costs that we may be unable to pass on to our customers, which could reduce our profitability.

We purchase a substantial portion of our raw materials from third party suppliers and the cost of these raw materials represents a substantial portion of our operating expenses. The prices for a number of these raw materials

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generally follow price trends of, and vary with market conditions for, crude oil and natural gas feedstocks, which are highly volatile and cyclical. For example, the market for crude oil and natural gas feedstocks experienced depressed pricing throughout the second half of 2018, leading to favorable prices for the raw materials that we purchase from third parties. Lower raw material prices, however, can lead to downward pressure on selling prices for certain of our products leading to reduced revenue. Our supply agreements typically provide for market based pricing and provide us only limited protection against price volatility. While we attempt to match cost increases with corresponding product price increases, we are not always able to raise product prices immediately or at all. Timing differences between raw material prices, which may change daily, and contract product prices, which in many cases are negotiated only monthly or less often, have had and may continue to have a negative effect on our cash flow. Any cost increase that we are not able to pass on to our customers could have a material adverse effect on our business, results of operations, financial condition and liquidity.

In general, the feedstocks and other raw materials we consume are organic chemical commodity products that are readily available at market prices. There are, however, several raw materials for which there are only a limited number of suppliers or a single supplier. To mitigate potential supply constraints, we frequently enter into supply agreements with particular suppliers, evaluate alternative sources of supply and evaluate alternative technologies to avoid reliance on limited or sole source suppliers. In addition, where supply relationships are concentrated, particular attention is paid by the parties to ensure strategic intentions are aligned to facilitate long term planning. If certain of our suppliers are unable to meet their obligations under present supply agreements, we may be forced to pay higher prices to obtain the necessary raw materials from other sources and we may not be able to increase prices for our finished products to recoup the higher raw materials costs. Any interruption in the supply of raw materials could increase our costs or decrease our revenues, which could reduce our cash flow. The inability of a supplier to meet our raw material needs could have a material adverse effect on our financial statements and results of operations.

The number of sources for and availability of certain raw materials is also specific to the particular geographical region in which a facility is located. Political and economic instability in the countries from which we purchase our raw material supplies could adversely affect their availability. In addition, if raw materials become unavailable within a geographic area from which they are now sourced, then we may not be able to obtain suitable or cost-effective substitutes. We may also experience higher operating costs such as energy costs, which could affect our profitability. We may not always be able to increase our selling prices to offset the impact of any higher production costs or reduced production levels, which could reduce our earnings and decrease our liquidity.

Changes in U.S. trade policies and other factors beyond our control may adversely impact our business, financial condition and results of operations.

Tariffs, retaliatory tariffs or other trade restrictions on products and materials that our customers export, including among others, textile, automotive and consumer products, could cause the prices of our customers' products to increase which could reduce demand for such products, or reduce our customer margins, and adversely impact their revenues, financial results and ability to service debt; which, in turn, could adversely affect our financial condition and results of operations. Additionally, our products may become directly subject to future tariffs, which would in turn raise the cost to our customers and could adversely affect the demand for our products. Direct or unforeseen consequences of tariffs, retaliatory tariffs or other trade restrictions may also alter the competitive landscape of our products in one or more regions of the world.

It remains unclear how the U.S. Administration or foreign governments will act with respect to tariffs, international trade agreements and policies. A trade war or other governmental action related to tariffs or international trade agreements or policies has the potential to negatively impact ours and/or our customers' costs, demand for our customers’ products, and/or the global economy or certain sectors thereof and, thus, adversely impact our business, financial condition and results of operations.

Our results of operations and equity method investment in Venator may fluctuate significantly depending upon the changes in market value of Venator shares.

On December 3, 2018, we sold an aggregate of 4,334,389, or approximately 4%, of Venator ordinary shares Following this transaction, we retained approximately 49% ownership in Venator, and we elected the fair value option to account for our equity method investment in Venator post deconsolidation, in which case the investment balance is marked to fair value each reporting period and the impact of changes in fair value of the equity method investment are reported in earnings. Under this approach, our results of operations and equity method investment in

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Venator could fluctuate significantly depending upon the changes in market value of Venator common stock. Specifically, the market price for Venator's ordinary shares has been highly volatile, and the market from time to time has experienced significant price fluctuations. For example, during the year ended December 31, 2018, Venator's stock price ranged from a low of $3.59 to a high of $24.31. As result, the cyclicality and volatility of Venator's stock price can result in significant fluctuations in our results of operations and equity method investment from quarter to quarter.

Our efforts to grow and transform our businesses may require significant investments; if our strategies are unsuccessful, our business, results of operations and/or financial condition may be materially adversely affected.

We continuously evaluate opportunities for growth and change. These initiatives may involve making acquisitions, entering into partnerships and joint ventures, divesting assets, restructuring our existing operations and assets, creating new financial structures and building new facilities—any of which could require a significant investment and subject us to new kinds of risks. We have incurred indebtedness to finance these opportunities, and we may incur additional indebtedness to finance future initiatives. We could also issue additional shares of stock of our Company or our subsidiaries to finance such initiatives. If our strategies for growth and change are not successful, we could face increased financial pressure, such as increased cash flow demands, reduced liquidity and diminished access to financial markets, and the equity value of our businesses could be diluted.

The implementation of strategies for growth and change may create additional risks, including:

- diversion of management time and attention away from existing operations;
- requiring capital investment that could otherwise be used for the operation and growth of our existing businesses;
- disruptions to important business relationships;
- increased operating costs;
- limitations imposed by various governmental entities; and
- difficulties due to lack of or limited prior experience in any new markets we may enter.

Our inability to mitigate these risks or other problems encountered in connection with our strategies for growth and change could have a material adverse effect on our business, results of operations and financial condition. In addition, we may fail to fully achieve the savings or growth projected for current or future initiatives notwithstanding the expenditure of substantial resources in pursuit thereof.

We may have difficulties integrating acquired businesses and as a result, our business, results of operations and/or financial condition may be materially adversely affected.

We have completed a number of acquisitions and we will continue to acquire additional businesses and enter into joint ventures as part of our business strategy. Growth through acquisitions and joint ventures involves risks, including:

- inability to efficiently operate new businesses or to integrate acquired businesses and products;
- inability to accurately predict delays in realizing the costs and benefits of acquisitions, partnerships, or joint ventures;
- unexpected losses of customers or suppliers of an acquired or existing business;
- difficulties in retaining key employees of acquired businesses;
- difficulties in realizing projected synergies; and
- exposure to unanticipated liabilities, including unexpected environmental exposures, product liability or illegal activities conducted by an acquired company or a joint venture partner.
- inability to efficiently operate new businesses or to integrate acquired businesses and products;
-

inability to accurately predict delays in realizing the costs and benefits of acquisitions, partnerships, or joint ventures;

- unexpected losses of customers or suppliers of an acquired or existing business;
- difficulties in retaining key employees of acquired businesses;
- difficulties in realizing projected synergies; and
- exposure to unanticipated liabilities, including unexpected environmental exposures, product liability or illegal activities conducted by an acquired company or a joint venture partner.

Our inability to address these risks could cause us to fail to realize the anticipated benefits of such acquisitions or joint ventures and could have a material adverse effect on our business, results of operations and financial condition.

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The industries in which we compete are highly competitive, and we may not be able to compete effectively with our competitors that have greater financial resources, which could have a material adverse effect on our business, results of operations and financial condition.

The industries in which we operate are highly competitive. Among our competitors are some of the world's largest chemical companies and major integrated petroleum companies that have their own raw material resources. Changes in the competitive landscape could make it difficult for us to retain our competitive position in various products and markets throughout the world. Some of the companies with whom we compete may be able to produce products more economically than we can. Furthermore, some of our competitors have greater financial resources, which may enable them to invest significant capital into their businesses, including expenditures for research and development.

While we are engaged in a range of research and development programs to develop new products and processes, to improve and refine existing products and processes, and to develop new applications for existing products, the failure to develop new products, processes or applications could make us less competitive. Moreover, if any of our current or future competitors develops proprietary technology that enables them to produce products at a significantly lower cost, our technology could be rendered uneconomical or obsolete.

