

W R GRACE & CO

Form 10-K

February 27, 2013

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

FORM 10-K
ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF
THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2012

Commission file number 1-13953

W. R. GRACE & CO.

Incorporated under the Laws of the
State of Delaware

I.R.S. Employer Identification No.
65-0773649

7500 Grace Drive, Columbia, Maryland 21044-4098
(410) 531-4000

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

Title of each class	Name of each exchange on which registered
Common Stock, \$.01 par value	New York Stock Exchange, Inc.
Preferred Stock Purchase Rights	

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

None

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

Yes No

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

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

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

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

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

Large accelerated filer <input checked="" type="checkbox"/>	Accelerated filer <input type="checkbox"/>	Non-accelerated filer <input type="checkbox"/> (Do not check if a smaller reporting company)	Smaller reporting company <input type="checkbox"/>
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Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No

The aggregate market value of W. R. Grace & Co. voting and non-voting common equity held by non-affiliates as of June 30, 2012 (the last business day of the registrant's most recently completed second fiscal quarter) based on the closing sale price of \$50.45 as reported on the New York Stock Exchange was \$3,290,077,932.*

At January 31, 2013, 75,592,381 shares of W. R. Grace & Co. Common Stock, \$.01 par value, were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

None.

Based on 65,214,627 shares of W. R. Grace & Co. ("Grace") Common Stock, \$.01 par value, held by non-affiliates (74,845,708 shares outstanding as of June 30, 2012 less 9,631,081 shares held by stockholders, whose beneficial ownership exceeds 10% of the outstanding shares of Grace Common Stock, as listed in the Grace 2011 Annual *Report on Form 10-K as filed with the SEC on February 24, 2012, directors and named executive officers).

Exclusion of shares held by any person should not be construed to indicate that such person possesses the power, direct or indirect, to direct or cause the direction of the management or policies of Grace, or that such person is controlled by or under common control with Grace.

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Unless the context otherwise indicates, in this document the terms "Grace," "we," "us," "our" or "the Company" mean W. R. Grace & Co. and/or its consolidated subsidiaries and affiliates. Unless otherwise indicated, the contents of websites mentioned in this report are not incorporated by reference or otherwise made a part of this Report.

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PART I

Item 1. BUSINESS

BUSINESS OVERVIEW

W. R. Grace & Co. is engaged in the production and sale of specialty chemicals and specialty materials on a global basis through three operating segments: Grace Catalysts Technologies, which includes catalysts and related products used in refining, petrochemical and other chemical manufacturing applications; Grace Materials Technologies, which includes packaging technologies and engineered materials, used in consumer, industrial, and pharmaceutical applications; and Grace Construction Products, which includes specialty construction chemicals and specialty building materials used in commercial, infrastructure and residential construction. We entered the specialty chemicals industry in 1954, when we acquired both the Dewey and Almy Chemical Company and the Davison Chemical Company.

Grace is the successor to a company that originated in 1854 and originally became a public company in 1953.

In 2001, Grace and 61 of its United States subsidiaries and affiliates filed voluntary petitions for reorganization under Chapter 11 of the United States Bankruptcy Code and, since then, has been subject to the jurisdiction of the United States Bankruptcy Court for the District of Delaware (the "Bankruptcy Court").

During the first quarter of 2012, we realigned our business into three operating segments by dividing the businesses formerly operated through our Grace Davison operating segment into two operating segments, Grace Catalysts Technologies and Grace Materials Technologies. We made this change to align our operating segments more closely with the customers we serve and to better position our businesses to realize operational efficiencies and reduce overhead costs, through consolidating the management of our individual businesses at the segment level. We have restated the segment information for each period presented in our consolidated financial statements to reflect this realignment.

Our principal executive offices are located at 7500 Grace Drive, Columbia, Maryland 21044, telephone (410) 531-4000. As of December 31, 2012, we had approximately 6,500 global employees.

Grace Catalysts Technologies produces and sells catalysts and related products used in refining, petrochemical and other chemical manufacturing applications including:

Fluid Catalytic Cracking Catalysts, also called FCC catalysts, that help to "crack" the hydrocarbon chain in distilled crude oil to produce transportation fuels, such as gasoline and diesel fuels, and other petroleum-based products; and FCC additives used to reduce sulfur in gasoline, maximize propylene production from refinery FCC units, and reduce emissions of sulfur oxides, nitrogen oxides and carbon monoxide from refinery FCC units;

Hydroprocessing Catalysts, most of which are marketed through our Advanced Refining Technologies LLC, or ART, joint venture with Chevron Products Company in which we hold a 50% economic interest, that are used in process reactors to upgrade heavy oils into lighter, more useful products by removing impurities such as nitrogen, sulfur and heavy metals, allowing less expensive feedstocks to be used in the petroleum refining process (ART is not consolidated in our financial statements, so ART's sales are excluded from our sales); and

Polyolefin Catalysts and catalyst supports, for the production of polypropylene and polyethylene thermoplastic resins, which can be customized to enhance the performance of a wide range of industrial and consumer end-use applications including high pressure pipe, geomembranes, food packaging, automotive parts, medical devices, and textiles; and chemical catalysts used in a variety of industrial, environmental and consumer applications.

Grace Materials Technologies produces and sells specialty materials, coatings and sealants and related products used in coatings, consumer, industrial, pharmaceutical, and packaging applications including:

Silica-based engineered materials, including silica-based and silica-alumina-based materials, used in:

Coatings and print media applications, consisting of functional additives that provide matting effects and corrosion protection for industrial and consumer coatings, enable enhanced media and paper quality in ink jet coatings, and act as a functional filler and retention aid in paper,

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Consumer applications, as a free-flow agent, carrier or processing aid in food and personal care products; as a toothpaste abrasive and thickener; and for the processing and stabilization of edible oils and beverages;

Industrial applications, such as tires and rubber, precision investment casting, refractory, insulating glass windows, biofuels, and drying applications, fulfilling various functions such as reinforcement, high temperature binding and moisture scavenging;

Pharmaceutical, life science and related applications such as silica-based separation media and excipients and pharmaceutical intermediates combined with complementary purification products including chromatography columns and consumables and CO₂ adsorbents used in anesthesiology and mine safety applications; and

Packaging materials, including can and closure sealants used to seal and enhance the shelf life of can and bottle contents; coatings for cans and closures that prevent metal corrosion, protect package contents from the influence of metal and ensure proper adhesion of sealing compounds; and scavenging technologies designed to reduce off-taste and extend the shelf-life of packaged products.

Grace Construction Products produces and sells specialty construction chemicals and specialty building materials, including:

Construction Chemicals including concrete admixtures and fibers used to modify the rheology, improve the durability and enhance various other properties of concrete, mortar, masonry and other cementitious construction materials; and additives used in cement processing to improve energy efficiency in manufacturing, enhance the characteristics of finished cement and improve ease of use; and

Building materials used in both new construction and renovation/repair projects. The products protect buildings and civil engineering structures from water, vapor and air penetration. The portfolio includes waterproofing membranes for commercial and residential buildings, specialty grouts for use in waterproofing and soil stabilization applications, air and vapor barriers, and other products to solve the specialized needs of preventative and repair applications.

Global scope

We operate our business on a global scale with approximately 72% of our 2012 sales outside the United States. We conduct business in over 40 countries and in more than 40 currencies. We manage our operating segments on a global basis, to serve global markets. Currency fluctuations affect our reported results of operations, cash flows, and financial position.

Strategy Overview

Our strategy is to increase enterprise value by profitably growing our specialty chemicals and specialty materials businesses in the global marketplace and achieving high levels of efficiency. To meet these objectives, we plan to: invest in research and development activities, with the goal of introducing new high-performance, technically differentiated products and services while continuing to enhance manufacturing processes and operations; expand sales and manufacturing into emerging regions, including China, India, other economies in Asia, Eastern Europe, the Middle East and Latin America;

pursue selected acquisitions and alliances that complement our current product offerings or provide opportunities for faster penetration of desirable market or geographic segments; and continue our commitment to process and productivity improvements and cost-management, such as rigorous controls on working capital and capital spending, integration of functional support services worldwide, and programs for supply chain management, which include procurement, materials management and logistics.

CHAPTER 11 FILING

On April 2, 2001, Grace, along with 61 of our United States subsidiaries and affiliates, filed voluntary petitions for reorganization under Chapter 11 of the United States Bankruptcy Code in the United States Bankruptcy Court for

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the District of Delaware. The cases are being jointly administered under case number 01-01139. Our non-U.S. subsidiaries and certain of our U.S. subsidiaries were not included in the bankruptcy filing.

Background of Chapter 11

A bankruptcy filing under Chapter 11 of the United States Bankruptcy Code is generally a voluntary action taken by a debtor to resolve financial problems such as major liabilities. Chapter 11 gives a debtor the chance to restructure its finances so that it may continue to operate, provide its employees with jobs and pay its creditors. Chapter 11 can be used by debtors that are faced with large numbers of product liability lawsuits in multiple jurisdictions to provide a practical way to address the potential liabilities under the supervision of one court. A Chapter 11 filing generally stops all lawsuits against a debtor and prevents creditors from taking action to enforce claims or collect any monies or property that might be owed at the time of filing.

Chapter 11 permits a debtor to define and resolve its liabilities under a court-supervised process generally referred to as a reorganization. Unlike a Chapter 7, or liquidation bankruptcy, which results in the sale or distribution of all of the assets of a business, Chapter 11 reorganization permits a debtor to continue its normal business operations. Existing management may continue to manage the debtor's operations during the reorganization. As a debtor-in-possession, a debtor is able to do business with suppliers and customers in a routine manner. Certain other activities, including transactions outside the ordinary course of business, generally require specific approval of the Bankruptcy Court. The Chapter 11 process generally ends when a plan of reorganization for the debtor is confirmed by the Bankruptcy Court and the plan becomes effective following the satisfaction or waiver of any conditions, including the resolution of any appeals. In cases similar to ours with complex asbestos liabilities, debtors have taken several years to complete the Chapter 11 process.

Grace Chapter 11 Filing

We voluntarily entered Chapter 11 to resolve comprehensively nearly 130,000 pending asbestos personal injury and property damage claims as well as any future demands. These claims and demands relate to past products and processes that involved asbestos, a mineral formerly used widely for many decades in building and other commercial products. Prior to 2000, we were able to resolve asbestos-related claims through direct negotiations and litigation, paying over \$2 billion in claims and legal costs over a 20-year period. In most of the personal injury lawsuits, we were one of many defendants. In 2000 and the first quarter of 2001, we experienced an unexpected 81% increase in personal injury claims, most of which we believe were unmeritorious. We also became a defendant in class action lawsuits alleging damages from ZONOLITE® Attic Insulation, a former attic insulation product. Upward trends in claims filing and settlement demands showed no sign of returning to historic levels. These unfavorable trends were exacerbated by the bankruptcy filings of several of our co-defendants in asbestos personal injury litigation. These trends greatly increased the risk that we would not be able to resolve our pending and future asbestos-related claims in the civil litigation system.

