

**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 September 30, 2013

OR

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

For the transition period from _____ to _____

Commission file number 1-32532

ASHLAND INC.

Kentucky
(State or other jurisdiction of incorporation or organization)

20-0865835
(I.R.S. Employer Identification No.)

50 E. RiverCenter Boulevard
P.O. Box 391
Covington, Kentucky 41012-0391
Telephone Number (859) 815-3333

Securities Registered Pursuant to Section 12(b) of the Act:

Title of each class
Common Stock, par value \$.01 per share

Name of each exchange on which registered
New York Stock Exchange

Securities Registered Pursuant to Section 12(g) of the Act: None

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

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

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

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of 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. (Check one):

Large Accelerated Filer ☒
Non-Accelerated Filer ☐
(Do not check if a smaller reporting company)

Accelerated Filer ☐
Smaller Reporting Company ☐

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

At March 31, 2013, the aggregate market value of voting stock held by non-affiliates of the Registrant was approximately \$5,843,897,561. In determining this amount, the Registrant has assumed that its directors and executive officers are affiliates. Such assumption shall not be deemed conclusive for any other purpose.

At October 31, 2013, there were 77,511,372 shares of Registrant's common stock outstanding.

Documents Incorporated by Reference

Portions of Registrant's Proxy Statement (Proxy Statement) for its January 30, 2014 Annual Meeting of Shareholders are incorporated by reference into Part III of this annual report on Form 10-K to the extent described herein.

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PART I

ITEM 1. BUSINESS

GENERAL

Ashland Inc. is a Kentucky corporation, with its principal executive offices located at 50 E. RiverCenter Boulevard, Covington, Kentucky 41011 (Mailing Address: 50 E. RiverCenter Boulevard, P.O. Box 391, Covington, Kentucky 41012-0391) (Telephone: (859) 815-3333). Ashland was organized in 2004 as the successor to a Kentucky corporation of the same name organized on October 22, 1936. The terms “Ashland” and the “Company” as used herein include Ashland Inc., its predecessors and its consolidated subsidiaries, except where the context indicates otherwise.

Ashland is a leading, global specialty chemical company that provides products, services and solutions that meet customers’ needs throughout a variety of industries in more than 100 countries. Ashland’s chemistry is used in a wide variety of markets and applications, including architectural coatings, automotive, construction, energy, food and beverage, personal care, pharmaceutical, tissue and towel, and water treatment. Ashland’s business consists of four reportable segments: Ashland Specialty Ingredients; Ashland Water Technologies; Ashland Performance Materials and Ashland Consumer Markets.

Financial information about these segments for each of the fiscal years in the three-year period ended September 30, 2013 is set forth in Note Q of Notes to Consolidated Financial Statements in this annual report on Form 10-K, including sales, equity income, other income, operating income and assets. International data, such as sales from external customers, net assets and property, plant and equipment, are set forth in Note Q as well.

Ashland Specialty Ingredients offers industry-leading products, technologies and resources for solving formulation and product-performance challenges in key markets including personal and home care, pharmaceutical, food and beverage, coatings, construction, energy and other industries. Using natural, synthetic and semisynthetic polymers derived from plant and seed extract, cellulose ethers and vinyl pyrrolidones, Ashland Specialty Ingredients offers comprehensive and innovative solutions for today’s demanding consumer and industrial applications.

Ashland Water Technologies is a leading supplier of specialty chemicals and services to the pulp, paper, mining, food and beverage, power generation, refining, chemical processing, general manufacturing and municipal markets. It offers chemical and equipment technologies and services designed to help customers improve operational efficiencies, enhance product quality, protect plant assets and minimize environmental impact.

Ashland Performance Materials is a global leader helping customers create stronger, lighter, more resistant substitutes for traditional materials through higher performing, cost-efficient resin and adhesive technologies that improve the manufacturing, fabrication and design process. Applied industries include manufacturing, building and construction, packaging and converting. In addition, the Elastomers line of business provides high-quality styrene butadiene rubber primarily to the tire market. Ashland Performance Materials also provides metal casting consumables and design services for effective foundry management through its 50% ownership in the ASK Chemicals GmbH joint venture.

Ashland Consumer Markets delivers premium-branded automotive, commercial and industrial lubricants, automotive chemicals and car-care products. It operates and franchises approximately 900 Valvoline Instant Oil ChangeSM centers in the United States. It markets ValvolineTM lubricants and automotive chemicals; MaxLifeTM lubricants for cars with higher mileage engines; NextGenTM motor oil, created with 50-percent recycled oil; SynPowerTM synthetic motor oil; Eagle OneTM and Car BriteTM automotive appearance products; and ZerexTM antifreeze.

At September 30, 2013, Ashland and its consolidated subsidiaries had approximately 15,000 employees (excluding contract employees).

Available Information – Ashland’s Internet address is <http://www.ashland.com>. On this website, Ashland makes available, free of charge, its annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports, as well as any beneficial ownership reports of officers and directors filed on Forms 3, 4 and 5. All such reports are available as soon as reasonably practicable after they are electronically filed with, or electronically furnished to, the Securities and Exchange Commission (SEC). Ashland also makes available, free of charge on its website, its Corporate Governance Guidelines, Board Committee Charters, Director Independence Standards and code of business conduct that applies to Ashland’s directors, officers and employees. These documents are also available in print to any shareholder who requests them. Information contained on Ashland’s website is not part of this annual report on Form 10-K and is not incorporated by reference in this document. The public may read and copy any materials Ashland files with the SEC at the SEC’s Public Reference Room at 100 F Street, NE, Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an Internet site (<http://www.sec.gov>) that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC.