Further, it is possible that we could abandon certain products, processes, or applications due to potential infringement of third party intellectual property rights or that we could be named in future litigation for the infringement or misappropriation of a competitor's or other third party's intellectual property rights, which could include a claim for injunctive relief and damages, and, if so, such adverse results could have a material adverse effect on our business, results of operations and financial position. In addition, certain of our competitors in various countries in which we do business, including China, may be owned by or affiliated with members of local governments and political entities.

These competitors may get special treatment with respect to regulatory compliance and product registration, while certain of our products, including those based on new technologies, may be delayed or even prevented from entering into the local market.

Certain of our businesses use technology that is widely available. Accordingly, barriers to entry, apart from capital availability, may be low in certain product segments of our business. The entrance of new competitors into any of our businesses may reduce our ability to maintain margins or capture improving margins in circumstances where capacity utilization in the industry is increasing. Further, petroleum rich countries have become more significant participants in the petrochemical industry and may expand their roles significantly in the future. Increased competition in any of our businesses could compel us to reduce the prices of our products, which could result in reduced margins and loss of market share and have a material adverse effect on our business, results of operations, financial condition and liquidity.

We are subject to risks relating to our information technology systems, and any technology disruption or cybersecurity incident could negatively affect our operations.

We rely on information technology systems across our operations, including for management, supply chain and financial information and various other processes and transactions. Our ability to effectively manage our business depends on the security, reliability and capacity of these systems. Our technology systems or the technology systems of third parties on which we rely, are vulnerable to disruption from circumstances beyond our control including fire, natural disasters, power outages, system failures, security breaches, espionage, cyber-attacks, viruses, theft and

inadvertent release of information. Any such disruption to these Information technology systems could disrupt our operations or result in the disclosure of proprietary information about our business or confidential information concerning our customers or employees which could result in negative publicity/brand damage, violation of privacy laws, potential liability, including litigation/investigation/remediation or other legal actions against us or the imposition of penalties, fines, fees or liabilities, which may not be covered by our insurance policies. Any or all the above would potentially cause delays or cancellations of customer orders or impede the manufacture or shipment of products, processing of transactions or reporting of financial results.

While Huntsman has invested and continues to invest in technology security initiatives and disaster recovery plans, we may not be able to implement measures that will protect against all the significant risks to our information technology systems. We have put in place security measures designed to protect against the misappropriation or corruption of our systems, intentional or unintentional disclosure of confidential information, or disruption of our operations. Current employees have, and former employees may have, access to a significant amount of information regarding our operations which could be disclosed to our competitors or otherwise used to harm us. Moreover, our operations in certain locations, such as China, may be particularly vulnerable to security attacks or other problems. Any

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breach of our security measures could result in unauthorized access to and misappropriation of our information, corruption of data or disruption of operations or transactions, any of which could have a material adverse effect on our business. In addition, we could be required to expend significant additional efforts to respond to information technology issues or to protect against threatened or actual security breaches.

Finally, data privacy is subject to frequently changing rules and regulations in countries where we do business. For example, the EU adopted a new regulation that became effective in May 2018, the General Data Protection Regulation (GDPR), which requires companies to meet new regulations regarding the handling of personal data. Our failure to successfully implement or comply with appropriate processes to adhere to the GDPR requirements could result in substantial fines or penalties and legal liability which could tarnish our reputation.

Agreements governing our debt may restrict our ability to engage in certain business activities or to obtain additional financing.

The agreements governing our debt arrangements contain certain restrictive covenants. These covenants may limit or prohibit our ability to among other things, incur additional indebtedness; make investments; create liens; enter into transactions with affiliates; enter into sale and leaseback transactions; merge or consolidate; and transfer or sell assets. Some of our strategies may necessitate receiving consents or waivers under our debt arrangements, which could be withheld.

Our failure to comply with any of our debt covenants, or our failure to make payments of principal or interest on our debt, could result in a default, or trigger cross default or acceleration provisions, under our debt agreements. An event of default could result in our debt obligations becoming immediately due and payable, cause our creditors to terminate their lending commitments. Any of the foregoing occurrences could have a material adverse effect on our business, results of operations and financial condition. For more information regarding our debt covenants, see “Note 13. Debt—Compliance with Covenants” to our consolidated financial statements.

Our operations involve risks that may increase our operating costs, which could reduce our profitability.

Although we take precautions to enhance the safety of our operations and minimize the risk of disruptions, our operations are subject to hazards inherent in the manufacturing and marketing of chemical and other products. These hazards include: chemical spills, pipeline leaks and ruptures, storage tank leaks, discharges or releases of toxic or hazardous substances or gases and other hazards incident to the manufacturing, processing, handling, transportation and storage of dangerous chemicals. We are also potentially subject to other hazards, including natural disasters and severe weather; explosions and fires; transportation problems, including interruptions, spills and leaks; mechanical failures; unscheduled downtimes; labor difficulties; remediation complications; and other risks. In addition, some equipment and operations at our facilities are owned or controlled by third parties who may not be fully integrated into our safety programs and over whom we are able to exercise limited control. Many potential hazards can cause bodily injury and loss of life, severe damage to or destruction of property and equipment and environmental damage, and may result in suspension of operations and the imposition of civil or criminal penalties and liabilities. Furthermore, we are subject to present and future claims with respect to workplace exposure, exposure of contractors on our premises as well as other persons located nearby, workers’ compensation and other matters.

We maintain property, business interruption, products liability and casualty insurance policies which we believe are in accordance with customary industry practices, as well as insurance policies covering other types of risks, including pollution legal liability insurance, but we are not fully insured against all potential hazards and risks incident to our business. Each of these insurance policies is subject to customary exclusions, deductibles and coverage limits, in accordance with industry standards and practices. As a result of market conditions, premiums and deductibles for certain insurance policies can increase substantially and, in some instances, certain insurance may become unavailable or available only for reduced amounts of coverage. If we were to incur a significant liability for which we were not fully insured, it could have a material adverse effect on our business, results of operations, financial condition and liquidity.

In addition, we are subject to various claims and litigation in the ordinary course of business. We are a party to various pending lawsuits and proceedings. For more information, see "—Item 3. Legal Proceedings" below.

We are subject to many EHS regulations that may result in unanticipated costs or liabilities, which could reduce our profitability.

We are subject to extensive federal, state, local and foreign laws, regulations, rules and ordinances relating to pollution, protection of the environment and human health and safety, and the generation, storage, handling,

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transportation, treatment, disposal and remediation of hazardous substances and waste materials. Actual or alleged violations of EHS laws or permit requirements could result in restrictions or prohibitions on plant operations and substantial civil or criminal sanctions, as well as, under some EHS laws, the assessment of strict liability and/or joint and several liability.

Many of our products and operations are subject to the chemical control laws of the countries in which they are located. These laws include the regulation of chemical substances and inventories under the Toxic Substances Control Act ("TSCA") in the U.S. and the Registration, Evaluation and Authorization of Chemicals ("REACH") and the Classification, Labeling and Packaging of substances and mixtures ("CLP") regulations in Europe. Analogous regimes exist in other parts of the world, including China, South Korea, and Taiwan. In addition, a number of countries where we operate, including the U.K., have adopted rules to conform chemical labeling in accordance with the globally harmonized system. Many of these foreign regulatory regimes are in the process of a multi year implementation period for these rules.

Additional new laws and regulations may be enacted or adopted by various regulatory agencies globally. For example, in the U.S., the EPA finalized revisions to its Risk Management Program in January 2017. The revisions include new requirements for certain facilities to perform hazard analyses, third party auditing, incident investigations and root cause analyses, emergency response exercises, and to publicly share chemical and process information. The EPA proposed to delay the rule's effect until February 2019; however, a ruling by the U.S. Court of Appeals for the D.C. Circuit on September 21, 2018 made the Risk Management Program rule amendment effective immediately. The U.S. Occupational Safety and Health Administration had previously announced that it was considering changes to its Process Safety Management standards that parallel EPA's Risk Management Program; but additional action appears unlikely at this time. In addition, TSCA reform legislation was enacted in June 2016, and the EPA has begun the process of issuing new chemical control regulations. EPA issued several final rules in 2017 under the revised TSCA related to existing chemicals, including the following: (i) a rule to establish EPA's process and criteria for identifying chemicals for risk evaluation; (ii) a rule to establish EPA's process for evaluating high priority chemicals and their uses to determine whether or not they present an unreasonable risk to health or the environment; and (iii) a rule to require industry reporting of chemicals manufactured or processed in the U.S. over the past 10 years. The EPA has also released its framework for approving new chemicals and new uses of existing chemicals. Under the framework, a new chemical or use presents an unreasonable risk if it exceeds set standards. Such a finding could result in either the issuance of rules restricting the use of the chemical being evaluated or in the need for additional testing. The costs of compliance with any new laws or regulations cannot be estimated until the manner in which they will be implemented has been more precisely defined.