After a thorough review of these developments, our Board of Directors concluded that a federal court-supervised bankruptcy process provided the best forum to achieve fairness in resolving these claims and demands. On April 2, 2001, we, along with 61 of our United States subsidiaries and affiliates, filed voluntary petitions for reorganization under Chapter 11 of the United States Code in the United States Bankruptcy Court for the District of Delaware. Since that time, we have been subject to the jurisdiction of the Bankruptcy Court. We are currently operating as a debtor-in-possession under court protection from creditors and claimants. We believe that our bankruptcy filing will permit a comprehensive resolution of the claims against us, while preserving the inherent value of our businesses. As a consequence of our bankruptcy filing, litigation against us as of the petition date is generally stayed (subject to certain exceptions in the case of governmental authorities), and no party may take any action to realize its pre-petition claims except pursuant to an order of the Bankruptcy Court. Since our bankruptcy filing, the Bankruptcy Court has approved all motions necessary for us to conduct normal business activities. Four committees have been appointed in the bankruptcy cases, two representing asbestos claimants, a third representing other unsecured creditors and a fourth representing shareholders. These committees, a legal representative of future asbestos personal injury claimants and a legal representative of future asbestos property damage claimants, have the right to be heard on all matters that come before the Bankruptcy Court and are playing important roles in the bankruptcy cases.

With certain other proponents, we have filed in the Bankruptcy Court a joint plan of reorganization, the Joint Plan, that is designed to address all pending and future asbestos-related claims and all other pre-petition claims. The Bankruptcy Court and the United States District Court for the District of Delaware have issued orders

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confirming the Joint Plan and overruling all objections. Appeals from these orders have been filed with the United States Court of Appeals for the Third Circuit to resolve certain issues including whether certain creditors are entitled to interest at rates higher than provided for in the Joint Plan; the validity of the asbestos trust structure called for in the Joint Plan; and the classification and treatment of asbestos claims under the Joint Plan. While we have the necessary Bankruptcy Court and District Court approvals to emerge from Chapter 11 protection, our emergence will depend on the satisfaction or waiver of the remaining conditions to the effectiveness of the Joint Plan. These conditions include the payments pursuant to the Sealed Air Settlement and the Fresenius Settlement, the availability of any required exit financing and the final resolution of all appeals from the orders confirming the Joint Plan. We will continue to seek the favorable disposition of the appeals, which may require the completion of the appellate process.

If any of the appeals is resolved adversely to us and the other Joint Plan proponents, whether or not the Joint Plan has become effective, and we cannot either agree with our co-proponents on an amendment to the Joint Plan to address the adverse ruling or agree with our asbestos creditors on the terms of a new plan of reorganization, we expect that the Joint Plan would be terminated and we would resume proceedings in the Bankruptcy Court to estimate the amount of our asbestos-related liabilities.

See disclosure in this Report in Item 8 (Financial Statements and Supplementary Data) in the Financial Supplement under Note 2 (Chapter 11 Information) and Note 3 (Asbestos-Related Litigation) to the Consolidated Financial Statements for a description of our proposed joint plan of reorganization and a detailed discussion of our Chapter 11 cases and asbestos-related liabilities.

PRODUCTS AND MARKETS

Specialty Chemicals and Materials Industry Overview

Specialty chemicals and specialty materials are high value-added products used as catalysts, intermediates, components, protectants or additives in a wide variety of products and applications. They are generally produced in relatively small volumes (compared with commodity chemicals) and must satisfy well-defined performance requirements and specifications. Specialty chemicals and specialty materials are often critical components of end products, catalysts for the production of end products and components used in end products. Consequently, they are tailored to meet customer needs, which generally results in a close relationship between the producer and the customer.

We focus our business on the following, which we believe are important competitive factors in the specialty chemicals and specialty materials industry:

- value-added products and services, sold at competitive prices;
- customer service, including rapid response to changing customer needs;
- technological leadership (resulting from investment in research and development and technical customer service); and
- reliability of product and supply.

We believe that our focus on these competitive factors enables us to deliver increased value to customers and competitive operating margins notwithstanding the increased customer service and research and development costs that this focus entails.

Grace Catalysts Technologies Operating Segment

Catalysts Technologies principally applies alumina, zeolite and inorganic support technologies in the design and manufacture of products to create significant value for our diverse customer base. Our customers include major oil refiners and plastics and chemicals manufacturers. We believe that our technological expertise provides a competitive advantage, allowing us to quickly design products that help our customers create value in their markets.

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The following table sets forth Catalysts Technologies sales of similar products as a percentage of Grace total revenue.

(In millions)	2012		2011		2010			
	Sales	% of Grace Revenue	Sales	% of Grace Revenue	Sales	% of Grace Revenue		
Refining Catalysts	\$986.8	31.3	% \$1,077.5	33.5	% \$742.0	27.8	%	
Polyolefin Catalysts and Supports	281.3	8.9	% 269.8	8.4	% 240.3	9.0	%	
Total Catalysts Technologies Revenue	\$1,268.1	40.2	% \$1,347.3	41.9	% \$982.3	36.8	%	

The following table sets forth Catalysts Technologies sales by region as a percentage of Catalysts Technologies total revenue.

(In millions)	2012		2011		2010			
	Sales	% of Catalysts Technologies Revenue	Sales	% of Catalysts Technologies Revenue	Sales	% of Catalysts Technologies Revenue		
North America	\$382.1	30.1	% \$462.4	34.3	% \$323.4	32.9	%	
Europe Middle East Africa	543.5	42.8	% 600.2	44.5	% 438.1	44.6	%	
Asia Pacific	256.9	20.3	% 216.4	16.1	% 146.3	14.9	%	
Latin America	85.6	6.8	% 68.3	5.1	% 74.5	7.6	%	
Total Catalysts Technologies Revenue	\$1,268.1	100.0	% \$1,347.3	100.0	% \$982.3	100.0	%	

Grace Catalysts Technologies—Refining Catalysts
FCC Catalysts

We are a global leader in developing and manufacturing fluid catalytic cracking, or FCC, catalysts and additives that enable petroleum refiners to increase profits by improving product yields and quality. Our FCC products also enable refiners to reduce emissions from their FCC units and reduce sulfur content in the gasoline that they produce.

Oil refining is a highly specialized discipline, and FCC catalysts must be tailored to meet local variations in crude oil and a refinery's product mix. We work regularly with our customers to identify the most appropriate catalyst formulations for their changing needs. We are dependent on the economics of the petroleum industry, specifically, the impacts of demand for transportation fuels and petrochemical products and crude oil supply, which affect the extent to which our customers utilize the available capacity of their refinery FCC units. In general, as a refinery utilizes more of its capacity, it needs a disproportionately greater amount of FCC catalyst. In recent years global economic growth, especially in emerging regions, has increased the demand for transportation fuels, and our FCC catalysts and additives. Other factors may reduce the demand for petroleum-based transportation fuels such as weak economic conditions and high retail gasoline and diesel fuel prices. In addition, government policy that encourages the use of non-petroleum-based fuels, discourages the use of diesel fuel or encourages greater vehicular fuel economy may negatively affect demand for our FCC catalysts and additives.

Refinery feedstocks vary in quality from sweet to heavy crude oil. Sweet crude feedstocks are typically more expensive than heavy crude and yield a greater proportion of high-value petroleum products. They also yield a lower proportion of residual oil, or "resid," which is generally the lowest-value feedstock contained in crude oil. Although heavy crude feedstocks with high resid content are typically less expensive than higher quality feedstocks, the processing of high-resid feedstocks is more difficult because of their relatively high metals, nitrogen and sulfur contamination and higher boiling points. We have designed our MIDAS[®] catalyst, IMPACT[®] catalyst, NEKTOR[™] catalyst, and NOMUS[™] catalyst product portfolios to enable our customers to increase the efficiency and yield of high-resid feedstock refining.

As a result of volatility in the price of diesel fuel as compared to gasoline, refiners desire the flexibility to adjust the yield of light cycle oil, a component of diesel fuel, from their FCC units. We have designed our MIDAS[®] 300 catalyst and DIESELISER[™] catalyst products to increase the yield of light cycle oil from refinery FCC units.

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During 2010, the People's Republic of China reduced its quotas on exports of the rare earths that we use in the manufacture of FCC catalysts, causing significant increases in global prices of rare earths in 2010 and early 2011. In response to these price increases, we developed our RESIDULTRA™ low-rare earth FCC catalyst and our REPLACER® product line of no-rare earth FCC catalysts to mitigate the higher cost of rare earths without sacrificing performance. Starting in the third quarter of 2011, global prices of rare earths declined rapidly and significantly. Since then, we have added rare earth to some of our FCC catalyst formulations when doing so improves the performance and value of the catalyst.

Many U.S. petroleum refiners have entered into consent decrees with the U.S. Environmental Protection Agency (EPA) under which the refiners have agreed to reduce emissions of nitrogen oxides and sulfur oxides. The European Union has also imposed requirements on refineries with respect to nitrogen oxides and sulfur oxides emissions. FCC units are generally the largest emitters of these pollutants in a refinery. Our additives are designed to assist refineries in meeting their obligations to reduce these pollutants. Our Super DESOX® additive reduces sulfur oxides emissions from commercial FCC units. During 2011, we also launched our two low rare earth versions of Super DESOX® additive. Our XNOX® and CP®P additives are designed to achieve reductions in nitrogen oxides emissions comparable to those obtained from capital intensive alternatives available to a refinery.

Global economic growth, especially in emerging regions, has increased the demand for plastics. As a result, our refinery customers have sought increased profits from petrochemicals by increasing the yield of propylene from their FCC units. Our ZSM-5-based technology, including our OLEFINSMAX® and OLEFINSULTRA® additive products, is designed to maximize the propylene output of FCC units.

In recent years, many countries and regions, including the U.S., European Union, Russia, India and China have imposed or increased the regulatory limitations on the sulfur content of gasoline and diesel fuel. We have developed a portfolio of products designed to assist refiners in meeting their gasoline sulfur reduction targets including our D-PRISM® and GSR® 5 additives and our SURCA® and NEPTUNE™ catalyst families.

Competition in FCC catalysts and additives is based on technology, product performance, customer service and price. Our principal FCC catalyst competitors are Albemarle and BASF which, with Johnson Matthey, are also principal competitors in FCC additives. We also have multiple regional competitors for FCC catalysts and additives.

Hydroprocessing Catalysts

We market hydroprocessing catalysts primarily through ART, our joint venture with Chevron. We established ART to combine our technology with that of Chevron and to develop, market and sell hydroprocessing catalysts to customers in the petroleum refining industry worldwide.

As discussed above, our business is dependent on the economics of the petroleum industry. Refineries increasingly use feedstocks that have high resid content. We are a leading supplier of hydroprocessing catalysts designed for processing these feedstocks. We offer products for fixed-bed resid hydrotreating, on-stream catalyst replacement and ebullating-bed resid hydrocracking processes.