ASHLAND SPECIALTY INGREDIENTS

Ashland Specialty Ingredients (Specialty Ingredients) offers industry-leading products, technologies and resources for solving formulation and product-performance challenges. Using natural, synthetic and semisynthetic polymers derived from plant and seed extract, cellulose ethers and vinyl pyrrolidones, Specialty Ingredients offers comprehensive and innovative solutions for consumer and industrial applications.

Key customers include pharmaceutical companies; makers of personal and home care products, food and beverages; manufacturers of paint, coatings and construction materials; and oilfield service companies. Certain customer relationships are significant, and the loss of any one of those customers could have a material adverse effect on the Specialty Ingredients segment.

Specialty Ingredients' areas of expertise include: organic and synthetic chemistry, polymer chemistry, surface and colloid science, rheology, structural analysis and microbiology.

Specialty Ingredients' solutions provide an array of properties, including: thickening and rheology control, water retention, adhesive strength, binding power, film formation, conditioning and deposition, colloid stabilization and suspension.

Specialty Ingredients is comprised of the following lines of businesses:

Care Specialties – The Care Specialties business is comprised of the Oral Care, Hair Care, Skin Care and Home Care product lines.

- Oral Care – Specialty Ingredients' portfolio of oral care products delivers active ingredients in toothpaste and mouthwashes; provides bioadhesive functionality for dentures; delivers flavor, texture and other functional properties; and provides product binding to ensure form and function throughout product lifecycle.
- Hair Care – Specialty Ingredients' portfolio of hair care products includes advanced styling polymers, fixatives, conditioning polymers, emulsifiers, preservatives and rheology modifiers.
- Skin Care – Specialty Ingredients' portfolio of skin care products helps to firm, nourish, revitalize and smooth skin. The Skin Care line also provides sun care products, including UV filters, water-resistant agents and thickeners. Emulsifiers, emollients, preservatives and rheology modifiers complete the Skin Care product line.
- Home Care – Specialty Ingredients' portfolio of products and technologies is used in many types of cleaning applications, including fabric care, home care and dishwashing. Specialty Ingredients' products are used in a variety of applications for viscosity enhancement, particle suspension, rheology modification and stabilization.

Pharmaceutical & Nutrition Specialties – The Pharmaceutical & Nutrition Specialties business includes the Pharmaceutical and Food and Beverage product lines.

- Pharmaceutical – Specialty Ingredients is a leading supplier of excipients and tablet coating systems to the pharmaceutical and nutraceutical industries. The excipients business offers a comprehensive range of polymers for use as tablet binders, superdisintegrants, sustained-release agents and drug solubilizers, as well as a portfolio of fully formulated, one-step tablet coating systems for immediate-, sustained- and delayed-release applications.
- Food and Beverage – Specialty Ingredients' portfolio provides functional benefits in areas such as thickening, texture control, thermal gelation, structure enhancement, water binding, clarification and stabilization. Its core products include leading positions in cellulose gums and vinyl pyrrolidone polymers which are used in a wide range of offerings for bakery, beverage, dairy, desserts, meat products, pet food, prepared foods, sauces and savory products.

Coatings & Construction Specialties –

- The Coatings Specialties business is a recognized leader in rheology solutions for waterborne architectural paint and coatings. Products include hydroxyethylcellulose (HEC), which provides thickening and application properties for interior and exterior paints, and nonionic synthetic associative thickeners (NSATs), which are APEO-free liquid synthetics for high-performance paint and industrial coatings. The Coatings Specialties business complements its rheology offering with a broad portfolio of performance foam-control agents, surfactants and wetting agents, dispersants and pH neutralizers. In addition, the Coatings Specialties business offers a comprehensive line of biocides and preservatives for paint, coatings and wood care.
- The Construction Specialties business is a major producer and supplier of cellulose ethers and companion products for the construction industry. These products control properties such as water retention, open time, workability, adhesion, stabilization, pumping, sag resistance, rheology, strength, appearance and performance in dry-mortar formulations.

Energy Specialties – The Energy Specialties business is a leading global manufacturer of guar-, synthetic- and cellulosic-based products for drilling fluids, oil-well cement slurries, completion and workover fluids, fracturing fluids and production

chemicals. Specialty Ingredients offers the oil and gas industry solutions for drilling, stimulation, completion, cementing and production applications.

Performance Specialties – The Performance Specialties business provides products and services to over 30 industry-focused business segments. It offers a broad spectrum of organo- and water-soluble polymers that are derived from both natural and synthetic resources. Its product lines include derivatized cellulose polymers, synthetics, guar and guar derivatives that impart effective functionalities to serve a variety of industrial markets and specialized applications. Performance Specialties also offers a comprehensive portfolio of 1,4 butanediol (BDO) and its derivatives including tetrahydrofuran (THF), N-Methylpyrrolidone (NMP) and gamma-Butyrolactone (BLO or GBL). Many of the products within the Performance Specialties business function as performance additives that deliver high levels of end-user value in formulated products. In other areas, such as plastics and textiles, Performance Specialties' products function as a processing aid, improving the quality of end products and reducing manufacturing costs.