Furthermore, governmental, regulatory and societal demands for increasing levels of product safety and environmental protection could result in increased pressure for more stringent regulatory control with respect to the chemical industry. In addition, these concerns could influence public perceptions regarding our products and operations, the viability of certain products, our reputation, the cost to comply with regulations, and the ability to attract and retain employees. Moreover, changes in EHS regulations could inhibit or interrupt our operations, or require us to modify our facilities or operations. Accordingly, environmental or regulatory matters may cause us to incur significant unanticipated losses, costs or liabilities, which could reduce our profitability. For example, several of our products are being evaluated under REACH and CLP regulations and actions thereunder could negatively impact sales.

We could incur significant expenditures in order to comply with existing or future EHS laws. Capital expenditures and costs relating to EHS matters will be subject to evolving regulatory requirements and will depend on the timing of the promulgation and enforcement of specific standards which impose requirements on our operations. Capital expenditures and costs beyond those currently anticipated may therefore be required under existing or future EHS laws.

Furthermore, we may be liable for the costs of investigating and cleaning up environmental contamination on or from our properties or at off site locations where we disposed of or arranged for the disposal or treatment of hazardous materials, or from disposal activities that pre dated our purchase of our businesses. We may therefore incur additional costs and expenditures beyond those currently anticipated to address all such known and unknown situations under existing and future EHS laws.

Regulatory requirements to reduce GHG emissions could have an adverse effect on our results of operations.

Our operations are increasingly subject to regulations that seek to reduce emissions of GHGs, such as carbon dioxide and methane, which may be contributing to changes in the Earth's climate. There are existing efforts to address GHG emissions at the international, national, and regional levels. For example, the 2015 Paris climate summit

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agreement, which entered into force in November 2016, resulted in voluntary commitments by numerous countries to reduce their GHG emissions. However, the U.S. notified the United Nations in August 2017 that it will be withdrawing from the agreement, which provides for a four-year exit process. The EU also regulates GHGs under the EU ETS and China has established its own country-wide GHG cap and trade program. Domestically, the EPA issued its final Clean Power Plan rules in 2015 that establish carbon pollution standards for power plants, called CO_2 emission performance rates. This rule has been challenged in court and the EPA announced in October 2017 that it intended to repeal and potentially replace the Clean Power Plan. On August 21, 2018, the EPA proposed the Affordable Clean Energy (ACE) rule to replace the 2015 Clean Power Plan, which was stayed by the U.S. Supreme Court and has never gone into effect. The proposed ACE rule will establish emission guidelines for states to develop plans to address GHG emissions from existing coal-fired power plants. In any event, collectively, these rules and agreements may affect the long-term price and supply of electricity and natural gas and demand for products that contribute to energy efficiency and renewable energy. These various regulations and agreements may result in increased costs to purchased energy, additional capital costs for installation or modification of GHG emitting equipment, and additional costs associated directly with GHG emissions (such as cap and trade systems or carbon taxes), which are primarily related to energy use. Compliance with these regulations and any more stringent restrictions in the future may increase our operational costs.

In addition, some scientists have concluded that increasing concentrations of GHGs in the Earth's atmosphere may produce climate changes, such as increased frequency and severity of storms, droughts, floods and other climatic events. If any such effects were to occur in areas where we or our clients operate, they could have an adverse effect on our assets and operations.

We could incur significant expenditures in order to comply with existing or future EHS laws. Capital expenditures and costs relating to EHS matters will be subject to evolving regulatory requirements and will depend on the timing of the promulgation and enforcement of specific standards which impose requirements on our operations. Capital expenditures and costs beyond those currently anticipated may therefore be required under existing or future EHS laws.

Furthermore, we may be liable for the costs of investigating and cleaning up environmental contamination on or from our properties or at off site locations where we disposed of or arranged for the disposal or treatment of hazardous materials or from disposal activities that pre dated our purchase of our businesses. We may therefore incur additional costs and expenditures beyond those currently anticipated to address all such known and unknown situations under existing and future EHS laws.

Our operations, financial condition and liquidity could be adversely affected by legal claims against us, including antitrust claims.

We face risks arising from various legal actions, including matters relating to antitrust, product liability, intellectual property and environmental claims. It is possible that judgments could be rendered against us in these cases or others for which we could be uninsured or not covered by indemnity, or which may be beyond the amounts that we currently have reserved or anticipate incurring for such matters. Over the past few years, antitrust claims have been made against chemical companies. In this type of litigation, the plaintiffs generally seek injunctive relief, treble damages or the maximum damages allowed by state law, costs of suit and attorneys' fees, which may result in significant liabilities. An adverse outcome in any antitrust claim could be material and significantly impact our operations, financial condition, liquidity and business reputation.

Our business is exposed to risks associated with the creditworthiness of our suppliers, customers and business partners and the industries in which our suppliers, customers and business partners participate are cyclical in nature, both of which may adversely affect our business and results of operations.

Our business is exposed to risks associated with the creditworthiness of our key suppliers, customers and business partners and reductions in demand for our customers' products. During periods of economic disruption, more of our customers than normal may experience financial difficulties, including bankruptcies, restructurings and liquidations, which could affect our business by reducing sales, increasing our risk in extending trade credit to customers and reducing our profitability. A significant adverse change in a customer relationship or in a customer's financial position could cause us to limit or discontinue business with that customer, require us to assume more credit risk relating to that customer's receivables or limit our ability to collect accounts receivable from that customer.

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Economic conditions and regulatory changes following the NAFTA negotiations and the United Kingdom's likely exit from the EU could adversely impact our operations, operating results and financial condition.

Following a referendum in June 2016 in which voters in the United Kingdom (the "U.K.") approved an exit from the EU ("Brexit"), and on March 29, 2017, notified the EU that it intended to exit as provided in Article 50 of the Treaty on European Union. In November 2018, the U.K. Government and the EU published a draft withdrawal agreement setting the terms of the U.K.'s divorce from the EU. However, on January 15, 2019, the British Parliament overwhelmingly rejected the draft withdrawal agreement, triggering political upheaval that could lead to a disorderly exit from the EU. The uncertainty around the Brexit triggered short-term and potentially long-term financial volatility, including a decline in the value of the pound sterling in comparison to both the U.S. dollar and euro, and its indirect effect on the relationship between the U.S. dollar and the euro. The future effects of Brexit will depend on the final agreements the U.K. makes to retain access to the EU or other markets either during a transitional period or more permanently. Given the lack of comparable precedent and the upcoming deadline for the U.K. to exit the EU by March 29, 2019, it remains unclear what financial, trade and legal implications the withdrawal of the U.K. from the EU would have and how such withdrawal would affect our Company, although any increase in duties and tariffs between the U.K. and the rest of the EU would be immediately damaging to the profitability and in some cases viability of exports of our products between those regions and, over the long term, might result in the need to relocate major manufacturing assets from one region to the other.

On September 30, 2018, the U.S., Mexico and Canada announced an agreement to replace North American Free Trade Agreement ("NAFTA") with the United States–Mexico–Canada Agreement ("USMCA"). NAFTA is expected to remain in force until the USMCA is ratified by the member nations. However, there is a risk that if the USMCA is not approved by the member nations, NAFTA could be unilaterally terminated by the President of the United States. Any reversal of NAFTA could lead to significant declines in real GDP, trade, investment and employment in North America. It would also be immediately damaging to the profitability of annual Huntsman exports between the U.S., Mexico and Canada which in the aggregate total hundreds of millions of U.S. dollars.