We also offer a full line of catalysts, customized for individual refiners, used in distillate hydrotreating to produce ultra-low sulfur content gasoline and diesel fuel, including our SMART CATALYST SYSTEM® and APART® catalyst system. As discussed above, regulatory limitations on the sulfur content of gasoline and diesel fuel are becoming more common. These products are designed to help refiners to reduce the sulfur content of their products. Competition in the hydroprocessing catalyst industry is based on technology, product performance, customer service and price. Criterion, Albemarle, Haldor Topsoe and Axens are our leading global competitors in hydroprocessing catalysts. We also have multiple regional competitors.

Grace Catalysts Technologies—Polyolefin Catalysts and Catalyst Supports

We are a leading provider of catalyst systems and catalyst supports to the polyolefins industry for a variety of polyethylene and polypropylene process technologies. These types of catalysts are used for the manufacture of polyethylene and polypropylene thermoplastic resins used in products such as plastic film, high-performance plastic pipe, automobile parts, household appliances and household containers. We use a combination of proprietary catalyst and support technology, as well as technology licensed from third parties, to provide unique catalyst-based solutions to industry, and to provide a broad technology portfolio for enhancing collaboration opportunities with technology leaders.

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Our MAGNAPORE® polymerization catalyst is used to produce high performance polyethylene in the slurry loop process for pipe and film applications. Our POLYTRAK® polymerization catalyst is designed to achieve improved polypropylene performance, particularly for impact resistant applications such as automobile bumpers and household appliances.

Our DAVICAT® standard and customized catalysts offer a wide range of chemical and physical properties based on our material science technology for supported catalysts, polystyrene, herbicide, neutraceuticals and on purpose olefins. Our RANEY® nickel, cobalt and copper hydrogenation and dehydrogenation catalysts are used for the synthesis of organic compounds for the fibers, polyurethanes, engineered plastics, pharmaceuticals, sweeteners and petroleum industries.

The polyolefin catalyst and supports industry is technology-intensive and suppliers must provide products formulated to meet customer specifications. There are many manufacturers of polyolefin catalysts and supports including PQ/INEOS, Albemarle, LyondellBasell, Univation and BASF, and most sell their products worldwide.

Grace Catalysts Technologies—Manufacturing, Marketing and Raw Materials

Our Catalysts Technologies products are manufactured by a network of globally coordinated plants that are positioned to service our customers regionally. Our integrated planning organization is responsible for the effective utilization of our manufacturing capabilities.

We use a global organization of technical professionals with extensive experience in refining processes, catalyst development, and catalyst applications to market our refining catalysts and additives. These professionals work to tailor our technology to the needs of each specific customer. We generally negotiate prices for our refining catalysts because our formulations are specific to the needs of each customer and each customer receives individual attention and technical service. We sell a significant portion of our hydroprocessing catalysts through multiple-year supply agreements with our geographically diverse customer base.

We use a global direct sales force for our polyolefin catalysts and supports and chemical catalysts that seeks to maintain close working relationships with our customers. These relationships enable us to cooperate with major polymer and chemical producers to develop catalyst technologies that complement their process developments. We have geographically distributed our sales and technical service professionals to make them responsive to the needs of our geographically diverse customers. We typically operate under long-term contracts with our customers.

Seasonality does not have a significant overall effect on our Catalysts Technologies operating segment. However, sales of FCC catalysts tend to be lower in the first calendar quarter prior to the shift in production by refineries from home heating oil for the winter season to gasoline production for the summer season. FCC catalysts and ebullating-bed hydroprocessing catalysts are consumed at a relatively steady rate and are replaced regularly.

Fixed-bed hydroprocessing catalysts are consumed over a period of years and are replaced in bulk in an irregular pattern. Since our customers periodically shut down their refining processes to replace fixed-bed hydroprocessing catalysts in bulk, our hydroprocessing catalyst sales to any customer can vary substantially over the course of a year and between years based on that customer's catalyst replacement schedule.

The principal raw materials for Catalysts Technologies products include rare earths, molybdenum, caustic soda, aluminum, sodium aluminate, nickel, alumina, kaolin and cobalt. Multiple suppliers are generally available for each of these materials; however, some of our raw materials may be provided by single sources of supply. We seek to mitigate the risk of using single source suppliers by identifying and qualifying alternative suppliers or, for unique materials, by using alternative formulations from other suppliers or by passing price increases on to customers. In some instances, we produce our own raw materials and intermediates.

Prices for many of our raw materials, including metals and petroleum-based specialty and commodity materials such as resins and solvents, have been volatile in recent years. In response to increases in raw material costs, we generally take actions to mitigate the effect of higher costs including increasing prices, developing alternative formulations for our products and increasing productivity. In particular, during 2010, the People's Republic of China reduced its quotas on exports of the rare earths that we use in the manufacture of FCC catalysts, which significantly increased global prices. In response, we have implemented surcharges on certain FCC catalysts and we have taken other actions to reduce the impact of these higher costs on us and our customers.

As in many chemical businesses, we consume significant quantities of natural gas in the production of Catalysts Technologies products. World events and other economic factors have caused volatility in the price of natural gas. Increases or decreases in the cost of natural gas and raw materials can have a significant impact on our operating margins.

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Grace Materials Technologies Operating Segment

Materials Technologies principally applies silica, zeolite, resin, rubber and latex technologies in the design and manufacture of products to create significant value for our diverse customer base. Our customers include plastics and chemicals manufacturers, producers of rigid food and beverage packaging, coatings manufacturers, consumer product manufacturers and pharmaceutical companies. We believe that our technological expertise provides a competitive advantage, allowing us to quickly design products that help our customers create value in their markets.

The following table sets forth Materials Technologies sales of similar products as a percentage of Grace total revenue.

(In millions)	2012		2011		2010			
	Sales	% of Grace Revenue	Sales	% of Grace Revenue	Sales	% of Grace Revenue		
Engineered Materials	\$478.3	15.1	% \$500.5	15.6	% \$470.8	17.6	%	
Packaging Products	384.3	12.2	% 372.1	11.6	% 348.6	13.0	%	
Total Materials Technologies Revenue	\$862.6	27.3	% \$872.6	27.2	% \$819.4	30.6	%	

The following table sets forth Materials Technologies sales by region as a percentage of Materials Technologies total revenue.

(In millions)	2012		2011		2010			
	Sales	% of Materials Technologies Revenue	Sales	% of Materials Technologies Revenue	Sales	% of Materials Technologies Revenue		
North America	\$174.0	20.2	% \$173.1	19.8	% \$162.8	19.9	%	
Europe Middle East Africa	362.4	41.9	% 378.6	43.4	% 353.5	43.1	%	
Asia Pacific	185.9	21.6	% 184.1	21.1	% 171.9	21.0	%	
Latin America	140.3	16.3	% 136.8	15.7	% 131.2	16.0	%	
Total Materials Technologies Revenue	\$862.6	100.0	% \$872.6	100.0	% \$819.4	100.0	%	

Grace Materials Technologies—Silica-based Materials

We provide enabling technologies that are silica- and silica-alumina-based functional additives and process aids, such as silica gel, colloidal silica, zeolitic adsorbents, precipitated silica and silica-aluminas, for a wide variety of applications. Our product portfolio includes:

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Application	Use	Key Brands
Industrial	Reinforcing agents for rubber and tires	PERKASIL®
	Inorganic binders and surface smoothening aids for precision investment casting and refractory applications	LUDOX®
	Adsorbents for dual pane windows and industrial applications, desiccant granules, beads, powders and bags and polyurethane moisture scavengers	PHONOSORB®, PHONOSORB MTX®, SYLOBEAD®, SYLOSIV®, CRYOSIV®, SAFETYSORB®
	Chemical metal polishing aids and formulations for chemical mechanical planarization/electronics applications	LUDOX®, POLIEDGE®
	Polymer additives for producers and processors of plastic products that prevent layers of polymer film from sticking together, improve dispersal of pigments and ease removal from molds	SYLOBLOC®
	Process adsorbents used in petrochemical and natural gas processes for such applications as ethylene-cracked-gas-drying, natural gas drying and sulfur removal	SYLOBEAD®
	Toothpaste abrasives and thickening agents, free-flow agents, anticaking agents, tableting aids, cosmetic additives and flavor carriers	SYLODENT®, SYLOID® FP, SYLOBLANC®, ELFADENT®, SYLOID®, SYLOSIV®
Consumer	Edible oil refining agents, beer stabilizers and clarification aids for beer, juices and other beverages	DARACLAR®, TRISYL®
	Coatings and Print Media	Matting agents, anticorrosion pigments, TiO ₂ extenders and moisture scavengers for paints and lacquers
Additives and formulations for matte, semi-glossy and glossy ink receptive coatings on high performance ink jet papers, photo paper, and commercial wide-format print media		SYLOJET®, DURAFILL®, LUDOX®
Paper retention aids, functional fillers, paper frictionizers		DURAFILL®, LUDOX®, REVELERIS®, REVEALX™, GRACERESOLV™
Discovery Sciences	Flash chromatography systems and consumables	VISIONHT®, VYDAC®, ALLTECH®, ALLTIMA®
	Analytical scale high performance liquid chromatography (HPLC) columns and detectors	DAVISIL®, VYDAC®, MODCOL®, SPRING®, MULTIPACKER®
	Preparative scale purification products including media, column hardware, and equipment	SYLOID® FP
	Pharmaceutical excipients and intermediates	SODASORB®
	CO ₂ adsorbents for anesthesiology and re-breathing applications	

Our silica-based engineered materials are integrated into our customers' manufacturing processes and, when combined with our technical support, increase the efficiency and performance of their products. By working closely with our customers, we help them to respond quickly to the changing needs of brand owners and consumers. We focus on high-growth segments and seek to develop and introduce new products that add additional value to the current and future needs of our customers. For example, our customers have incorporated our products into higher resolution print media, less abrasive high cleaning toothpastes and technologies that are friendly to the environment such as water-based and VOC-compliant coatings, green tires with lower roll resistance and non-toxic anticorrosion protection. Our discovery sciences products are used in a wide range of applications, including drug discovery and purification for the healthcare, pharmaceutical and biotechnology industries, environmental analysis, forensics, petrochemical analysis and the manufacture of food, cosmetics, vitamins and biofuels. We also market

chromatography consumables and analytical and preparative columns packed with our specialty media. We can modify the base silica and surface chemistry for analytical, preparative and process-scale customers in order to enhance our product performance for their unique applications.

Our silica-based engineered materials sales are global. There are many manufacturers of engineered materials that market their products on a global basis including Evonik, PQ/INEOS, and UOP. Competition is generally based on product performance, technical service and reliability, as well as additional value-added features to address the needs of our customers, end-users and brand owners. Our discovery sciences products compete on the basis of product quality, distinct technology and customer support. Competition for these products is highly fragmented with a large number of companies that sell their products on a global and regional basis, although a number of companies, such as Waters Corporation, Agilent Technologies and Thermo-Fisher, have a substantial global position and a relatively large installed customer base.