Specialty Ingredients' cellulosics products were approximately 33% and 11% of Specialty Ingredients' sales and Ashland's consolidated sales, respectively, for fiscal 2013.

Specialty Ingredients operates throughout the Americas, Europe and Asia Pacific. It has 24 manufacturing facilities in eight countries and participates in two joint ventures. Specialty Ingredients has manufacturing facilities in Huntsville, Alabama; Wilmington, Delaware; Dalton, Georgia; Calvert City, Kentucky; Columbia, Maryland; Freetown, Massachusetts; Chatham and Parlin, New Jersey; Columbus and Lima, Ohio; Kenedy and Texas City, Texas and Hopewell, Virginia within the United States and Doel-Beveren, Belgium; Cabreuva, Brazil; Jiangmen and Nanjing, China; Alizay and Sophia Antipolis, France; Horhausen, Marl and Memmingen, Germany; Zwijndrecht, the Netherlands and Newton Aycliffe and Poole, United Kingdom. Specialty Ingredients also operates two production facilities through a joint venture in Luzhou and Suzhou, China.

Specialty Ingredients markets and distributes its products and services directly and through third-party distributors in the Americas, Europe, the Middle East, Africa and Asia Pacific.

ASHLAND WATER TECHNOLOGIES

Ashland Water Technologies (Water Technologies) is a leading supplier of specialty chemicals and services to the pulp, paper, mining, food and beverage, power generation, refining, chemical processing, general manufacturing and municipal markets. It offers chemical and equipment technologies and services designed to help customers improve operational efficiencies, enhance product quality, protect plant assets and minimize environmental impact.

To meet the diverse requirements of its customers, Water Technologies offers a range of services, including start-up and ongoing applications support, analytical and applications laboratories and customized program offerings.

Certain customer relationships are significant, and the loss of any of those customers could have a material adverse effect on the Water Technologies segment.

Water Technologies' products include biocides, cleaners, coagulants and flocculants, converting additives, corrosion inhibitors, defoamers, deposit control agents, food and beverage processing aids, internal and surface size agents, membrane treatments, mining and mineral processing aids, monitoring and control systems, odor inhibitors and neutralizers, oxygen scavengers, pulp mill additives, retention, drainage and clarification aids, scale inhibitors, sludge dewatering polymers, surface treatments, tissue-making additives, wet- and dry-strength additives and wood adhesives.

Water Technologies is comprised of the following two lines of businesses:

Pulp and Paper – The Pulp and Paper business manufactures and sells a broad array of process chemistries for the pulp and paper industry including deposit and scale control agents, defoamers, biocides, retention aids and crepe and release additives. These products are designed to deliver benefits such as enhanced operational efficiencies, system cleanliness and superior performance in a wide variety of manufacturing operations globally.

In addition, the Pulp and Paper business offers functional chemistries for packaging, tissue and towel, and printing and writing producers that impart specific properties such as wet or dry strength, liquid holdout and printability to the final paper or board. Products and technologies include internal and surface sizing agents and wet and dry strength additives.

Industrial Water – The Industrial Water business offers specialized chemicals for the utility water treatment market including influent water, boiler water, cooling water and effluent water treatments. Products include scale and corrosion inhibitors, coagulants and flocculants, biocides, defoamers, membrane treatments and sludge dewatering.

In addition, the Industrial Water business offers process additives such as frothers and collection aids, dust control additives, sterilization treatments, corn oil extraction and scale and corrosion inhibitors for mining and mineral processing, food processing, oil refining, chemicals processing and general manufacturing markets.

Water Technologies also supplies automated equipment, including performance-based feed and control systems, proprietary monitoring devices and remote system surveillance. The utility products, services and equipment offerings are designed to protect plant assets and optimize energy, water and operational costs at customers' facilities.

Water Technologies operates throughout the Americas, Europe and Asia Pacific. It has 29 manufacturing facilities in 17 countries and participates in three joint ventures. Water Technologies has manufacturing plants in Macon and Savannah, Georgia; Chicopee, Massachusetts; Greensboro, North Carolina; Portland, Oregon; Houston, Texas; Franklin, Virginia; Beckley, West Virginia and Milwaukee, Wisconsin within the United States and Chester Hill, Australia; Beringen, Belgium; Americana, Leme and Paulinia, Brazil; Burlington, Canada; Beijing and Shanghai, China; Somercotes, England; Tampere, Finland; Krefeld and Sobernheim, Germany; Busnago, Italy; Mexico City, Mexico; Zwijndrecht, the Netherlands; Perm, Russia; Tarragona, Spain; Kim Cheon, South Korea; Helsingborg, Sweden and Nantou, Taiwan. Through separate joint ventures, it has production facilities in Navi Mumbai, India; Seoul, South Korea and Kuala Lumpur, Malaysia. Water Technologies also utilizes third-party tolling manufacturers and has assets for manufacturing at customer sites in Perawang, Indonesia, Pine Bluff, Arkansas and Fort Wayne, Indiana.

Water Technologies markets and distributes its products and services directly and through third-party channel partners in the Americas, Europe, the Middle East, Africa and Asia Pacific.