We derive a significant portion of our revenues from sales in the regions that would be impacted by Brexit and a reversal of NAFTA. Approximately 24% of our revenues stem from sales in Europe and 40% from sales in North America. The consequences of Brexit and a reversal of NAFTA, depending upon what the terms and conditions of such events are, together with what may be protracted negotiations in both cases, could introduce significant uncertainties into global financial markets and adversely impact the markets in which we and our customers operate. Brexit or a reversal of NAFTA could also create uncertainty with respect to the legal and regulatory requirements to which we and our customers in these regions are subject and lead to divergent national laws and regulations as the U.K. government determines which EU laws to replace or replicate or as members of NAFTA pursue other trade partners and adopt laws and regulations that are less harmonious with those of existing NAFTA members.

While we are not experiencing any material immediate adverse impact on our financial condition as a result of Brexit or the NAFTA negotiations, adverse consequences such as deterioration in economic conditions, volatility in currency exchange rates or adverse changes in regulation could have a negative impact on our future operations, operating results and financial condition. All of these potential consequences could be further magnified if additional countries were to exit the EU.

Our business is dependent on our intellectual property. If our intellectual property rights cannot be enforced or our trade secrets become known to our competitors, our ability to compete may be adversely affected.

Proprietary protection of our processes, apparatuses and other technology is important to our business. While a presumption of validity exists with respect to patents issued to us in the U.S., there can be no assurance that any of our patents will not be challenged, invalidated, circumvented or rendered unenforceable. Furthermore, if any pending patent application filed by us does not result in an issued patent, or if patents are issued to us, but such patents do not provide meaningful protection of our intellectual property, then our ability to compete may be adversely affected. Additionally, our competitors or other third parties may obtain patents that restrict or preclude our ability to lawfully produce or sell our products in a competitive manner, which could have a material adverse effect on our business, results of operations, financial condition and liquidity.

We also rely upon unpatented proprietary know how and continuing technological innovation and other trade secrets to develop and maintain our competitive position. While it is our policy to enter into agreements imposing confidentiality obligations upon our employees and third parties to protect our intellectual property, these confidentiality obligations may be breached, may not provide meaningful protection for our trade secrets or proprietary know how, or

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adequate remedies may not be available in the event of an unauthorized access, use or disclosure of our trade secrets and know how. In addition, others could obtain knowledge of our trade secrets through independent development or other access by legal means.

We may have to rely on judicial enforcement of our patents and other proprietary rights. We may not be able to effectively protect our intellectual property rights from misappropriation or infringement in countries where effective patent, trademark, trade secret and other intellectual property laws and judicial systems may be unavailable, or may not protect our proprietary rights to the same extent as U.S. law.

The failure of our patents or confidentiality agreements to protect our processes, apparatuses, technology, trade secrets or proprietary know how or the failure of adequate legal remedies for related actions could have a material adverse effect on our business, results of operations, financial condition and liquidity.

Conflicts, military actions, terrorist attacks, political events and general instability, along with increased security regulations related to our industry, could adversely affect our business.

Conflicts, military actions, terrorist attacks and political events have precipitated economic instability and turmoil in international commerce and the global economy. The uncertainty and economic disruption resulting from hostilities, military action or acts of terrorism may impact any or all of our facilities and operations or those of our suppliers or customers. Accordingly, any conflict, military action or terrorist attack that impacts us or any of our suppliers or customers, could have a material adverse effect on our business, results of operations, financial condition and liquidity. Furthermore, instability and turmoil, particularly in energy producing nations, may result in raw material cost increases.

Changes in social, political, regulatory and economic conditions or in laws and policies governing foreign trade, manufacturing, development and investment in the territories and countries where we currently develop and sell products, could adversely affect our business. For example, a number of governments have instituted regulations attempting to increase the security of chemical plants and the transportation of hazardous chemicals, which could result in higher operating costs and could have a material adverse effect on our financial condition and liquidity.

If our subsidiaries do not make sufficient distributions to us, then we will not be able to make payment on our debts.

Our debt is generally the exclusive obligation of Huntsman International. Our subsidiaries are separate legal entities and have no obligation, contingent or otherwise, to pay any amounts due on our debt or to make any funds available for those amounts, whether by dividends, loans, distributions or other payments, and do not guarantee the payment of interest on, or principal of, our debt. Any right that we have to receive any assets of any of our subsidiaries upon the liquidation or reorganization of any such subsidiary, and the consequent right of holders of notes to realize proceeds from the sale of their assets, will be structurally subordinated to the claims of that subsidiary’s creditors, including trade creditors and holders of debt issued by that subsidiary.

Regulatory or market changes with respect to MTBE may materially reduce our sales and/or materially increase our costs.

We produce MTBE, an oxygenate that is blended with gasoline to reduce vehicle air emissions and to enhance the octane rating of gasoline. Because of the allegations that MTBE has contaminated some water supplies, its use has

become controversial in the U.S. and elsewhere, and its use has been effectively eliminated in the U.S. market. We currently market MTBE, either directly or through third parties, to gasoline additive customers located outside the U.S. This business has been profitable to us over time, and legislative or regulatory initiatives or changing consumer opinion outside the U.S. restricting MTBE or changing consumer opinion could materially adversely affect our ability to market and sell MTBE and our profitability. In 2017, China announced that it would implement a mandate to use gasoline containing 10% ethanol by 2020. We expect MTBE prices in China to continue facing downward pressure as a result of downstream refiners and blenders reduce operations in line with strong government initiative to improve environment in the country. Expansion of our PO/MTBE operations, including our joint venture with Sinopec in China, further exposes us to these risks.

While we could use all or a portion of our precursor TBA to produce saleable products other than MTBE, this would require significant capital expenditures to modify our facilities. Moreover, the sale of other products would produce a lower level of cash flow than that historically produced from the sale of MTBE.

Our pension and postretirement benefit plan obligations are currently underfunded, and under certain circumstances we may have to significantly increase the level of cash funding to some or all of these plans, which would reduce the cash available for our business.

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We have unfunded and underfunded obligations under some of our domestic and foreign pension and postretirement benefit plans. The funded status of our pension plans is dependent upon many factors, including returns on invested assets, the level of certain market interest rates and the discount rates used to determine pension obligations. Unfavorable returns on the plan assets or unfavorable changes in applicable laws or regulations could materially change the timing and amount of required plan funding, which would reduce the cash available for our business. In addition, a decrease in the discount rate used to determine pension obligations could result in an increase in the valuation of pension obligations, which could affect the reported funding status of our pension plans and future contributions, as well as the periodic pension cost in subsequent fiscal years.

With respect to our domestic pension and postretirement benefit plans, the Pension Benefit Guaranty Corporation ("PBGC") has the authority to terminate an underfunded tax qualified pension plan under limited circumstances in accordance with the Employee Retirement Income Security Act of 1974, as amended. In the event our tax qualified pension plans are terminated by the PBGC, we could be liable to the PBGC for the entire amount of the underfunding and, under certain circumstances, the liability could be senior to our notes. With respect to our foreign pension and postretirement benefit plans, the effects of underfunding depend on the country in which the pension and postretirement benefit plan is established. For example, in the U.K. and Germany semi public pension protection programs have the authority in certain circumstances to assume responsibility for underfunded pension schemes, including the right to recover the amount of the underfunding from us.

Our debt level, a portion of which is subject to variable interest rates, makes us vulnerable to downturns and may limit our ability to respond to market conditions, to obtain additional financing or to refinance our debt.

As of December 31, 2018, our total consolidated outstanding debt was $2,320 million (including current portion of debt); our debt to total capitalization ratio was approximately 46%; our combined outstanding variable rate borrowings were approximately $312 million; and our current portion of debt totaled $96 million. Our debt level and the fact that a portion of our cash flow is required to make payments on our debt could have important consequences for our business, including but not limited to the following:

- we may be more vulnerable to business, industry or economic downturns, making it more difficult to respond to market conditions;
- cash flow available for other purposes, including the growth of our business, may be reduced;
- our ability to refinance or obtain additional financing may be constrained, particularly during periods when the capital markets are unsettled;
- our competitors with lower debt levels may have a competitive advantage relative to us; and
- part of our debt is subject to variable interest rates, which makes us more vulnerable to increases in interest rates (for example, a 1% increase in interest rates, without giving effect to interest rate hedges or other offsetting items, would increase our annual interest rate expense by approximately $3 million).