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Grace Materials Technologies—Packaging Products

We are a global leader in can and closure sealants that, along with our specialized can and closure coatings, we supply to the packaging industry. Our product portfolio includes:

Products

Can sealants for rigid containers that ensure a hermetic seal between the lid and the body of beverage, food, aerosol and other cans

Sealants for metal and plastic bottle closures that are used on pry-off and twist-off metal crowns, as well as roll-on pilfer-proof and plastic closures to seal and enhance the shelf life of food and beverages in glass and plastic bottles and jars

Coatings for metal packaging that are used in the manufacture of cans and closures to protect the metal against corrosion, protect the contents against the influences of metal, ensure proper adhesion of sealing compounds to metal surfaces, and provide base coats for inks and for decorative purposes

Our packaging products are designed to address major industry trends such as lighter weight packaging, lower energy consumption, personal convenience, and highly individualized packaging. Our growth is driven by innovation of higher performing products, continuous discovery of new applications, increasing demand for sustainability and rising disposable income in emerging regions. We seek to capitalize upon our technical customer service, global infrastructure and expertise in global regulatory compliance (including food law compliance) to enhance our growth, especially in emerging regions. We also seek to develop and introduce new products that add additional value to the current and future needs of our customers, such as our introduction of products with oxygen scavenging functionality.

Our packaging products sales are global. There are many manufacturers of packaging products that market their products on a global basis including Altana, Akzo Nobel, PPG and Valspar. Competition is generally based on product performance, technical service and reliability, as well as additional value-added features to address the needs of our customers, end-users and brand owners.

Grace Materials Technologies—Manufacturing, Marketing and Raw Materials

Our Materials Technologies products are manufactured by a network of globally coordinated plants that are positioned to service our customers regionally. Our packaging products are manufactured in both large facilities to permit economies of scale and a network of smaller operations that enable customization to local market conditions. Our integrated planning organization is responsible for the effective utilization of our manufacturing capabilities.

We use country-based direct sales forces that are dedicated to each product line and backed by application-specific technical customer service teams to market our Materials Technologies products. Our sales force seeks to develop long-term relationships with our customers and focuses on consultative sales, technical support and key account growth programs. To ensure full geographic coverage, our direct sales organization is further supplemented by a network of agents and distributors.

Seasonality does not have a significant overall effect on our Materials Technologies operating segment; however, our packaging products and some of our construction-related products such as insulated glass desiccants are affected by seasonal and weather-related factors including the consumption of beverages, the size and quality of food crops and the level of construction activity. These impacts are mitigated by the global scope of our business.

The principal raw materials for Materials Technologies products include solvents, resins, sodium silicate, latexes (including certain food-grade raw materials) and rubber. Multiple suppliers are generally available for each of these materials; however, some of our raw materials may be provided by single sources of supply. We seek to mitigate the risk of using single source suppliers by identifying and qualifying alternative suppliers or, for unique materials, by using alternative formulations from other suppliers or by passing price increases on to customers. In some instances, we produce our own raw materials and intermediates.

Prices for many of our raw materials, including specialty and commodity materials such as latex, rubbers, pigments, resins and solvents, have been volatile in recent years. In response to increases in raw material costs, we generally take actions to mitigate the effect of higher costs including increasing prices, developing alternative formulations for our products and increasing productivity.

Key Brands

DAREX®

DAREX®, DARAFORM®, DARASEAL®, DARABLEND®, SINCERA®, CELOX®

DAREX®, APPERTA®, SISTIAGA®

As in many chemical businesses, we consume significant quantities of natural gas in the production of Materials Technologies products. World events and other economic factors have caused volatility in the price of

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natural gas. Increases or decreases in the cost of natural gas and raw materials can have a significant impact on our operating margins.

Since we manufacture a substantial portion of our packaging products in emerging regions using raw materials from suppliers in the U.S., Europe and other advanced economies, changes in the values of the currencies of these emerging regions versus the U.S. dollar and the euro may adversely affect our raw material costs and the prices we may charge for our products.

Grace Construction Products Operating Segment

Construction Products produces and sells specialty construction chemicals and specialty building materials. We are a supplier to the nonresidential (commercial and infrastructure) construction industry, and to a lesser extent, the residential construction and repair and restoration industries.

The following table sets forth Construction Products sales of similar products as a percentage of Grace total revenue.

(In millions)	2012		2011		2010			
	Sales	% of Grace Revenue	Sales	% of Grace Revenue	Sales	% of Grace Revenue		
Specialty Construction Chemicals	\$680.7	21.6	% \$656.6	20.5	% \$586.8	21.9	%	
Specialty Building Materials	344.1	10.9	% 335.4	10.4	% 286.5	10.7	%	
Total Construction Products Revenue	\$1,024.8	32.5	% \$992.0	30.9	% \$873.3	32.6	%	

The following table sets forth Construction Products sales by region as a percentage of Construction Products total revenue.

(In millions)	2012		2011		2010			
	Sales	% of Construction Products Revenue	Sales	% of Construction Products Revenue	Sales	% of Construction Products Revenue		
North America	\$411.5	40.2	% \$406.3	41.0	% \$368.0	42.1	%	
Europe Middle East Africa	269.7	26.3	% 281.6	28.4	% 261.0	29.9	%	
Asia Pacific	217.5	21.2	% 198.8	20.0	% 165.0	18.9	%	
Latin America	126.1	12.3	% 105.3	10.6	% 79.3	9.1	%	
Total Construction Products Revenue	\$1,024.8	100.0	% \$992.0	100.0	% \$873.3	100.0	%	

Grace Construction Products—Specialty Construction Chemicals

We supply concrete admixtures and fibers used to modify the rheology, improve the durability and enhance various other properties of concrete, mortar, masonry and other cementitious construction materials; and additives used in cement processing to improve energy efficiency in manufacturing, enhance the characteristics of finished cement and improve ease of use, including the following products:

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Products	Uses	Customers	Key Brands
Concrete admixtures	Concrete admixtures and polymeric fibers used to reduce the production and in-place costs of concrete, increase the performance of concrete and improve the life cycle cost of the structure	Ready-mix and precast concrete producers, engineers and specifiers	ADVA [®] , STRUX [®] , MIRA [®] , POLARSET [®] , ECLIPSE [®]
Additives for cement processing	Cement additives added to the grinding stage of the cement manufacturing process to improve the energy efficiency of the plant and enhance the performance of the finished cement. Chromium reducing additives help cement manufacturers in Europe meet environmental regulations	Cement manufacturers	CBA [®] , SYNCHRO [®] , HEA2 [®] , TDA [®]
Products for architectural concrete	Products for architectural concrete include surface retarders, coatings, pigments and release agents used by concrete producers and contractors to enhance the surface appearance and aesthetics of concrete	Precast concrete producers and architects	PIERI [®]
Admixtures for masonry concrete	Products for masonry concrete used by block and paver producers for process efficiency and to improve the appearance, durability and water resistance of finished concrete masonry units	Masonry block manufacturers	DRY-BLOCK [®] , OPTEC [®] , QUANTEC [®]
Process control solutions for ready mix concrete	Electro-mechanical devices, sensors and other technologies that assist concrete producers in controlling product quality and production costs	Ready mix concrete manufacturers	VERIFI [®]

Grace Construction Products—Specialty Building Materials

We supply building materials used in both new construction and renovation/repair projects. The products protect buildings and civil engineering structures from water, vapor and air penetration. The portfolio includes waterproofing membranes for commercial and residential buildings, specialty grouts for use in waterproofing and soil stabilization applications, air and vapor barriers, and other products to solve the specialized needs of preventative and repair applications including the following:

Products	Uses	Customers	Key Brands
Remedial waterproofing	Products for repair and remediation in waterproofing applications and soil stabilization	Contractors, municipalities and other owners of large infrastructure facilities	DENEFF [®] HYDRO ACTIVE [®] Cut, DENEFF [®] AC-400, DENEFF [®] SWELLSEAL [®] WA, DENEFF [®] MC-500 BITUTHENE [®] ,
Structural waterproofing, vapor and air barrier systems	Structural waterproofing and air barrier systems to prevent water, vapor and/or air infiltration in commercial structures, including self-adhered sheet and liquid membranes, joint sealing materials, drainage composites and waterstops.	Architects and structural engineers; specialty waterproofing and general contractors; specialty waterproofing distributors	PROCOR [®] , PREPRUFE [®] , ADPRUFE [®] , HYDRODUCT [®] , PERM-A-BARRIER [®] , ADCOR [®] ES, SILCOR [®]
Residential building materials	Specialty roofing membranes and flexible flashings for windows, doors, decks and	Roofing contractors, home builders and	ICE & WATER SHIELD [®] ,

detail areas, including fully adhered roofing remodelers; specialty TRI-FLEX®,
underlayments, synthetic underlayments roofing distributors, VYCOR®
and self-adhered flashing. lumberyards and home
centers; homeowners;

architects and specifiers

Local contractors and
specialty subcontractors
and applicators; building
materials distributors;
industrial manufacturers;
architects and structural
engineers

Fire protection

Fire protection products spray-applied to
the structural steel frame, encasing and
insulating the steel and protecting the
building in the event of fire.

MONOKETE®

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Grace Construction Products—Manufacturing, Marketing and Raw Materials

In view of our diversity of customers and customer requirements, and because specialty construction chemicals and specialty building materials require intensive sales and customer service efforts, we maintain a direct sales and technical support team with sales personnel based in approximately 40 countries worldwide. This sales and support team sells products under global contracts, under U.S. or regional contracts, and on a job-by-job basis. We also use distributors in both U.S. and non-U.S. markets. We compete globally with several large construction materials suppliers, and regionally and locally with numerous smaller competitors. In recent years, the cement and concrete industry has experienced some consolidation, thereby increasing the importance of serving well our global customers. For some customer groups, such as producers and contractors, operational efficiency and total applied cost are key factors in making purchasing decisions, while for others, such as architects and engineers, product performance and design versatility are more important.

Competition for our construction products is based on product performance, technical support and service, brand name recognition in the construction industry and price. Our major global specialty construction chemicals competitors are BASF and Sika.

We seek to improve our products, adapt them for new applications and add new products through our growth and innovation processes that focus on understanding the needs of our customers, key performance indicators and research and development.

In addition to new product introductions and product enhancements, we look for growth opportunities in emerging regions where increasing construction activity, improvement in building codes, and sophistication of construction practices can accelerate demand for our construction products. We continue to expand our commercial and manufacturing capabilities in these geographic areas.

The key raw materials used in our specialty construction products are obtained from a variety of suppliers, including basic chemical and petrochemical producers. The majority of our raw materials are organic chemicals derived from olefins. We also make significant purchases of inorganic materials such as gypsum, as well as specialty materials including specialty films, papers and fibers. In most instances, these materials are available from multiple sources. Global supply and demand factors, changes in currency exchange rates, and petroleum prices have significantly impacted the price and availability of key raw materials in recent years.