ASHLAND PERFORMANCE MATERIALS

Ashland Performance Materials (Performance Materials) is a global leader helping customers create stronger, lighter, more resistant substitutes for traditional materials through higher performing, cost-efficient resin and adhesive technologies that improve the manufacturing, fabrication and design process. Applied industries include manufacturing, building and construction, packaging and converting. In addition, the Elastomers line of business provides high-quality styrene butadiene rubber primarily to the tire market. Performance Materials also provides metal casting consumables and design services for effective foundry management through its 50% ownership in the ASK Chemicals GmbH joint venture. For additional information regarding this joint venture, see Note C of Notes to Consolidated Financial Statements in this annual report on Form 10-K.

Performance Materials' composite resins; water-based and energy-curable coatings; pressure-sensitive adhesives; and elastomers are used in the construction, transportation, infrastructure, boatbuilding, and packaging and converting markets.

Key customers include manufacturers of residential and commercial building products, infrastructure engineers, wind blade manufacturers, pipe manufacturers, auto and truck makers, tire makers, commercial label printers, specialty film converters and boatbuilders.

Performance Materials is comprised of the following lines of businesses:

Composites and Adhesives – The Composites and Adhesives business manufactures and sells a broad range of general-purpose and high-performance grades of unsaturated polyester and vinyl ester resins, gelcoats and low-profile additives for the reinforced plastics industry. Key markets include the transportation, construction, marine and infrastructure end markets. Performance Materials' composite products provide an array of functional properties including corrosion resistance, fire retardance, ultraviolet resistance, water and chemical resistance, high mechanical strength, impact and scratch resistance and high strength-to-weight ratios. In addition, the business also manufactures and sells molten maleic anhydride for the manufacture of a variety of products such as unsaturated polyester resins, copolymers, lubricating oil additives, alkenyl succinic anhydrides, malic acid, fumaric acid and numerous derivative chemicals. Molten maleic anhydride is supplied both to Ashland businesses who consume it as a raw material, primarily in North America, and to the merchant market.

The Composites and Adhesives business also manufactures and sells adhesive solutions to the packaging and converting, building and construction, and transportation markets and manufactures and markets specialty coatings and adhesive solutions for use across multiple industries. Key technologies and markets include: acrylic polymers for pressure-sensitive adhesives; urethane adhesives for flexible packaging applications; aqueous and radiation-curable adhesives and specialty coatings for printing and converting applications; emulsion polymer isocyanate adhesives for structural wood bonding; elastomeric polymer adhesives for commercial roofing applications; acrylic, polyurethane and epoxy structural adhesives for bonding fiberglass reinforced plastics, composites, thermoplastics and metals in automotive, marine, recreational and industrial applications; specialty phenolic resins for paper impregnation and friction material bonding. Performance Materials' adhesive products provide an array of functional properties including high-strength bonding, ease and speed of product assembly, heat and moisture resistance and design flexibility.

Elastomers – The Elastomers business, acquired as part of the acquisition of International Specialty Products Inc. (ISP), is one of the largest suppliers in North America to the merchant market of high-quality styrene butadiene rubber (SBR). It provides raw materials used in the manufacture of tires, flooring, shoe soles, adhesives and sealants, automotive parts and industrial rubber goods. With a variety of product grades, the Elastomers business supplies SBR to a wide array of manufacturers.

Performance Materials' composites products were approximately 58% and 11% of Performance Materials' sales and Ashland's total consolidated sales, respectively, for fiscal 2013.

Performance Materials operates throughout the Americas, Europe and Asia Pacific. It has 22 manufacturing facilities in nine countries. Composites and Adhesives has manufacturing plants in Fort Smith and Jacksonville, Arkansas; Commerce, California; Bartow, Florida; Calumet City, Illinois; Ashland and Columbus, Ohio; White City, Oregon; Neville Island and Philadelphia, Pennsylvania; Piedmont, South Carolina and Neal, West Virginia within the United States and Aracariguama, Brazil; Kelowna, Canada; Changzhou, China; Kidderminster, England; Porvoo, Finland; Sauveterre, France; Miszewo, Poland; and Castro Urdiales and Benicarló, Spain. Elastomers has one manufacturing facility in Port Neches, Texas. Performance Materials also provides toll manufacturing services to the ASK Chemicals GmbH joint venture through manufacturing facilities located in Changzhou, China.

Performance Materials markets and distributes its products directly and through third-party distributors in the Americas, Europe, the Middle East, Africa and Asia Pacific.

ASHLAND CONSUMER MARKETS

Ashland Consumer Markets (Consumer Markets) delivers premium-branded automotive, commercial and industrial lubricants, automotive chemicals and car-care products. It operates and franchises approximately 900 Valvoline Instant Oil ChangeSM centers in the United States. It markets ValvolineTM lubricants and automotive chemicals; MaxLifeTM lubricants for cars with higher mileage engines; NextGenTM motor oil, created with 50-percent recycled oil; SynPowerTM synthetic motor oil; Eagle OneTM and Car BriteTM automotive appearance products; and ZerexTM antifreeze.

Key customers include retail auto parts stores and mass merchandisers who sell to consumers; installers, such as car dealers, repair shops and quick lubes; commercial fleets; and distributors. Certain customer relationships are significant, and the loss of any one of those customers could have a material adverse effect on the Consumer Markets segment.