Our debt level also impacts our credit ratings. Any decision by credit rating agencies to downgrade our debt ratings could restrict our ability to obtain additional financing and could result in increased interest and other costs.

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RISKS RELATED TO OUR COMMON STOCK AND DEBT SECURITIES

Certain provisions contained in our certificate of incorporation and bylaws could discourage a takeover attempt, which may reduce or eliminate the likelihood of a change of control transaction and, therefore, limit your ability to sell our common stock at a price higher than the current market value.

Certain provisions contained in our certificate of incorporation and bylaws, such as limitations on stockholder proposals at meetings of stockholders, the inability of stockholders to call special meetings and certain provisions of Delaware law, could make it more difficult for a third party to acquire control of our Company, even if some of our stockholders were to consider such a change of control to be beneficial. Our certificate of incorporation also authorizes our Board of Directors to issue preferred stock without stockholder approval. Therefore, our Board of Directors could elect to issue preferred stock that has special voting or other rights that could make it even more difficult for a third party to acquire us, which may reduce or eliminate your ability to sell our common stock at a price higher than the current market value.

We have purchased, and may continue to purchase, a portion of our equity and debt securities, which could impact the market for our equity and debt securities and likely would negatively affect our liquidity.

Consistent with past practices, we may from time to time seek to repurchase or redeem our equity and debt securities in open market purchases, accelerated repurchase programs, privately negotiated transactions, tender offers, partial or full calls for redemption or otherwise. Any such repurchases or redemptions and the timing and amount thereof would depend on prevailing market conditions, liquidity requirements, contractual restrictions and other factors. Such transactions could negatively affect our liquidity.

ITEM 1B. UNRESOLVED STAFF COMMENTS

As of the date of this filing, we did not have any unresolved comments from the staff of the SEC.

ITEM 2. PROPERTIES

We own or lease chemical manufacturing and research facilities in the locations indicated in the list below which we believe are adequate for our short term and anticipated long term needs. We own or lease office space and storage facilities throughout the U.S. and in many foreign countries. Our principal executive offices are located at 10003 Woodloch Forest Drive, The Woodlands, Texas 77380. The following is a list of our principal owned or leased properties where manufacturing, research and main office facilities are located.

Location	Business Segment	Description of Facility
The Woodlands, Texas(1)	Various	Executive Offices, Operating Headquarters, Global Technology Center and Shared Services Center
Kuala Lumpur, Malaysia(1)	Various	Shared Services Center
Mumbai, India(1)	Various	Technology Center, Administrative Offices, Labs and Shared Services Center
Sao Paulo, Brazil(1)	Various	Administrative Offices and Accounting Shared Services Center
Geismar, Louisiana(2)	Polyurethanes and Performance Products	MDI, Nitrobenzene(2), Aniline(2), Polyols and Maleic Anhydride Manufacturing Facilities,

		Polyurethane Systems House
Rotterdam, The Netherlands(1)	Polyurethanes and other various	MDI Manufacturing Facility, Polyols Manufacturing Facilities, Polyurethanes Systems House and Accounting Shared Services Center
Caojing, China	Polyurethanes	MDI Finishing Facilities
Caojing, China(3)	Polyurethanes	Precursor MDI Manufacturing Facility
Jinshan, China(1)	Polyurethanes	TPU Manufacturing Facility
Deer Park, Australia	Polyurethanes	Polyurethane Systems House
Cartagena, Colombia	Polyurethanes	Polyurethane Systems House
Deggendorf, Germany	Polyurethanes	Polyurethane Systems House and Technology Center
Ternate, Italy	Polyurethanes	Polyurethane Systems House and Technology Center
Shanghai, China(1)	Polyurethanes, Performance Products and Advanced Materials	Polyurethane Systems House, Global Technology Center, Performance Products Regional Headquarters and Shared Services Center
Azeglio, Italy	Polyurethanes	Polyurethane Systems House
Pune, India(1)	Polyurethanes	Polyurethane Systems House

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Location	Business Segment	Description of Facility
	Polyurethanes	Polyurethane Systems House
Buenos Aires, Argentina(1)		
Samutprakarn, Thailand(1)	Polyurethanes	Polyurethane Systems House
Istanbul, Turkey	Polyurethanes	Polyurethane Systems House
Kuan Yin, Taiwan	Polyurethanes	Polyurethane Systems House
Tlalnepantla, Mexico	Polyurethanes	Polyurethane Systems House
Mississauga, Canada	Polyurethanes	Polyurethane Systems House
Obninsk, Russia	Polyurethanes	Polyurethane Systems House
Dammam, Saudi Arabia(4)	Polyurethanes	Polyurethane Systems House
Georgsmarienhütte, Germany	Polyurethanes	Polyurethane Systems House
Castelfranco Emilia, Italy	Polyurethanes	Polyurethane Systems House
Arlington, Texas	Polyurethanes	Polyurethane Systems House
Boisbriand, Canada	Polyurethanes	Polyurethane Systems House
King’s Lynn, U.K.(1)	Polyurethanes	Polyurethane Systems House
Ho Chi Minh City, Vietnam(1)	Polyurethanes and Advanced Materials	Polyurethanes Systems House and Formulating Facility
Auburn Hills, Michigan(1)	Polyurethanes	Polyurethane Research Facility
Everberg, Belgium	Polyurethanes and Performance Products	Polyurethane and Performance Products Regional Headquarters, Global Technology Center and Shared Service Center
Houston, Texas(1)	Polyurethanes	Polyols Manufacturing Facility
Derry, New Hampshire(1)	Polyurethanes	TPU Research Facility
Ringwood, Illinois(1)	Polyurethanes	TPU Manufacturing Facility
Osnabrück, Germany	Polyurethanes	TPU Manufacturing Facility
Wilton, U.K.	Polyurethanes and other various	Aniline and Nitrobenzene Manufacturing Facilities
Nanjing, China(5)	Polyurethanes	PO and MTBE Manufacturing Facilities
Port Neches, Texas	Polyurethanes and Performance Products	Olefins, EO, EG, Surfactants, Amines, PO and MTBE Manufacturing Facilities
Conroe, Texas	Performance Products	Amines and Carbonates Manufacturing Facility
Petfurdo, Hungary	Performance Products	Amines Manufacturing Facility
Llanelli, U.K.	Performance Products	Amines Manufacturing Facility
Freeport, Texas(1)	Performance Products	Amines Manufacturing Facility
Jurong Island, Singapore(1)	Performance Products	Amines Manufacturing Facility
Jubail, Saudi Arabia(6)	Performance Products	Amines Manufacturing Facility
Chocolate Bayou, Texas(1)	Performance Products	LAB Manufacturing Facility
Pensacola, Florida(1)	Performance Products	Maleic Anhydride Manufacturing Facility
Moers, Germany(7)	Performance Products	Maleic Anhydride Manufacturing Facility