The construction business is cyclical in response to economic conditions and construction demand. The construction business is also seasonal and dependent on favorable weather conditions, with a decrease in construction activity during the winter months. Demand for our specialty construction products is primarily driven by global non-residential construction activity and U.S. residential construction activity. We seek to increase profitability and minimize the impact of cyclical downturns in regional economies by introducing technically advanced high-performance products and expanding geographically. Although these strategies have been successful in reducing the impact of cyclical activity, the decline in European construction activity since 2007 has had a negative impact on our sales in Europe.

FINANCIAL INFORMATION ABOUT INDUSTRY SEGMENTS AND GEOGRAPHIC AREAS

Disclosure of financial information about industry segments and geographic areas for 2012, 2011 and 2010 is provided in this Report in Item 8 (Financial Statements and Supplementary Data) in the Financial Supplement under Note 20 (Operating Segment Information) to the Consolidated Financial Statements which disclosure is incorporated herein by reference. Disclosure of risks attendant to our foreign operations is provided in this Report in Item 1A (Risk Factors).

BACKLOG OF ORDERS

While at any given time there may be some backlog of orders, this backlog is not material in respect to our total annual sales, nor are the changes, from time to time, significant.

INTELLECTUAL PROPERTY; RESEARCH ACTIVITIES

Competition in the specialty chemicals and specialty materials industry is often based on technological superiority and innovation. Our ability to maintain our margins and effectively compete with other suppliers depends on our ability to introduce new products based on innovative technology, as well as our ability to obtain patent or other intellectual property protection. Our research and development programs emphasize development of new products and processes,

improvement of existing products and processes and application of existing products and

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processes to new industries and uses. We conduct research in all regions, with North America and Europe accounting for the most activity.

We routinely file and obtain patents in a number of countries around the world that are significant to our businesses in order to protect our investments in innovation, research, and product development. Numerous patents and patent applications protect our products, formulations, manufacturing processes, equipment, and improvements. We also benefit from the use of trade secret information, including know-how and other proprietary information relating to many of our products and processing technologies. There can be no assurance, however, that our patents, patent applications and precautions to protect trade secrets and know-how will provide sufficient protection for our intellectual property. In addition, other companies may independently develop technology that could replicate, and thus diminish the advantage provided by, our trade secrets. Other companies may also develop alternative technology or design-arounds that could circumvent our patents or may acquire patent rights applicable to our business which might interpose some limitation on expansion of the business in the future.

Research and development expenses were approximately \$65 million, \$69 million and \$60 million in 2012, 2011 and 2010, respectively. These amounts include depreciation and amortization expenses related to research and development and expenses incurred in funding external research projects. The amount of research and development expenses relating to government- and customer-sponsored projects (rather than projects that we sponsor) was not material during these periods. Grace also conducts research and development activities with our unconsolidated affiliate, not included in the amounts above.

ENVIRONMENT, HEALTH AND SAFETY MATTERS

We are subject, along with other manufacturers of specialty chemicals, to stringent regulations under numerous U.S. federal, state and local and foreign environment, health and safety laws and regulations relating to the generation, storage, handling, discharge, disposition and stewardship of hazardous wastes and other materials. Environmental laws require that certain responsible parties, as defined in the relevant statute, fund remediation actions regardless of legality of original disposal or ownership of a disposal site. We are involved in remediation actions to address hazardous wastes or other materials as required by U.S. federal, state and local and foreign laws. While in Chapter 11, we generally do not participate in the funding of investigation and remediation at sites that we do not own, unless specifically approved by the Bankruptcy Court. We expect that our ultimate liability with respect to many of these sites will be determined as part of the Chapter 11 cases.

We have expended substantial funds to comply with environmental laws and regulations and expect to continue to do so in the future. The following table sets forth our expenditures in the past three years, and our estimated expenditures in 2013 and 2014, for (i) the operation and maintenance of manufacturing facilities and the disposal of wastes; (ii) capital expenditures for environmental control facilities; and (iii) site remediation:

Year (In millions)	Operation of Facilities and Waste Disposal	Capital Expenditures	Site Remediation	
2010	\$48	\$7	\$8	
2011	58	6	12	
2012	61	9	13	
2013	62	23	12	*
2014	61	16	15	*

Amounts exclude payments of claims in our Chapter 11 cases and are based on site remediation matters for which *sufficient information is available to estimate remediation costs. We do not have sufficient information to estimate all of Grace's possible future remediation costs. As we receive new information, our estimate of remediation costs may change materially.

Additional information about our environmental remediation activities is provided in this Report in Item 8 (Financial Statements and Supplementary Data) in the Financial Supplement under Note 12 (Commitments and Contingent Liabilities) to the Consolidated Financial Statements.

We continuously seek to improve our environmental, health and safety performance. To the extent applicable, we extend the basic elements of the American Chemistry Council's RESPONSIBLE CARE® program to all our locations worldwide, embracing specific performance objectives in the key areas of management systems, product stewardship, employee health and safety, community awareness and emergency response, distribution, process

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safety and pollution prevention. We have implemented key elements of the RESPONSIBLE CARE® Security Code for our operations and systems. We have completed a review of our existing security (including cyber-security) vulnerability and have taken actions to enhance our security systems and protect our assets. We have undertaken certain activities to comply with the Department of Homeland Security (DHS) Chemical Facility Anti-Terrorism Standards, including identifying facilities subject to the standards, conducting security vulnerability assessments and developing site security plans, as necessary.

EMPLOYEE RELATIONS

As of December 31, 2012, we employed approximately 6,500 persons, of whom approximately 2,600 were employed in the United States. Of our total employees, approximately 4,550 were salaried and 1,950 were hourly.

Approximately 750 of our manufacturing employees in the United States are represented for collective bargaining purposes by nine different local collective bargaining groups. We have operated without a labor work stoppage for more than 10 years.

We have works councils representing the majority of our European sites serving approximately 1,600 employees.

AVAILABILITY OF REPORTS AND OTHER DOCUMENTS

We maintain an Internet website at www.grace.com. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports, filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, are available, free of charge, on our website as soon as reasonably practicable after such reports are electronically filed with, or furnished to, the Securities and Exchange Commission, or SEC. These reports may be accessed through our website's investor information page. In addition, the charters for the Audit, Compensation, Nominating and Governance, and Corporate Responsibility Committees of our Board of Directors, our corporate governance guidelines and code of ethics are available, free of charge, on our website at www.grace.com/About/Leadership/Governance/. Printed copies of the charters, governance guidelines and code of ethics may be obtained free of charge by contacting Grace Shareholder Services at 410-531-4167.

The information on our website is not, and shall not be deemed to be, a part of this report or incorporated into any other filings we make with the SEC.

Our Chief Executive Officer and Chief Financial Officer have submitted certifications to the SEC pursuant to the Sarbanes Oxley Act of 2002 as exhibits to this Report.

EXECUTIVE OFFICERS

See Part III, Item 10 of this Report for information about our Executive Officers.

Item 1A. RISK FACTORS

This Report, including the Financial Supplement, contains, and our other public communications may contain, forward-looking statements; that is, information related to future, not past, events. Such statements generally include the words "believes," "plans," "intends," "targets," "will," "expects," "suggests," "anticipates," "outlook," "continues" or similar expressions. Forward-looking statements include, without limitation, all statements regarding: our Chapter 11 case; expected financial positions; results of operations; cash flows; financing plans; business strategy; budgets; capital and other expenditures; competitive positions; growth opportunities for existing products; benefits from new technology and cost reduction initiatives; plans and objectives; and markets for securities. For these statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995. Like other businesses, we are subject to risks and uncertainties that could cause our actual results to differ materially from our projections or that could cause other forward-looking statements to prove incorrect. Factors that could cause actual events to materially differ from those contained in the forward-looking statements include those factors set forth below and elsewhere in this Annual Report on Form 10-K. Our reported results should not be considered as an indication of our future performance. Readers are cautioned not to place undue reliance on our projections and forward-looking statements, which speak only as of the date thereof. We undertake no obligation to publicly release any revisions to the projections and forward-looking statements contained in this document, or to update them to reflect events or circumstances occurring after the date

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of this document. In addition to general economic, business and market conditions, we are subject to other risks and uncertainties, including, without limitation, the following:

COMPANY RISKS

If our proposed joint plan of reorganization does not become effective, the outcome of our Chapter 11 cases could result in the substantial dilution or cancellation of Grace's outstanding common stock.

With other proponents, we have filed the Joint Plan with the Bankruptcy Court that is designed to address all pending and future asbestos-related claims and all other pre-petition claims. The Bankruptcy Court and the District Court have issued orders confirming the Joint Plan and overruling all objections. Appeals from these orders have been filed with the Third Circuit appellate court to resolve certain issues including whether certain creditors are entitled to interest at rates higher than provided for in the Joint Plan; the validity of the asbestos trust structure called for in the Joint Plan; and the classification and treatment of asbestos claims under the Joint Plan. While we have the necessary court approvals to emerge from Chapter 11 protection, our emergence will depend on the satisfaction or waiver of the remaining conditions to the effectiveness of the Joint Plan. These conditions include the payments pursuant to the Sealed Air Settlement and the Fresenius Settlement, the availability of any required exit financing and the final resolution of all appeals from the orders confirming the Joint Plan. If any of the appeals is resolved adversely to us or our co-proponents, whether or not the Joint Plan has become effective, and we cannot either agree with our co-proponents on an amendment to the Joint Plan to address the adverse ruling or agree with our asbestos creditors on the terms of a new plan of reorganization, we expect that the Joint Plan would be terminated and we would resume proceedings in the Bankruptcy Court to estimate the amount of our asbestos-related liabilities. If the amount of our asbestos-related liabilities, as determined through such proceedings or otherwise, and other liabilities exceed the assets available to satisfy such liabilities, we likely would issue shares of Grace common stock to satisfy such liabilities under a new plan of reorganization. Any such share issuance could result in substantial dilution of the interests of current Grace shareholders. Alternatively, a new plan of reorganization might provide for the cancellation of the interests of current Grace shareholders. Because of this risk of substantial dilution or cancellation, the value of Grace common stock is highly speculative and any investment in Grace common stock poses a high degree of risk.

The bankruptcy process may disrupt our business.

We have attempted to minimize the adverse effect of our Chapter 11 reorganization on our relationships with our employees, suppliers, customers and other parties. Nonetheless, our relationships with our customers, suppliers and employees may be adversely impacted and our operations could be materially and adversely affected. In addition, the continuation of our reorganization could negatively affect our ability to attract new employees and retain existing high performing employees.

Chapter 11 limits the flexibility of our management team in running our business.

While we operate our businesses as debtor-in-possession under supervision by the Bankruptcy Court, we are required to obtain the approval of the Bankruptcy Court prior to engaging in activities or transactions outside the ordinary course of business. For example, our strategic plan includes the acquisition of businesses in the specialty chemicals and specialty building materials industries. Such acquisitions generally require Bankruptcy Court approval if made by W. R. Grace & Co. or its U.S. subsidiaries and affiliates that are debtors in the Chapter 11 cases. Bankruptcy Court approval of non-ordinary course activities entails preparation and filing of appropriate motions with the Bankruptcy Court, negotiation with the various creditors' committees and other parties-in-interest and one or more hearings. The creditors' and shareholders' committees and other parties-in-interest may be heard at any Bankruptcy Court hearing and may raise objections with respect to these motions. This process delays major transactions and limits our ability to respond quickly to opportunities and events in the marketplace. Furthermore, in the event the Bankruptcy Court does not approve a proposed activity or transaction, we would be prevented from engaging in activities and transactions that we believe are beneficial to Grace.