Consumer Markets is comprised of the following lines of businesses:

Do It Yourself (DIY) – The DIY business sells ValvolineTM and other branded and private label products to consumers who perform their own auto maintenance. These products are sold through retail auto parts stores such as AutoZone, O'Reilly, Advance Auto Parts, mass merchandisers such as Wal-Mart Stores, Inc., and warehouse distributors and their affiliated jobber stores such as NAPA and CARQUEST.

Installer Channels/Commercial & Industrial (C&I) – The Installer Channels business sells branded products and services to installers (such as car dealers, general repair shops and quick lubes) and to auto auctions through a network of independent distributors and company-owned and operated “direct market” operations. This business also sells to national accounts such as Goodyear, Monro and Sears. The C&I business sells branded products and services to on-highway fleets and construction companies through company-owned and operated “direct market” operations, national accounts and a network of distributors.

Valvoline Instant Oil Change (VIOC) – The Valvoline Instant Oil ChangeSM chain is the second largest competitor in the U.S. “fast oil change” service business, providing Consumer Markets with a significant presence in the installer channels segment of the passenger car and light truck motor oil market. As of September 30, 2013, 261 company-owned and 638 independently-owned and operated franchise VIOC centers were operating in 41 states. VIOC centers offer customers an innovative computer-based preventive maintenance tracking system that allows service technicians to make service recommendations based primarily on manufacturers' recommendations. In addition, this business includes distribution to quick lubes branded “Valvoline Express CareTM,” which consists of 312 independently-owned and operated stores.

Valvoline International – Outside of North America, Valvoline International markets ValvolineTM, Eagle OneTM, ZerexTM and other branded products through wholly-owned affiliates, joint ventures, licensees and independent distributors in 139 countries. Valvoline International operates joint ventures with Cummins Inc. (Cummins) in Argentina, China and India. In addition, Valvoline International operates joint ventures with local entities in Colombia, Ecuador, Thailand and Venezuela. Valvoline International markets products for both consumer and commercial vehicles and equipment and is served by company-owned plants in the United States, Australia and the Netherlands and by numerous third-party warehouses and toll manufacturers throughout the world.

Valvoline International sells branded products and services to original equipment manufacturers (OEMs) through company-owned and operated “direct market” operations, national accounts and a network of distributors. Valvoline International also maintains a strategic alliance with Cummins to distribute heavy duty lubricants to the commercial market, as well as smaller alliances with other global OEMs.

Consumer Markets' lubricants products were approximately 85% and 22% of Consumer Markets' and Ashland's total consolidated sales, respectively, for fiscal 2013.

Consumer Markets operates lubricant blending and packaging plants in Santa Fe Springs, California; Cincinnati, Ohio; East Rochester, Pennsylvania and Deer Park, Texas within the United States and Wetherill Park, Australia and Dordrecht, the Netherlands. Automotive chemical manufacturing and distribution is conducted in Hernando, Mississippi. Bulk blending and distribution facilities are located in College Park, Georgia; Willow Springs, Illinois and St. Louis, Missouri within the United States and Mississauga, Canada. Distribution operations are conducted from centers located in College Park, Georgia; Willow Springs, Illinois; Noblesville, Indiana; St. Louis, Missouri; Cincinnati, Ohio and East Rochester, Pennsylvania within the United States and through owned facilities in Birkenhead, United Kingdom and leased facilities in Sydney, Australia and Dordrecht, the Netherlands. Consumer Markets also uses property owned and operated by third-parties in Pasadena and Highlands, Texas in the United States; Roosendal, the Netherlands, and other smaller locations.

Additives and base oils constitute a large portion of the raw materials required to manufacture Consumer Markets' products. In addition to raw materials, Consumer Markets sources a significant portion of its packaging.

MISCELLANEOUS

Environmental Matters

Ashland has implemented a companywide environmental policy overseen by the Environmental, Health, Safety and Product Compliance Committee of Ashland's Board of Directors. Ashland's Environmental, Health, Safety and Product Regulatory (EHS&PR) department has the responsibility to ensure that Ashland's businesses worldwide maintain environmental compliance in accordance with applicable laws and regulations. This responsibility is carried out via training; widespread communication of EHS&PR policies; information and regulatory updates; formulation of relevant policies, procedures and work practices; design and implementation of EHS&PR management systems; internal auditing by a separate auditing group; monitoring of legislative and regulatory developments that may affect Ashland's operations; assistance to the businesses in identifying compliance issues and opportunities for voluntary actions that go beyond compliance; and incident response planning and implementation.

Federal, state and local laws and regulations relating to the protection of the environment have a significant impact on how Ashland conducts its businesses. In addition, Ashland's operations outside the United States are subject to the environmental laws of the countries in which they are located. These laws include regulation of air emissions and water discharges, waste handling, remediation and product inventory, registration and regulation. New laws and regulations may be enacted or adopted by various regulatory agencies globally. The costs of compliance with any new laws or regulations cannot be estimated until the manner in which they will be implemented has been more precisely defined.