Dayton, Texas	Performance Products	Surfactant Manufacturing Facility
Botany, Australia(1)	Performance Products	Surfactant/EG Manufacturing Facility
Ankleshwar, India(1)	Performance Products	Surfactant/Amines Manufacturing Facility
Melbourne, Australia(1)	Performance Products	Research Facility
Bergkamen, Germany	Advanced Materials	Synthesis Facility
Monthey, Switzerland	Advanced Materials	Formulating and Synthesis Facility
Pamplona, Spain	Advanced Materials	Synthesis Facility
McIntosh, Alabama	Advanced Materials	Formulating and Synthesis Facility
Bad Saeckingen, Germany	Advanced Materials	Formulating Facility
Duxford, U.K.	Advanced Materials	Formulating and Synthesis Facility
Taboão da Serra, Brazil	Advanced Materials, Polyurethanes and Textile Effects	Formulating Facility, Labs, Polyurethane Systems House and Chemicals and Inks Formulations Facility
Panyu, China(1)(8)	Advanced Materials and Textile Effects	Formulating and Synthesis Facility, Technology Center and Shared Services Center
East Lansing, Michigan	Advanced Materials	Formulating Facility
Los Angeles, California	Advanced Materials	Formulating Facility
Merrimack, New Hampshire(1)	Advanced Materials	Research Facility
Basel, Switzerland	Advanced Materials and Textile Effects	Advanced Materials Regional Headquarters, Technology Center
Langweid am Leich, Germany	Textile Effects	Chemicals Synthesis and Chemicals and Inks Formulation Facility
Charlotte, North Carolina	Textile Effects	Chemicals Formulations Facility
Samutsakorn (Mahachai), Thailand	Textile Effects	Textiles Dyes Synthesis and Dyes and Inks Formulations Facility
Atotonilquillo, Mexico	Textile Effects	Textile Dyes and Chemicals Synthesis and Formulations Facility
Baroda, India	Textile Effects	Textile Dyes Synthesis and Dyes and Chemicals Formulations Facility
Gandaria, Jakarta, Indonesia	Textile Effects and Polyurethanes	Textile Dyes and Chemicals Formulations Facility and Polyurethane Systems House
Fraijanes, Guatemala	Textile Effects	Chemicals Formulations Facility
Bogota, Colombia	Textile Effects	Chemicals Formulations Facility
Hangzhou, China(1)	Textile Effects	Chemicals Formulations Facility
Karachi, Pakistan(1)	Textile Effects	Chemicals Formulations Facility

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Location	Business Segment	Description of Facility
Singapore(1)	Textile Effects and other various	Textile Effects Headquarters and Administrative Offices
Wynyard, U.K.(1)	Various	Administrative Offices

(1) Leased land and/or building.
(2) The Geismar facility is owned as follows: we own 100% of the MDI, polyol and maleic anhydride facilities, and Rubicon LLC, a consolidated manufacturing joint venture with Lanxess in which we own a 50% interest, owns the aniline and nitrobenzene facilities. Rubicon LLC is a separate legal entity that operates both the assets that we own jointly with Lanxess and our wholly owned assets at Geismar.
(3) 35% interest in SLIC, our unconsolidated manufacturing joint venture with BASF and three Chinese chemical companies.
(4) 51% owned consolidated manufacturing joint venture with Basic Chemicals Industries Ltd.
(5) 49% interest in Nanjing Jinling Huntsman New Material Co., Ltd., our unconsolidated manufacturing joint venture with Sinopec. Beneficial commercial operations began during the second half of 2017.
(6) 50% interest in AAC, our consolidated manufacturing joint venture with the Zamil Group.
(7) 50% interest in Sasol Huntsman, our consolidated manufacturing joint venture with Sasol.
(8) 95% owned consolidated manufacturing joint venture with Guangzhou Sheng'an Package Company Limited.

ITEM 3. LEGAL PROCEEDINGS

Indemnification Matter

See "Note 19. Commitments and Contingencies—Indemnification Matter" to our consolidated financial statements.

Rockwood Litigation

On February 6, 2017, we filed a lawsuit in New York state court against Rockwood Holdings, Inc. ("Rockwood"), Albemarle Corporation (as Rockwood's successor) and certain former Rockwood executives to recover damage for fraud and breach of contract. During the commissioning of a new Venator production facility in Augusta, Georgia (the "Augusta Facility") for the synthesis of iron oxide pigments, the August facility experienced delays producing products at the expected specifications and quantities, raising questions regarding the capabilities of the technology we acquired from Rockwood in October 2014. In May 2018, Venator implemented a plan to cease using certain portions of the Augusta Facility and incurred significant restructuring expenses. The case is proceeding to arbitration, and we are seeking various forms of legal remedy, including compensatory damages, punitive damages, expectation damages, consequential damages and restitution. Venator is not party to the suit.

Texas Emissions Penalties

On August 17, 2017, we were informed by the Texas Commission on Environmental Quality (the "TCEQ") that we would be assessed a penalty of $104,128 in connection with eight alleged unauthorized air emission events dating back to November 2015. In December 2018, the TCEQ revised the proposed penalty to $91,002.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

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EXECUTIVE OFFICERS OF THE REGISTRANT

The following is information concerning our executive officers and significant employees as of the date of this report.

Peter R. Huntsman, age 55, is Chairman of the Board, President and Chief Executive Officer of our Company. Peter R. Huntsman has served as Chairman of the Board since January 2018 and as a director of our company and affiliated companies since 1994. Prior to his appointment in July 2000 as Chief Executive Officer, Mr. Huntsman had served as President and Chief Operating Officer since 1994. In 1987, Mr. Huntsman joined Huntsman Polypropylene Corporation as Vice President before serving as Senior Vice President and General Manager. Mr. Huntsman has also served as President of Olympus Oil, as Senior Vice President of Huntsman Chemical Corporation and as a Senior Vice President of Huntsman Packaging Corporation, a former subsidiary of our Company. Mr. Huntsman is a director or manager, as applicable, of Huntsman International and certain of our other subsidiaries. Mr. Huntsman currently serves as Chairman of the Board and a director of Venator Materials PLC, which separated from our Company in 2017.

Sean Douglas, age 54, is Executive Vice President and Chief Financial Officer. Mr. Douglas was appointed to this position in January 2017. Mr. Douglas was previously Vice President, Corporate Development and Treasurer from July 2015 to July 2016. Mr. Douglas left the Company in July 2012 to perform charitable services and rejoined the Company in July 2015. He previously served as our Vice President, Corporate Development from December 2009 until July 2012. Mr. Douglas served as Vice President and Treasurer from 2002 to December 2009, Vice President, Finance from July 2001 to 2002 and Vice President, Administration from January 1997 to July 2001. Prior to joining Huntsman in 1990, Mr. Douglas worked for the accounting firm of PricewaterhouseCoopers.

David M. Stryker, age 60, is Executive Vice President, General Counsel and Secretary. Mr. Stryker was appointed to this position in June 2013. Prior to joining Huntsman, Mr. Stryker served as Senior Vice President, General Counsel, Secretary and Chief Compliance Officer of the BASF Corporation since 2004. Previously, he was Associate General Counsel and Chief Compliance Officer at Siemens Corporation and, prior to that, a partner at the law firm of Kirkland & Ellis. Mr. Stryker started his legal career as a judicial clerk to the Honorable Robert H. Bork on the U.S. Court of Appeals for the D.C. Circuit.

Anthony P. Hankins, age 61, is Division President, Polyurethanes and Chief Executive Officer, Asia Pacific. Mr. Hankins was appointed to these positions in March 2004 and February 2011, respectively. From May 2003 to February 2004, Mr. Hankins served as President, Performance Products, from January 2002 to April 2003, he served as Global Vice President, Rigids Division for our Polyurethanes segment, from October 2000 to December 2001, he served as Vice President—Americas for our Polyurethanes segment, and from March 1998 to September 2000, he served as Vice President—Asia Pacific for our Polyurethanes segment. Mr. Hankins worked for ICI from 1980 to February 1998, when he joined our Company. At ICI, Mr. Hankins held numerous management positions in the plastics, fibers and polyurethanes businesses. He has extensive international experience, having held senior management positions in Europe, Asia and the U.S.

Rohit Aggarwal, age 51, is Division President, Textile Effects. Mr. Aggarwal was appointed to this position in July 2016. Mr. Aggarwal was previously Vice President and Managing Director of Indian Subcontinent for Huntsman from July 2015 to July 2016 and served in various positions within Huntsman’s Advanced Materials and Textile Effects segments from 2005 to 2013. In 2013, Mr. Aggarwal left Huntsman to join Louis Dreyfus Commodities B.V. as Chief Executive Officer of Asia Region, a position he held until his return to our Company in 2015.

Monte G. Edlund, age 63, is Division President, Performance Products. Prior to his appointment to this position in July 2015, Mr. Edlund served as Vice President—Americas, Advanced Materials since July 2011. From December 2007 to July 2011, Mr. Edlund served as Vice President—Global Specialty Textiles, Textile Effects, from April 2002 to

December 2007, he served as Vice President, Polymers and from June 1999 to April 2002, he served as Vice President, Marketing, Base Chemicals and Polymers. Prior to joining Huntsman in 1997 as Vice President—Marketing, Rexene, Mr. Edlund held numerous positions with Rexene Corporation.