The recorded amount of our asbestos-related liability may change, possibly materially, in future periods.

The amount of our asbestos-related liability at December 31, 2012 that is recorded in our consolidated financial statements represents our best estimate of the value of the consideration we would pay to the PI Trust and the PD Trust at our emergence from bankruptcy under the Joint Plan. We intend to periodically reevaluate the currently recorded amount and may further adjust the recorded amount prior to the effective date of the Joint Plan if we

determine that the recorded amount no longer represents a reasonable estimate of the value of the consideration payable to the Trusts under the Joint Plan. The ultimate cost of settling the asbestos-related liability

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will be based on the value of the consideration transferred to the Trusts at emergence under the Joint Plan and may vary, possibly materially, from the amount currently recorded. Any adjustment to the amount of our asbestos-related liability could have a material effect on our consolidated financial statements.

We may not be able to collect all asbestos-related insurance payments that may be due to us.

We have insurance coverage for a portion of the asbestos-related claims against us. Under the Joint Plan, these insurance policies would be assigned to the asbestos personal injury trust established under the Joint Plan. However, if the Joint Plan does not become effective, these policies would remain with us unless assigned to creditors under the terms of another plan of reorganization. The estimated insurance recovery recorded on our financial statements of \$500 million pertains only to insurance carriers with which we have asbestos settlement agreements and/or which are currently solvent, and we cannot be sure that all these amounts will be collected. In addition, the timing and amount of future payments depends on the continued solvency of the insurers and the resolution of disputes regarding coverage as well as the nature and timing of actual claims paid. If the Joint Plan does not become effective, the receipt of timely and complete payments from the insurers would be important to the success of our reorganization.

We are subject to environmental clean-up fines, penalties and damage claims that have been and continue to be costly. Grace is subject to lawsuits and regulatory actions, in connection with current and former operations (including divested businesses), for breaches of environmental laws that seek clean-up or other remedies. Grace is also subject to lawsuits and investigations by public and private parties under various environmental laws in connection with our current and former operations in various states, including with respect to off-site disposal at facilities where Grace has been identified as a potentially responsible party under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, commonly referred to as CERCLA. We are also subject to similar risks outside of the U.S.

Grace operated a vermiculite mine in Libby, Montana until 1990. Some of the vermiculite ore that was mined at the Libby mine contained natural occurrences of asbestos. Grace is cooperating with EPA to investigate the Libby vermiculite mine and the surrounding bodies of water and forest lands and determine a final remedy. During 2010, EPA began reinvestigating up to 105 facilities where vermiculite concentrate from the Libby mine was processed. We are cooperating with EPA on this reinvestigation. EPA has requested that we conduct additional remediation at eight of these facilities. It is probable that EPA will request additional remediation at other facilities. We do not have sufficient information to identify either the sites that might require additional remediation or estimate the cost of any additional remediation. We will evaluate our estimated remediation liability for other sites as we receive additional information from EPA.

We have established accounting accruals for all environmental matters for which a loss is considered to be probable and sufficient information is available to reasonably estimate the loss. We do not have sufficient information to accrue for all of Grace's environmental risks. These accruals do not include the cost to remediate the Libby vermiculite mine or costs related to any additional EPA claims, whether resulting from EPA's reinvestigation of vermiculite facilities or otherwise, which may be material but are not currently estimable. Due to these vermiculite-related matters, it is probable that Grace's ultimate liability for environmental matters will exceed Grace's current estimates by material amounts. Any liability in connection with alleged violations of environmental laws may not be discharged upon confirmation of a plan of reorganization.

We are subject to liabilities with respect to businesses that we have divested in the past.

Over the years, particularly during the 1980s and 1990s, we divested a substantial number of businesses that were not then consistent with our business strategy. With respect to many of these former businesses, we have contractually agreed to indemnify the buyer against liabilities arising prior to the closing of the transaction, including environmental liabilities. In many cases, we have also retained pension liabilities for the current and former employees of these businesses. Some of these obligations would not be discharged under the Joint Plan. We have recorded liabilities with respect to indemnification obligations that we believe are probable and estimable and retained pension liabilities. As we receive additional information or new claims, our recorded liabilities may change materially.

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We have unfunded and underfunded pension plan liabilities. We will require current and future operating cash flow to fund these liabilities. We have no assurance that we will generate sufficient cash flow to satisfy these obligations. We maintain U.S. and non-U.S. defined benefit pension plans covering employees who meet age and service requirements. Our net pension liability and cost is materially affected by the discount rate used to measure pension obligations, the longevity and actuarial profile of our workforce, the level of plan assets available to fund those obligations and the actual and expected long-term rate of return on plan assets. Significant changes in investment performance or a change in the portfolio mix of invested assets can result in corresponding increases and decreases in the valuation of plan assets, particularly equity securities, or in a change in the expected rate of return on plan assets. Assets available to fund the pension benefit obligation of the U.S. advance-funded pension plans at December 31, 2012 were approximately \$1,132 million, or approximately \$161 million less than the measured pension benefit obligation on a U.S. GAAP basis. In addition, any changes in the discount rate could result in a significant increase or decrease in the valuation of pension obligations, affecting the reported funded status of our pension plans as well as the net periodic pension cost in the following years. Similarly, changes in the expected return on plan assets can result in significant changes in the net periodic pension cost in the following years.

The global scope of our operations subjects us to the risks of doing business in foreign countries, which could adversely affect our business, financial condition and results of operations.

We operate our business on a global scale with approximately 72% of our 2012 sales outside the United States. We conduct business in over 40 countries and in more than 40 currencies. We currently have many production facilities, research and development facilities and administrative and sales offices located outside North America, including facilities and offices located in Europe, the Middle East, Africa, Asia and Latin America. We expect non-U.S. sales to continue to represent a substantial majority of our revenue. Accordingly, our business is subject to risks related to the differing legal, political, social and regulatory requirements and economic conditions of many jurisdictions. Risks inherent in non-U.S. operations include the following:

- agreements may be more difficult to enforce and receivables more difficult to collect;
- some foreign countries have adopted, and others may impose, additional withholding taxes or adopt other restrictions on foreign trade or investment, including currency exchange and capital controls;
- we may have difficulty transferring our profits or capital from foreign operations to other countries where such funds could be more profitably deployed;
- increased shipping costs, disruptions in shipping or reduced availability of freight transportation;
- foreign governments may nationalize private enterprises;
- we may experience unexpected adverse changes in export duties, quotas and tariffs and difficulties in obtaining export licenses;
- intellectual property rights may be more difficult to enforce;
- our business and profitability in a particular country could be affected by political or economic repercussions on a domestic, country specific or global level from terrorist activities and the response to such activities;
- we may be affected by unexpected adverse changes in foreign laws or regulatory requirements;
- and
- unanticipated events, such as geopolitical changes, could adversely affect these operations.

Our success as a global business will depend, in part, upon our ability to succeed in differing legal, regulatory, economic, social and political conditions by developing, implementing and maintaining policies and strategies that are effective in each location where we do business.

We are exposed to currency exchange rate changes that impact our profitability.

We are exposed to currency exchange rate risk through our U.S. and non-U.S. operations. Fluctuations in currencies of other countries, especially the euro, may materially affect our operating results. For example, changes in currency exchange rates may affect the relative prices at which we and our competitors sell products in the same region and the cost of materials used in our operations. A substantial portion of our net sales and assets are denominated in currencies other than the U.S. dollar. When the U.S. dollar strengthens against non-U.S. currencies, at a constant level of business, our reported non-U.S. sales, earnings, assets and liabilities are reduced because the non-U.S. currencies translate into fewer U.S. dollars.

We incur a currency transaction risk whenever one of our operating subsidiaries enters into either a purchase or a sales transaction using a currency different from the operating subsidiary's functional currency. Given the

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volatility of exchange rates, we may not be able to manage our currency transaction risks effectively, or volatility in currency exchange rates may expose our financial condition or results of operations to a significant additional risk. Our ability to use tax deductions to reduce future tax payments may be limited if there is a change in ownership of Grace or if Grace does not generate sufficient U.S. taxable income.

Our ability to use future tax deductions, including net operating losses and deductions for the payments contemplated in the Joint Plan (including the deferred payments), may be limited by Section 382 of the Internal Revenue Code of 1986, as amended, if we undergo an ownership change as a result of future changes in the ownership of outstanding Grace common stock. In addition, our ability to use future tax deductions is dependent on our ability to generate sufficient future taxable income in the U.S. In order to preserve these future tax deductions, the Bankruptcy Court has approved trading restrictions on Grace common stock until the effective date of a plan of reorganization. These restrictions prohibit (without the consent of Grace) a person from acquiring more than 4.75% of the outstanding Grace common stock or, for any person already holding more than 4.75%, from increasing such person's holdings. The Joint Plan provides that under certain circumstances, our Board of Directors would have the authority to impose restrictions on the transfer of Grace common stock with respect to certain 5% shareholders in order to preserve these future tax deductions.

We may be subject to claims of infringement of the intellectual property rights of others, which could hurt our business.

From time to time, we face infringement claims from our competitors or others alleging that our processes or products infringe on their proprietary technologies. Any claims that our products or processes infringe the intellectual property rights of others, regardless of the merit or resolution of the claims, could cause us to incur significant costs in responding to, defending and resolving the claims, and may divert the efforts and attention of our management and technical personnel from our business. If we are found to be infringing on the proprietary technology of others, we may be liable for damages, and we may be required to change our processes, redesign our products, pay others to use the technology or stop using the technology or producing the infringing product. Even if we ultimately prevail, the existence of the lawsuit could prompt our customers to switch to products that are not the subject of infringement suits.

While Grace is in bankruptcy, we are not permitted to pay dividends on Grace common stock.

We are not permitted to pay dividends on or repurchase shares of Grace common stock while we are in bankruptcy. Following our emergence from bankruptcy, we expect our Board of Directors to make a determination as to whether or not we will pay cash dividends and/or repurchase shares of Grace common stock. Until we commence paying dividends, investors in Grace common stock will generally only obtain an economic benefit from their shares by selling them.

INDUSTRY RISKS

The length and depth of product and industry business cycles in our segments may result in periods of reduced sales and operating margins, and operating losses, particularly in our Grace Construction Products operating segment. Our operating segments are sensitive to the cyclical nature of the industries they serve. Our construction business is cyclical in response to economic conditions and construction demand and is also seasonal and dependent on favorable weather conditions, with a decrease in construction activity during the winter months. The U.S. residential and global commercial construction industries have experienced a significant downturn in recent years. Additionally, the uncertainty surrounding the euro and the European debt crisis have significantly affected construction spending in Europe. As a result, we have experienced reduced demand for our specialty construction products and a continuation of this downturn could result in a further reduction of sales and operating margins as well as potential impairments in our Grace Construction Products segment.