At September 30, 2013, Ashland's reserves for environmental remediation amounted to \$211 million, reflecting Ashland's estimates of the most likely costs that will be incurred over an extended period to remediate identified conditions for which the costs are reasonably estimable, without regard to any third-party recoveries. Engineering, technical and feasibility studies are used, along with historical experience and other factors, to identify and evaluate remediation alternatives and their related costs in determining the estimated reserves for environmental remediation. Environmental remediation reserves are subject to numerous inherent uncertainties that affect Ashland's ability to estimate its share of the costs. Such uncertainties involve the nature and extent of contamination at each site, the extent of required cleanup efforts under existing environmental regulations, widely varying costs of alternate cleanup methods, changes in environmental regulations, the potential effect of continuing improvements in remediation technology and the number and financial strength of other potentially responsible parties at multiparty sites. Although it is not possible to predict with certainty the ultimate costs of environmental remediation, Ashland currently estimates that the upper end of the reasonably possible range of future costs for identified sites is approximately \$420 million. No individual remediation location is material, as the largest reserve for any site is approximately 12% or less of the remediation reserve. Ashland regularly adjusts its reserves as environmental remediation continues. Environmental remediation expense, net of insurance receivables, amounted to \$29 million in 2013, compared to \$23 million in 2012 and \$36 million in 2011.

Product Control, Registration and Inventory – Many of Ashland's products and operations are subject to chemical control laws of the countries in which they are located. These laws include regulation of chemical substances and inventories under the Toxic Substances Control Act (TSCA) in the United States and the Registration, Evaluation and Authorization of Chemicals (REACH) regulation in Europe. Under REACH, additional testing requirements, documentation, risk assessments and registrations are occurring and will continue to occur and may adversely affect Ashland's costs of products produced in or imported into the European Union. Examples of other product control regulations include right to know laws under the Global Harmonized System (GHS) for hazard communication, regulation of biocides under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) in the United States, the Biocidal Products Regulation (BPR) in Europe, regulation of chemicals that contact food under the Food, Drug and Cosmetics Act in the United States, the Framework Regulation in Europe and other product control requirements for chemical weapons, drug precursors and import/export. New laws and regulations may be enacted or adopted by various regulatory agencies globally. The costs of compliance with any new laws or regulations cannot be estimated until the manner in which they will be implemented has been more precisely defined.

Remediation – Ashland currently operates, and in the past has operated, various facilities at which, during the normal course of business, releases of hazardous substances have occurred. Additionally, Ashland has known or alleged potential environmental liabilities at a number of third-party sites. Federal and state laws, including but not limited to the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and various other remediation laws, require that contamination caused by hazardous substance releases be assessed and, if necessary, remediated to meet applicable standards. Some of these laws also provide for liability for related damage to natural resources, and claims for alleged property and personal injury damage can also arise related to contaminated sites. Laws in other jurisdictions in which Ashland operates require that contamination caused by such releases at these sites be assessed and, if necessary, remediated to meet applicable standards.

Air – In the United States, the Clean Air Act (CAA) imposes stringent limits on facility air emissions, establishes a federally mandated operating permit program, allows for civil and criminal enforcement actions and sets limits on the volatile or toxic content of many types of industrial materials and consumer products. The CAA establishes national ambient air quality standards (NAAQS) with attainment deadlines and control requirements based on the severity of air pollution in a given geographical area. Various state clean air acts implement, complement and, in many instances, add to the requirements of the federal CAA. The requirements of the CAA and its state counterparts have a significant impact on the daily operation of Ashland's businesses and, in many cases, on product formulation and other long-term business decisions. Other countries where Ashland operates also have laws and regulations relating to air quality. Ashland's businesses maintain numerous permits and emission control devices pursuant to these clean air laws.

The United States Environmental Protection Agency (USEPA) has increased its frequency in reviewing the NAAQS. The USEPA has stringent standards for particulate matter, ozone and sulfur dioxide, respectively. Throughout 2013, state and local agencies continued to implement options for meeting the newest standards. Particulate matter strategies include dust control measures for construction sites and reductions in emission rates allowed for industrial operations. Options for ozone include emission controls for certain types of sources, reduced limits on the volatile organic compound content of industrial materials and consumer products, and requirements on the transportation sector. Most options for sulfur dioxide focus on coal and diesel fuel combustion sources. It is not possible at this time to estimate the potential financial impact that these newest standards may have on Ashland's operations or products. Ashland will continue to monitor and evaluate these standards to meet these and all air quality requirements.

Solid Waste – Ashland's businesses are subject to various laws relating to and establishing standards for the management of hazardous and solid waste. In the United States, Ashland's facilities are subject to RCRA and its regulations governing generators of hazardous waste. Ashland has implemented systems to oversee compliance with the RCRA regulations. In addition to regulating current waste disposal practices, RCRA also addresses the environmental effects of certain past waste disposal operations, the recycling of wastes and the storage of regulated substances in underground tanks. Ashland has the remediation liability for certain facilities subject to these regulations. Other countries where Ashland operates also have laws and regulations relating to hazardous and solid waste, and Ashland has systems in place to oversee compliance.

Water – Ashland's businesses maintain numerous discharge permits. In the United States, such permits may be required by the National Pollutant Discharge Elimination System of the Clean Water Act and similar state programs. Other countries have similar laws and regulations requiring permits and controls relating to water discharge.