Scott J. Wright, age 47, is Division President, Advanced Materials. Mr. Wright was appointed to this position in June 2016. Prior to that time, Mr. Wright served as Vice President of Huntsman Advanced Materials—Europe, Middle East & Africa since 2011. Before joining Huntsman's Advanced Materials segment, Mr. Wright spent 15 years in Huntsman's former P&A Business in a number of roles of increasing responsibility including product development, business planning, marketing and sales. Prior to joining Huntsman in July 1999, Mr. Wright worked with ICI.

Ronald W. Gerrard, age 59, is Senior Vice President, Environmental, Health & Safety and Manufacturing Excellence. Mr. Gerrard was appointed to this position in June 2009. He also serves as our Corporate Sustainability

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Officer. From May 2004 to June 2009, Mr. Gerrard served as Vice President, Global Operations and Technology in our Polyurethanes segment. From 1999 to May 2004, Mr. Gerrard served as Vice President, Asia; Business Director, Flexible Foams; and Director, EHS and Engineering, also within our Polyurethanes segment. Prior to joining Huntsman in 1999, Mr. Gerrard had worked for ICI and for EVC, a joint venture between ICI and Enichem. Mr. Gerrard is a Chartered Engineer.

R. Wade Rogers, age 53, is Senior Vice President, Global Human Resources. Mr. Rogers has held this position since August 2009. From May 2004 to August 2009, Mr. Rogers served as Vice President, Global Human Resources, from October 2003 to May 2004, Mr. Rogers served as Director, Human Resources—Americas and from August 2000 to October 2003, he served as Director, Human Resources for our Polymers and Base Chemicals businesses. From the time he joined Huntsman in 1994 to August 2000, Mr. Rogers served as Area Manager, Human Resources—Jefferson County Operations. Prior to joining Huntsman, Mr. Rogers held a variety of positions with Texaco Chemical Company.

Randy W. Wright, age 60, is Vice President and Controller. Prior to his appointment to this position in February 2012, Mr. Wright served as Assistant Controller and Director of Financial Reporting since July 2004. Prior to joining Huntsman in 2004, Mr. Wright held various positions with Georgia Pacific Corporation, Riverwood International, Johns Manville and PricewaterhouseCoopers. Mr. Wright is a Certified Public Accountant.

Twila Day, age 57, is Vice President and Chief Information Officer. Ms. Day was appointed to this position upon joining Huntsman in November 2018. Prior to joining Huntsman, Ms. Day was Managing Director, National Practice Lead for Technology Services, and a member of the executive committee at Alvarez & Marsal. Previously, Ms. Day served at SYSCO Corporation for more than 20 years in a variety of positions, culminating in her appointment as Senior Vice President Information Technology and Chief Information Officer.

Kevin C. Hardman, age 55, is Vice President, Tax. Mr. Hardman served as Chief Tax Officer from 1999 until he was appointed to his current position in 2002. Prior to joining Huntsman in 1999, Mr. Hardman was a tax Senior Manager with the accounting firm of Deloitte & Touche LLP, where he worked for 10 years. Mr. Hardman is a Certified Public Accountant and holds a master’s degree in tax accounting.

Ivan Marcuse, age 42, is Vice President, Investor Relations. Prior to joining Huntsman in April 2017, Mr. Marcuse served as Director, Equity Research, Specialty Chemicals for KeyBanc Capital Markets Inc. from August 2011 to February 2017. Previously, he was Vice President, Equity Research, Building Products and Materials, for Northcoast Research. Mr. Marcuse is a CFA charterholder and holds a master’s degree in business administration.

Claire Mei, age 44, is Vice President and Treasurer. Ms. Mei was appointed to this role upon joining Huntsman in August of 2018. Prior to joining Huntsman, Ms. Mei served as Vice President and Treasurer at Chobani Global Holdings since November 2016. Previously, Ms. Mei served in a variety of treasury and financial roles with increasing responsibility at several companies including Kraft Foods, PepsiCo, and Hyatt Corporation. Ms. Mei was also a management consultant with McKinsey & Company in Shanghai, China. Ms. Mei holds a master’s degree in business administration.

Pierre Poukens, age 56, is Vice President, Internal Audit, a position he has held since February 2012. Mr. Poukens was Director of Internal Audit from April 2005 to January 2012 and joined Huntsman as Internal Audit Manager in January 2000. Prior to joining Huntsman, Mr. Poukens held various accounting and auditing positions with European companies in Belgium. Mr. Poukens is a Certified Internal Auditor.

Luciano Reyes, age 47, is Vice President, Corporate Development. Mr. Reyes was appointed to this position upon joining Huntsman in August of 2018. Prior to joining Huntsman, Mr. Reyes was employed by Chicago Bridge & Iron

Company (CB&I) as Senior Vice President since 2015, and Vice President & Treasurer since 2006, subsequent to holding positions of increasing responsibility in Corporate Development, Finance and Treasury since joining CB&I in 1998. Previously, Mr. Reyes held various finance roles at USG Corporation, CIT Group and various banking institutions. Mr. Reyes holds a master's degree in business administration.

Nooshin Vaughn, age 44, is Vice President, Financial Planning and Analysis. Ms. Vaughn was appointed to this position effective June 2018. Ms. Vaughn previously served as Director, Investor Relations. Prior to that, Ms. Vaughn held numerous roles in finance, accounting and information technology. Prior to joining Huntsman in 1997, Ms. Vaughn worked for the accounting firm of Deloitte & Touche. Ms. Vaughn is a Certified Public Accountant.

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PART II

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

Market Information And Holders

Our common stock is listed on the New York Stock Exchange under the symbol "HUN." As of January 31, 2019, there were approximately 54 stockholders of record and the closing price of our common stock on the New York Stock Exchange was $21.97 per share.

Dividends

The payment of dividends is a business decision made by our Board of Directors from time to time based on our earnings, financial position and prospects, and such other considerations as our Board of Directors considers relevant. Accordingly, while management currently expects that the Company will continue to pay the quarterly cash dividend, its dividend practice may change at any time. On February 7, 2018, the Board of Directors approved an increase to the quarterly cash dividend to $0.1625 per share of common stock beginning with the March 30, 2018 quarterly dividend.

Securities Authorized For Issuance Under Equity Compensation Plans

See "Part III. Item 11. Executive Compensation" for information relating to our equity compensation plans.

Purchases Of Equity Securities By The Company

The following table provides information with respect to shares of our common stock that we repurchased as part of our share repurchase program and shares of restricted stock granted under our stock incentive plans that we withheld upon vesting to satisfy our tax withholding obligations during the three months ended December 31, 2018.

	Total number of shares purchased	Average price paid per share(1)	Total number of shares purchased as part of publicly announced plans or programs(2)	Approximate dollar value of shares that may yet be purchased under the plans or programs(2)
October	460,000	$ 21.87	460,000	$ 815,000,000
November	3,801,102	22.66	3,800,954	729,000,000
December	248,838	19.39	248,838	724,000,000
Total	4,509,940	$ 22.40		

(1) Represents net purchase price per share, exclusive of any fees or commissions.

(2) On February 7, 2018 and on May 3, 2018, our Board of Directors authorized our Company to repurchase up to an additional $950 million in shares of our common stock in addition to the $50 million remaining under our September 2015 share repurchase authorization. The share repurchase program will be supported by our free cash flow generation and by the monetization of Venator shares. Repurchases may be made in the open market, including through accelerated share repurchase programs, or in privately negotiated transactions, and repurchases may be commenced or suspended from time to time without prior notice. Shares of common stock acquired through the repurchase program are held in treasury at cost.

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ITEM 6. SELECTED FINANCIAL DATA

The selected historical financial data set forth below presents our historical financial data as of and for the dates and periods indicated. You should read the selected financial data in conjunction with "—Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and accompanying notes.