Prices for certain raw materials and energy are volatile; we may not be able to pass through increases in costs for raw materials and energy or maintain our current pricing levels, which may hurt our profitability.

We use petroleum-based materials, metals, natural gas and other materials in the manufacture of our products. Prices for these are volatile and can have a significant effect on our pricing, sales, manufacturing and supply chain strategies as we seek to maximize our profitability. In 2010 and 2011, the price of the rare earth metals used in many of our FCC catalysts increased substantially. In response, we took actions designed to mitigate the effect of these higher prices,

including implementing surcharges on the affected products, the introduction of new

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products with low and no rare earth content, and other manufacturing and supply chain actions. In the 2011 third quarter, rare earth prices reached a peak and have since declined significantly. We continue to adjust our pricing, sales, manufacturing, and supply chain strategies to maximize our profitability based on lower rare earth prices. Our ability to successfully adjust strategies in response to volatile raw material and energy prices is a significant factor in maintaining or improving our profitability. If we are unable to successfully adjust our strategies in response to volatile prices, such volatility could have a negative effect on our sales and earnings in future periods.

A substantial portion of our raw materials are commodities whose prices fluctuate as market supply and demand fundamentals change.

We attempt to manage exposure to price volatility of major commodities through:

• long-term supply contracts;

• contracts with customers that permit adjustments for changes in prices of commodity-based materials and energy;

• forward buying programs that layer in our expected requirements systematically over time; and

• limited use of financial instruments.

Although we regularly assess our exposure to raw material price volatility, we cannot always predict the prospects of volatility and we cannot always cover the risk in a cost effective manner.

We have a policy of maintaining, when available, multiple sources of supply for raw materials. However, certain of our raw materials may be provided by single sources of supply. We may not be able to obtain sufficient raw materials due to unforeseen developments that would cause an interruption in supply. Even if we have multiple sources of supply for raw materials, these sources may not make up for the loss of a major supplier.

We spend large amounts of money for environmental compliance in connection with our current and former operations.

As a manufacturer of specialty chemicals and specialty materials, we are subject to stringent regulations under numerous U.S. federal, state, local and foreign environmental, health and safety laws and regulations relating to the generation, storage, handling, discharge, disposition and stewardship of hazardous wastes and other materials. We have expended substantial funds to comply with such laws and regulations and have established a policy to minimize our emissions to the environment. Nevertheless, legislative, regulatory and economic uncertainties (including existing and potential laws and regulations pertaining to climate change) make it difficult for us to project future spending for these purposes and if there is an acceleration in new regulatory requirements, we may be required to expend substantial additional funds to remain in compliance.

We work with dangerous materials that can injure our employees, damage our facilities and disrupt our operations. Some of our operations involve the handling of hazardous materials that may pose the risk of fire, explosion, or the release of hazardous substances. Such events could result from terrorist attacks, natural disasters, or operational failures, and might cause injury or loss of life to our employees and others, environmental contamination, and property damage. These events might cause a temporary shutdown of an affected plant, or portion thereof, and we could be subject to penalties or claims as a result. A disruption of our operations caused by these or other events could have a material adverse effect on our results of operations.

Some of our employees are unionized, represented by workers' councils or employed subject to local laws that are less favorable to employers than the laws in the United States.

As of December 31, 2012, we had approximately 6,500 global employees. Approximately 750 of our approximately 2,600 U.S. employees are unionized. In addition, a large number of our employees are employed in countries in which employment laws provide greater bargaining or other rights to employees than the laws in the United States. Such employment rights require us to work collaboratively with the legal representatives of the employees to effect any changes to labor arrangements. For example, most of our employees in Europe are represented by workers' councils that have co-determination rights on any changes in conditions of employment, including salaries and benefits and staff changes, and may impede efforts to restructure our workforce. A strike, work stoppage or slowdown by our employees or significant dispute with our employees, whether or not related to these negotiations, could result in a significant disruption of our operations or higher ongoing labor costs.

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Item 1B. UNRESOLVED STAFF COMMENTS

None.

Item 2. PROPERTIES

We operate manufacturing plants and other facilities (including office, warehouse, labs and other service facilities) throughout the world. Some of these plants and facilities are shared by our operating segments. We own all of our major manufacturing plants. We consider our major operating properties to be in good operating condition and suitable for their current use. We believe that, after taking planned expansion into account, the productive capacity of our plants and other facilities is generally adequate for current operations. The table below summarizes our facilities by operating segment and region:

	Number of Facilities*					Total
	North America	Europe Middle East Africa	Asia Pacific	Latin America		
Catalysts Technologies	8	3	1	—		12
Materials Technologies	6	10	9	4		29
Construction Products	18	18	20	8		64

* Shared facilities are counted in all applicable operating segments.

Our largest Catalysts Technologies facilities are located in Baltimore, Maryland; Lake Charles, Louisiana; and Worms, Germany.

Our largest Materials Technologies facilities are located in Baltimore, Maryland, and Worms, Germany.

Our largest Construction Products facilities are located in Cambridge, Massachusetts, and Mount Pleasant, Tennessee.

Because this operating segment's products generally have short shelf lives and must be delivered to numerous job sites, Construction Products requires a greater number of facilities to service our customers than Catalysts Technologies and Materials Technologies. Also, these facilities are generally smaller and less capital intensive than our Catalysts Technologies and Materials Technologies facilities. For information on our net properties and equipment by region and country, see disclosure set forth in Item 8 (Financial Statements and Supplementary Data) in the Financial Supplement under Note 20 (Operating Segment Information) to our Consolidated Financial Statements, which disclosure is incorporated herein by reference.

Our corporate headquarters is in Columbia, Maryland, and we also lease and operate a shared services facility in Manila, Philippines.

Item 3. LEGAL PROCEEDINGS

CHAPTER 11 PROCEEDINGS

Disclosure provided in this Report in Item 1 (Business) under the caption "Chapter 11 Filing" and in Item 8 (Financial Statements and Supplementary Data) in the Financial Supplement under Note 1 (Basis of Presentation and Summary of Significant Accounting and Financial Reporting Policies under the caption "Voluntary Bankruptcy Filing"), Note 2 (Chapter 11 Information) and Note 3 (Asbestos-Related Litigation) to the Consolidated Financial Statements is incorporated herein by reference.

ASBESTOS LITIGATION

Disclosure provided in this Report in Item 8 (Financial Statements and Supplementary Data) in the Financial Supplement under Note 2 (Chapter 11 Information) and Note 3 (Asbestos-Related Litigation) to the Consolidated Financial Statements is incorporated herein by reference.

ENVIRONMENTAL INVESTIGATIONS AND CLAIMS

Disclosure provided in this Report in Item 1 (Business) under the caption "Environment, Health and Safety Matters" and Item 8 (Financial Statements and Supplementary Data) in the Financial Supplement under Note 12

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(Commitments and Contingent Liabilities under the caption "Environmental Remediation") to the Consolidated Financial Statements is incorporated herein by reference.

SETTLEMENT RELATED TO FORMER PACKAGING AND MEDICAL CARE BUSINESSES

In September 2000, Grace was named in a purported class action suit filed in California Superior Court for the County of San Francisco alleging that the 1996 reorganization involving a predecessor of Grace and Fresenius Medical Care Holdings, Inc. and the 1998 reorganization involving a predecessor of Grace and Sealed Air Corporation were fraudulent transfers (Abner, et al., v. W. R. Grace & Co., et al.). The suit is alleged to have been brought on behalf of all individuals who then had lawsuits on file asserting personal injury or wrongful death claims against any of the defendants. After Abner, and prior to the Chapter 11 filing, two other similar class actions were filed. These lawsuits have been stayed as a result of Grace's Chapter 11 filing. The Bankruptcy Court authorized the Official Committee of Asbestos Personal Injury Claimants and the Official Committee of Asbestos Property Damage Claimants to proceed with claims against Sealed Air and Fresenius on behalf of Grace's bankruptcy estate. In November 2002, Sealed Air and Fresenius each announced that they had reached agreements in principle with these committees to settle asbestos, successor liability and fraudulent transfer claims related to such transactions. Under the terms of the Joint Plan and the Fresenius Settlement and the Sealed Air Settlement, each settlement, as subsequently revised and subject to certain conditions, Fresenius and Cryovac, Inc., a wholly-owned subsidiary of Sealed Air, would make certain payments upon the effectiveness of the Joint Plan. These payments are described in this Report in Item 8 (Financial Statements and Supplementary Data) in the Financial Supplement under Note 2 (Chapter 11 Information-Plans of Reorganization) to the Consolidated Financial Statements and such description is incorporated herein by reference. These settlements are an integral part of the Joint Plan.

TAX CLAIMS

Disclosure provided in this Report in Item 8 (Financial Statements and Supplementary Data) in the Financial Supplement under Note 9 (Income Taxes) to the Consolidated Financial Statements is incorporated herein by reference.

OTHER CLAIMS RECEIVED PRIOR TO THE CHAPTER 11 CLAIMS BAR DATE

Disclosure provided in this Report in Item 8 (Financial Statements and Supplementary Data) in the Financial Supplement under Note 2 (Chapter 11 Information under the captions "Plans of Reorganization—Other Claims" and "Claims Filings") to the Consolidated Financial Statements is incorporated herein by reference.

Item 4. MINE SAFETY DISCLOSURES

Information concerning mine safety violations or other regulatory matters required by Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 104 of Regulation S-K (17 CFR 229.104) is included in Exhibit 95 to this Report.

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PART II

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

Except as provided below, the disclosure required by this Item appears in this Report in: Item 6 (Selected Financial Data); under the heading "Selected Financial Data" opposite the caption "Other Statistics—Common shareholders of record" in the Financial Supplement; and Item 8 (Financial Statements and Supplementary Data) in the Financial Supplement in Note 16 (Shareholders' Equity) and Note 23 (Quarterly Summary and Statistical Information (Unaudited) opposite the caption "Market price of common stock") to the Consolidated Financial Statements, and such disclosure is incorporated herein by reference.

SHAREHOLDER RIGHTS AGREEMENT

On March 31, 1998, we paid a dividend of one Preferred Stock Purchase Right on each share of Grace common stock. Subject to our prior redemption for \$.01 per right, rights will become exercisable on the earlier of:

• 10 days after an acquiring person, comprised of an individual or group, has acquired beneficial ownership of 20% or more of the outstanding Grace common stock or

• 10 business days (or a later date fixed by the Board of Directors) after an acquiring person commences (or announces the intention to commence) a tender offer or exchange offer for beneficial ownership of 20% or more of the outstanding Grace common stock.

Until these events occur, the rights will automatically trade with the Grace common stock, and separate certificates for the rights will not be distributed. The rights do not have voting or dividend rights.