Climate Change and Related Regulatory Developments – Ashland has been collecting energy use data and calculating greenhouse gas (GHG) emissions for many years. Ashland evaluates the potential impacts from both climate change and the anticipated GHG regulations to facilities, products and other business interests, as well as the strategies commonly considered by the industrial sector to reduce the potential impact of these risks. These risks are generally grouped as impacts from legislative, regulatory and international developments, impacts from business and investment trends and impacts to company assets from the physical effects of climate change. Current North American, European and other regional regulatory developments are not expected to have a material effect on Ashland's operations, although some facilities are subject to promulgated rules. Business and investment trends are expected to drive an increase in the demand for products that improve energy efficiency, reduce energy use and increase the use of renewable resources. At this time, Ashland cannot estimate the impact of this expected demand increase to its businesses. Physical effects from climate change have the potential to affect Ashland's assets in areas prone to sea level rise or extreme weather events much as they do the general public and other businesses. Due to the uncertainty of these matters, Ashland cannot estimate the impact at this time of GHG-related developments on its operations or financial condition.

Competition

Specialty Ingredients, Water Technologies and Performance Materials compete in the highly fragmented specialty chemicals industry. The participants in the industry offer a varied and broad array of product lines designed to meet specific customer requirements. Participants compete with individual and service product offerings on a global, regional and/or local level subject to the nature of the businesses and products, as well as the end-markets and customers served. Competition is based on several

key criteria, including product performance and quality, product price, product availability and security of supply, responsiveness of product development in cooperation with customers, customer service, industry knowledge and technical capability. Certain key competitors are significantly larger than Ashland and have greater financial resources, leading to greater operating and financial flexibility. The industry has become increasingly global as participants have focused on establishing and maintaining leadership positions outside of their home markets. Many of these segments' product lines face domestic and international competition, as a result of industry consolidation, pricing pressures and competing technologies.

Consumer Markets competes in the highly competitive automotive lubricants and consumer products car care businesses, principally through its offerings of premium products and services primarily under the Valvoline™ family of trademarks, coupled with strong brand marketing, customer support and distribution capabilities. Some of the major brands of motor oils and lubricants with which Consumer Markets competes globally are Castrol[†], Mobil[†] and Pennzoil[†]. In the “fast oil change” business, Consumer Markets competes with other leading independent fast lube chains on a national, regional or local basis, as well as automobile dealers and service stations. Important competitive factors for Consumer Markets in the “fast oil change” market include Valvoline's brand recognition; maintaining market presence through Valvoline Instant Oil ChangeSM and Valvoline Express Care™ outlets; and quality and speed of service, location, convenience, sales promotions and other value-add elements.

Intellectual Property

Ashland has a broad intellectual property portfolio which is an important component of all of Ashland's business segments. In particular, Ashland's Specialty Ingredients, Water Technologies and Performance Materials segments rely on patents, trade secrets, formulae and know-how to protect and differentiate their products and technologies. In addition, these business segments own valuable trademarks which identify and differentiate Ashland's products from its competitors. The Valvoline™ trademark and other trademarks related to Valvoline products and franchises are of particular importance to the Consumer Markets segment and the overall Ashland business. Ashland also licenses intellectual property rights from third-parties.

Raw Materials

Ashland purchases its raw materials from multiple sources of supply in the United States and foreign countries, and believes that raw material supplies will be available in quantities sufficient to meet demand in fiscal 2014. All of Ashland's business segments were impacted to varying degrees in fiscal 2013 by the volatility of raw materials costs, and these conditions may continue in fiscal 2014.

Research and Development

Ashland's program of research and development is focused on defining the needs of the marketplace and framing those needs into technology platforms. Ashland has the capability to deliver and develop the intellectual property required to grow and protect those platforms. Ashland is focused on developing new chemistries, market-changing technologies and customer driven solutions at numerous technology centers located in the Americas, Europe and the Asia Pacific region. Research and development costs are expensed as they are incurred and totaled \$178 million in fiscal 2013, \$137 million in 2012 and \$80 million in 2011. These amounts include impairment charges of \$41 million and \$13 million during fiscal 2013 and 2012, respectively, related to certain in-process research and development assets associated with the acquisition of ISP. For additional information regarding these impairment charges, see Notes B and H of Notes to Consolidated Financial Statements in this annual report on Form 10-K.

Seasonality

Ashland's business may vary due to seasonality. Ashland's business segments typically experience stronger demand during warmer weather months, which generally occur during Ashland's third and fourth quarters.

Forward-Looking Statements

This annual report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). These forward-looking statements are not historical facts and generally are identified by words such as “anticipates,” “believes,” “estimates,” “expects,” “is likely,” “predicts,” “projects,” “forecasts,” “may,” “will,” “should,” and “intends” and the negative of these words or other comparable terminology. Although Ashland believes that its expectations are based on reasonable assumptions, such expectations are subject to risks and uncertainties that are difficult to predict and may be beyond Ashland's control. As a result, Ashland cannot assure that the expectations contained in such statements will be achieved. Important factors that could cause actual results to differ materially from those contained in such statements are discussed under “Use of estimates, risks and uncertainties” in Note A of Notes to Consolidated Financial Statements in this annual report on Form 10-K. For a discussion of other factors and risks that could affect Ashland's expectations and operations, see “Item 1A. Risk Factors” in this annual report on Form 10-K.

ITEM 1A. RISK FACTORS

The following discussion of “risk factors” identifies the most significant factors that may adversely affect Ashland’s business, operations, financial position or future financial performance. This information should be read in conjunction with Management’s Discussion and Analysis and the consolidated financial statements and related notes incorporated by reference into this annual report on Form 10-K. The following discussion of risks is designed to highlight what Ashland believes are important factors to consider when evaluating its expectations. These factors could cause future results to differ from those in forward-looking statements and from historical trends.