Huntsman Corporation

	Year ended December 31,				
(in millions, except per share amounts)	2018	2017	2016	2015	2014
Statements of Operations Data:					
Revenues	$ 9,379	$ 8,358	$ 7,518	$ 8,139	$ 10,029
Gross profit	2,025	1,806	1,518	1,734	1,853
Restructuring, impairment and plant closing (credits) costs	(5)	20	47	83	98
Operating income	1,038	845	663	717	772
Income from continuing operations	845	583	365	428	485
(Loss) income from discontinued operations, net of tax(a)	(195)	158	(8)	(302)	(140)
Net income	650	741	357	126	345
Net income attributable to noncontrolling interests	(313)	(105)	(31)	(33)	(22)
Net income attributable to Huntsman Corporation	337	636	326	93	323
Basic income (loss) per common share:					
Income from continuing operations attributable to Huntsman Corporation common stockholders	$ 3.21	$ 2.01	$ 1.41	$ 1.63	$ 1.91
(Loss) income from discontinued operations attributable to Huntsman Corporation common stockholders, net of tax(a)	(1.79)	0.66	(0.03)	(1.25)	(0.58)
Net income attributable to Huntsman Corporation common stockholders	$ 1.42	$ 2.67	$ 1.38	$ 0.38	$ 1.33
Diluted income (loss) per common share:					
Income from continuing operations attributable to Huntsman Corporation common stockholders	$ 3.16	$ 1.96	$ 1.39	$ 1.61	$ 1.88
(Loss) income from discontinued operations attributable to Huntsman Corporation common stockholders, net of tax(a)	(1.77)	0.65	(0.03)	(1.23)	(0.57)
Net income attributable to Huntsman Corporation common stockholders	$ 1.39	$ 2.61	$ 1.36	$ 0.38	$ 1.31
Other Data:					
Depreciation and amortization	$ 343	$ 319	$ 318	$ 298	$ 358
Capital expenditures	313	282	318	461	465
Dividends per share	0.65	0.50	0.50	0.50	0.50
Balance Sheet Data (at period end):					
Total assets	$ 7,953	$ 10,244	$ 9,189	$ 9,820	$ 10,923
Total debt	2,320	2,298	4,173	4,770	5,104
Total liabilities	5,204	6,873	7,722	8,191	8,972

(a) (Loss) income from discontinued operations represents the operating results of Venator through December 3, 2018 as well as our former Australian styrenics business, our former U.S. base chemicals business and our former North American polymers business. The U.S. base chemicals business was sold on November 5, 2007 and the North American polymers business was sold on August 1, 2007.

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

Recent Developments

Separation and Deconsolidation of the Venator

In August 2017, we separated the P&A Business and conducted an IPO of ordinary shares of Venator, formerly a wholly-owned subsidiary of Huntsman. Additionally, in December 2017, we conducted a secondary offering of Venator ordinary shares. All of such ordinary shares were sold by Huntsman, and Venator did not receive any proceeds from the offerings. Venator's ordinary shares began trading on The New York Stock Exchange under the symbol "VNTR" on August 3, 2017. On January 3, 2018, the underwriters purchased an additional 1,948,955 Venator ordinary shares pursuant to their over-allotment option, which reduced Huntsman's ownership interest in Venator to approximately 53%. Beginning in the third quarter of 2017, we reported the results of operations of Venator as discontinued operations.

During the third quarter of 2018, we recognized a net after tax valuation allowance of $270 million to adjust the carrying amount of the assets and liabilities held for sale and the amount of accumulated comprehensive income recorded in equity related to Venator to the lower of cost or estimated fair value, less cost to sell.

On December 3, 2018, we sold an additional aggregate of 4,334,389, or 4%, of Venator ordinary shares to Bank of America N.A. at a price to be determined based on the average of the daily volume weighted average price of Venator ordinary shares over an agreed period. Over this agreed period, we received aggregate proceeds of $19 million, $16 million of which was received in the first quarter of 2019. This transaction allowed us to deconsolidate Venator beginning in December 2018. Following this transaction, we retained approximately 49% ownership in Venator. In connection with the deconsolidation of Venator, we recorded a pretax loss of $427 million in discontinued operations to record our remaining ownership interest in Venator at fair value. We elected the fair value option to account for our equity method investment in Venator post deconsolidation. Accordingly, at December 31, 2018, we recorded a pretax loss of $57 million to record our equity method investment in Venator at fair value. This loss was recorded in "Fair value adjustments to Venator investment" on our consolidated statements of operations. For more information, see "Note 4. Discontinued Operations and Business Dispositions—Separation and Deconsolidation of Venator" to our consolidated financial statements.

Unsecured Revolving Credit Facility

On May 21, 2018, Huntsman International entered into the 2018 Revolving Credit Facility. Borrowings under the 2018 Revolving Credit Facility will bear interest at the rates specified in the credit agreement governing the 2018 Revolving Credit Facility, which will vary based on the type of loan and Huntsman International's debt ratings. Unless earlier terminated, the 2018 Revolving Credit Facility will mature in May 2023. Huntsman International may increase the 2018 Revolving Credit Facility commitments up to an additional $500 million, subject to the satisfaction of certain conditions. See "Note 14. Debt—Direct and Subsidiary Debt—Credit Facility" to our consolidated financial statements.

In connection with entering into the 2018 Credit Facility, Huntsman International terminated all commitments and repaid all obligations under the Prior Credit Facility. In addition, we recognized a loss of early extinguishment of debt of $3 million. Upon the termination of the Prior Credit Facility, all guarantees of the obligations under the Prior Credit Facility were terminated, and all liens granted under the Prior Credit Facility were released.

Share Repurchase Program

On February 7, 2018 and on May 3, 2018, our Board of Directors authorized us to repurchase up to an additional $950 million in shares of our common stock in addition to the $50 million remaining under our September 2015 share repurchase authorization. During the year ended December 31, 2018, we repurchased 10,405,457 shares of our common stock for approximately $276 million, excluding commissions, under the repurchase program. From January 1, 2019 through January 31, 2019, we repurchased an additional 537,018 shares of our common stock for approximately $11 million, excluding commissions.

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Demilec Acquisition

On April 23, 2018, we acquired 100% of the outstanding equity interests of Demilec for approximately $353 million, including working capital adjustments. The Demilec Acquisition, was funded from our Prior Credit Facility and our U.S. A/R Program. Demilec is a leading North American manufacturer and distributor of spray polyurethane foam formulations for residential and commercial applications. The acquired business is being integrated into our Polyurethanes segment. See “Note 3. Business Combination” to our consolidated financial statements.

Outlook

We expect the following factors to impact our operating segments:

Polyurethanes:

· Continued growth and stable margins in differentiated business
· Benefit of new capacity in China
· Continued globalization of recent acquisitions
· Lower component MDI and MTBE margins
· Some currency headwinds

Performance Products:

· Growth in downstream portfolio of specialty amines and surfactants
· Continued stable margins in our derivatives business
· Lower margins in our upstream intermediates businesses

Advanced Materials:

· Continued growth and stable margins in our specialty business
· Higher fixed costs and research and development spend, offset by specialty volume growth
· Continued break-even results in commodity businesses
· Some currency headwinds

Textile Effects:

· Continued EBITDA growth
· Sustainable solutions drive specialty and differentiated margins and volume growth
· Higher raw material costs due to continued China regulatory enforcements on certain dye ranges

In 2019, we expect to spend approximately $390 million on capital expenditures, including approximately $50 million for the construction of a new MDI splitting unit in Geismar, Louisiana.

In 2018, our adjusted effective tax rate was 19%. We expect our forward adjusted effective tax rate will be approximately 22% to 24%. For further information, see “—Non-GAAP Financial Measures” and “Note 18. Income Taxes” to our consolidated financial statements.

Refer to “Item 1A. Risk Factors” for a discussion of the factors that may impact our business, results of operations, financial condition or liquidity and “Forward-Looking Statements” for a discussion of our use of forward-looking statements.

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Results Of Operations

For each of our Company and Huntsman International, the following tables set forth our consolidated results of operations for the years ended December 31, 2018, 2017 and 2016 (dollars in millions, except per share amounts).

Huntsman Corporation

	Year ended December 31,			Percent Change	
	2018	2017	2016	2018 vs 2017	2017 vs 2016
Revenues	$ 9,379	$ 8,358	$ 7,518	12%	11%
Cost of goods sold	7,354	6,552	6,000		