Generally, each right not owned by an acquiring person:

• will initially entitle the holder to buy from Grace one hundredth of a share of the Grace Junior Participating Preferred Stock, at an exercise price of \$100, subject to adjustment;

• will entitle such holder to receive upon exercise, in lieu of shares of Grace junior preferred stock, that number of shares of Grace common stock having a market value of two times the exercise price of the right; and

• may be exchanged by Grace for one share of Grace common stock or one hundredth of a share of Grace junior preferred stock, subject to adjustment.

Generally, if there is an acquiring person and we are acquired, each right not owned by an acquiring person will entitle the holder to buy a number of shares of common stock of the acquiring company having a market value equal to twice the exercise price of the right.

Each share of Grace junior preferred stock will be entitled to a minimum preferential quarterly dividend payment of \$1.00 per share but will be entitled to an aggregate dividend equal to 100 times the dividend declared per share of Grace common stock whenever such dividend is declared. In the event of liquidation, holders of Grace junior preferred stock will be entitled to a minimum preferential liquidation payment of \$100 per share but will be entitled to an aggregate payment equal to 100 times the payment made per share of Grace common stock. Each share of Grace junior preferred stock will have 100 votes, voting together with the Grace common stock. Finally, in the event of any business combination, each share of Grace junior preferred stock will be entitled to receive an amount equal to 100 times the amount received per share of Grace common stock. These rights are protected by customary antidilution provisions.

The terms of the rights may be amended by the Board of Directors without the consent of the holders of the rights.

The rights, which will remain outstanding under the proposed Joint Plan, expire on March 30, 2018.

This summary of the rights does not purport to be complete and is qualified in its entirety by reference to the Rights Agreement, which has been filed with the SEC.

DIVIDENDS ON GRACE COMMON STOCK

We are not permitted to pay dividends on or repurchase shares of Grace common stock while we are in bankruptcy and have not paid dividends since the filing of our bankruptcy petitions in 2001. Following our

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emergence from bankruptcy, we expect our Board of Directors to make a determination as to whether or not we will pay cash dividends and/or repurchase shares of Grace common stock.

STOCK TRANSFER RESTRICTIONS

In order to preserve significant tax benefits which are subject to elimination or limitation in the event of a change in control (as defined by the Internal Revenue Code of 1986, as amended) of Grace, the Bankruptcy Court has approved trading restrictions on Grace common stock until the effective date of a plan of reorganization. These restrictions prohibit (without our consent) a person from acquiring more than 4.75% of the outstanding Grace common stock or, for any person already holding more than 4.75%, from increasing such person's holdings. This summary of the stock transfer restrictions does not purport to be complete and is qualified in its entirety by reference to the order of the Bankruptcy Court, which has been filed with the SEC.

Also, in order to preserve these tax assets in the event of a change in control (as defined by the Internal Revenue Code of 1986, as amended) of Grace after emergence from Chapter 11, the Joint Plan provides that under certain circumstances, the Board of Directors would have the authority to impose restrictions on the transfer of Grace common stock with respect to certain 5% shareholders. These restrictions would generally not limit the ability of a person that holds less than 5% of Grace common stock after emergence to either buy or sell stock on the open market.

Item 6. SELECTED FINANCIAL DATA

The disclosure required by this Item appears in the Financial Supplement under the heading "Selected Financial Data" which disclosure is incorporated herein by reference.

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

The disclosure required by this Item appears in the Financial Supplement under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations" which disclosure is incorporated herein by reference.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market Risk

Our debt obligations, global operations, and our raw materials and energy requirements expose us to various market risks. We use derivative financial instruments to mitigate certain market risks. The following is a discussion of our primary market risk exposures, how those exposures are managed, and certain quantitative data pertaining to our market risk-sensitive instruments.

Interest Rate Risk

Interest rate fluctuations directly affect interest expense and cash to be paid out in the form of interest payments on variable-rate debt, and can potentially lead to changes in the market value of the associated variable-rate debt. We have \$500.0 million of outstanding pre-petition variable-rate borrowings under bank credit agreements, and interest is accrued on this debt based on the prime rate. Due to our Chapter 11 filing, interest accrued on pre-petition debt is added to the principal balance. As of December 31, 2012 and 2011, total interest accrued on this debt and added to the \$500.0 million principal was \$437.2 million and \$407.3 million, respectively. If the prime rate were to vary in the near-term by one percentage point, the effect would be to increase or decrease interest expense and accrued interest on outstanding principal by approximately \$9.6 million over the twelve-month period ending December 31, 2013.

We do not currently use derivative instruments to mitigate interest rate risk.

Currency Exchange Rate Risk

Because we do business in over 40 countries, our results of operations are exposed to fluctuations in currency exchange rates. We seek to minimize exposure to these fluctuations by matching revenue streams in volatile currencies with expenditures in the same currencies, but it is not always possible to do so. From time to time, we

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use financial instruments such as currency forward contracts, options, or combinations of the two to reduce the risk of certain specific transactions. However, we do not have a policy of hedging all exposures, because management does not believe that such a level of hedging would be cost-effective. We do not hedge translation exposures that are not expected to affect cash flows in the near-term. Significant uses of derivatives to mitigate the effects of changes in currency exchange rates are as follows:

In November 2007, we executed intercompany loans in the aggregate amount of €250 million between our principal U.S. operating subsidiary and a newly established German subsidiary as part of a legal restructuring. In conjunction with the loans, our U.S. subsidiary entered into a series of currency forward contracts in order to fix the dollar/euro exchange rate that will apply to convert the euro principal payments to dollars. The forward contracts are aligned with the anticipated payment dates of the intercompany loans, which extend through November 2013. The total amount outstanding under the intercompany loans was €194.5 million as of December 31, 2012 (approximately \$256.5 million). Currency fluctuations on these loans and the related forward contracts are recorded as components of operating results.

The following tables provide information about our significant currency forward exchange agreements as of December 31, 2012 and 2011, specifically, the notional, or contract, amounts (in millions of U.S. dollars), and weighted average exchange rates (U.S. dollars to euros) by expected (contractual) maturity dates. These notional amounts generally are used to calculate the contractual payments to be exchanged under the contract. The fair values represent the fair value of the derivative contracts, and are presented as other assets or other liabilities and allocated between current and non-current, as appropriate, in the Consolidated Balance Sheets.

Currency Forward Exchange Agreements	Euro Forward Contracts—December 31, 2012 Expected Maturity	
	Date	Fair Value
Contract amount	2013	\$ (4.9)
Average contractual exchange rate	\$252.5	N/A

Currency Forward Exchange Agreements	Euro Forward Contracts—December 31, 2011 Expected Maturity				
	Date	2012	2013	Total	Fair Value
Contract amount	2012	\$267.7	\$72.9	\$340.6	\$20.1
Average contractual exchange rate	2013	1.37	1.46	1.39	N/A

Commodity Price Risk

We operate in markets where the prices of raw materials and energy are commonly affected by cyclical movements of the economy and other economic factors. The principal raw materials used in our products include rare earths, molybdenum, sodium silicate, olefins, resins, caustic, aluminum, sodium aluminate, rubber, alumina, nickel, cobalt carbonate, kaolin, gypsum and latices. Natural gas is the largest single energy source that we purchase. These commodities are generally available to be purchased from more than one supplier. In order to minimize the risk of increasing prices on certain raw materials and energy, we use a centralized supply chain organization for procurement in order to improve purchasing activities. We have a risk management committee to review proposals to hedge purchases of raw materials, energy and currency.

We have implemented a risk management program under which our goal is to hedge natural gas and aluminum supply in a way that provides protection against price volatility of the natural gas and aluminum markets. In order to mitigate volatile natural gas and aluminum prices, we have entered into fixed price swaps to hedge a portion of our U.S. natural gas and aluminum requirements.

The following tables provide information about our commodity derivatives. For natural gas commodity derivatives, contract volumes, or notional amounts, are presented in millions of MMBtu (million British thermal units), weighted average contract prices are presented in U.S. dollars per million MMBtu, and the total contract amount and fair value are presented in millions of U.S. dollars. For aluminum commodity derivatives, contract volumes, or notional amounts, are presented in millions of pounds, weighted average contract prices are presented in U.S. dollars per pound, and the total contract amount and fair value are presented in millions of U.S. dollars. The fair values of the

commodity swaps derivative contracts represent the excess of the variable price (market price) over the fixed price (pay price) multiplied by the nominal contract volumes. All commodity derivative instruments mature within twelve months.

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Type of Contract	Commodity Derivatives—December 31, 2012			
	Contract Volumes	Weighted Average Price	Total Contract Amount	Fair Value
Natural gas swaps	2.8	\$3.60	\$10.2	\$(0.3)
Aluminum swaps	3.0	\$0.96	\$2.8	\$0.1

Type of Contract	Commodity Derivatives—December 31, 2011			
	Contract Volumes	Weighted Average Price	Total Contract Amount	Fair Value
Natural gas swaps	3.1	\$4.21	\$13.1	\$(3.3)
Aluminum swaps	3.3	\$1.09	\$3.6	\$(0.5)

The fair value of commodity swaps derivative contracts is presented as other assets or other liabilities and allocated between current and non-current, as appropriate, in the Consolidated Balance Sheets.

We have also entered into forward contracts for natural gas and aluminum that qualify for the normal purchases and normal sales exception from Accounting Standards Codification ("ASC") 815 "Derivatives and Hedging" as they do not contain net settlement provisions and result in physical delivery of natural gas and aluminum from suppliers.

Therefore, the fair values of these contracts are not recorded in our Consolidated Balance Sheets.

See Note 8 for additional disclosure around market risk.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The disclosure required by this Item appears in the Financial Supplement which disclosure is incorporated herein by reference.

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

None.

Item 9A. CONTROLS AND PROCEDURES

Except as provided below, the disclosure required by this Item appears in the Financial Supplement under the heading "Management's Report on Financial Information and Internal Controls" which disclosure is incorporated herein by reference.

There was no change in Grace's internal control over financial reporting during the quarter ended December 31, 2012 that has materially affected, or is reasonably likely to materially affect, Grace's internal control over financial reporting.

Item 9B. OTHER INFORMATION

None.

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PART III

Item 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Our directors and executive officers as of December 31, 2012, are listed below. Our Certificate of Incorporation provides for the division of the Board of Directors into three classes, each to serve for a three-year term or until their respective successors are elected. In view of the Chapter 11 filing, the directors are continuing to serve beyond the expiration of their respective terms. Executive officers are elected to serve until the next annual meeting of the Board of Directors or until their respective successors are elected.

Name and Age*	Office	First Elected
John F. Akers (78)	Class II Director	05/09/97
H. Furlong Baldwin (81)	Class I Director	01/16/02
Ronald C. Cambre (74)	Class III Director	09/01/98
	Class II Director	09/08/04
Alfred E. Festa (53)	Chairman of the Board	01/01/08
	Chief Executive Officer	06/01/05
Marye Anne Fox (65)	Class I Director	05/10/96
Janice K. Henry (61)	Class I Director	01/18/12
Jeffry N. Quinn (54)	Class II Director	11/07/12
Christopher J. Steffen (71)	Class I Director	11/01/06
	Lead Independent Director	06/28/12
Mark E. Tomkins (57)		