Adverse developments in the global economy and potential disruptions of financial markets could negatively impact Ashland’s customers and suppliers, and therefore have a negative impact on Ashland’s results of operations.

A global or regional economic downturn may reduce customer demand or inhibit Ashland’s ability to produce and sell products. Ashland’s business and operating results are sensitive to global and regional economic downturns, credit market tightness, declining consumer and business confidence, fluctuating commodity prices, volatile exchange rates, changes in interest rates and other challenges including those related to potential sovereign debt defaults in Europe that can affect the global economy. In the event of adverse developments or stagnation in the economy or financial markets, Ashland’s customers may experience deterioration of their businesses, reduced demand for their products, cash flow shortages and difficulty obtaining financing. As a result, existing or potential customers might delay or cancel plans to purchase products and may not be able to fulfill their obligations to Ashland in a timely fashion. Further, suppliers may experience similar conditions, which could impact their ability to fulfill their obligations to Ashland. If the current weakness in much of the global economy continues for an extended period or deepens significantly, Ashland’s business, results of operations, financial condition and ability to grow could be negatively impacted.

Ashland’s future success depends on its ability to execute its strategy to optimize the value of its business portfolio while managing its significant debt and contingent liabilities.

Ashland’s strategic objective has been to create a more focused company built around a strong core of specialty chemicals businesses. Ashland intends to invest in and grow its specialty chemicals businesses and structure the rest of its businesses in a manner that optimizes its enterprise value. As Ashland evaluates opportunities to enhance its enterprise value, Ashland will continue to evaluate the alignment of its business portfolio with that strategic vision and may engage in future divestitures, spin-offs, acquisitions or joint ventures, and resulting capital and debt restructuring. These potential transactions all carry substantial inherent risks, including the risk that Ashland will not optimize the value of any disposition or spin-off or be able to realize the anticipated benefits of any acquisition or joint venture. In addition, the execution of Ashland’s strategy also may be affected by considerations related to its significant debt and contingent liabilities, including significant legacy contingent liabilities related to retiree pension and benefits obligations, personal injury claims from asbestos exposure and environmental remediation projects. If Ashland fails to optimize the value of its business portfolio while managing its significant debt and contingent liabilities, Ashland’s enterprise value could be negatively affected.

Ashland has announced that it is in the process of selling its Water Technologies business, which introduces specific uncertainties regarding Ashland’s ability to identify a buyer, optimize the value received in the sale of that business and close the sale in a timely manner, any of which could negatively impact Ashland’s enterprise value. Ashland has also announced that it expects the primary use of net proceeds from the sale of Water Technologies to be returning capital to shareholders in the form of a share repurchase program which could impair Ashland’s ability to finance future growth of its specialty chemicals businesses.

Ashland’s substantial global operations subject it to risks of doing business in foreign countries, which could adversely affect its business, financial condition and results of operations.

About one half of Ashland’s net sales for fiscal 2014 are expected to be to customers outside of North America. Ashland expects sales from international markets to continue to represent an even larger portion of the Company’s sales in the future. Ashland has dozens of manufacturing facilities located outside of the United States. Accordingly, Ashland’s business is subject to risks related to the differing legal, political, cultural, social and regulatory requirements and economic conditions of many jurisdictions.

The global nature of Ashland’s business presents difficulties in hiring and maintaining a workforce in certain countries. Fluctuations in exchange rates may affect product demand and may adversely affect the profitability in U.S. dollars of products and services provided in foreign countries. In addition, foreign countries may impose additional withholding taxes or otherwise tax Ashland’s foreign income, or adopt other restrictions on foreign trade or investment, including currency exchange controls. The imposition of tariffs is also a risk that could impair Ashland’s financial performance.

Certain legal and political risks are also inherent in the operation of a company with Ashland’s global scope. For example, it may be more difficult for Ashland to enforce its agreements or collect receivables through foreign legal systems. There is a risk that foreign governments may nationalize private enterprises in certain countries where Ashland operates. In certain countries or regions, terrorist activities and the response to such activities may threaten Ashland’s operations more than those in the United

States. Social and cultural norms in certain countries may not support compliance with Ashland's corporate policies. Also, changes in general economic and political conditions in countries where Ashland operates, particularly in Europe, the Middle East and emerging markets, are a risk to Ashland's financial performance.

As Ashland continues to operate its business globally, its success will depend, in part, on its ability to anticipate and effectively manage these and other related risks. There can be no assurance that the consequences of these and other factors relating to its multinational operations will not have an adverse effect on Ashland's business, financial condition or results of operations.

The impact of changing laws or regulations or the manner of interpretation or enforcement of existing rules could adversely impact Ashland's financial performance and restrict its ability to operate its business or execute its strategies.

New laws or regulations, or changes in existing laws or regulations or the manner of their interpretation or enforcement, could increase Ashland's cost of doing business and restrict its ability to operate its business or execute its strategies. This includes, among other things, the possible taxation under U.S. law of certain income from foreign operations, regulations issued by the U.S. Food and Drug Administration (and analogous non-U.S. agencies) affecting Ashland and its customers, compliance with The U.S. Foreign Corrupt Practices Act (and analogous non-U.S. laws) and the European Union's Registration, Authorisation and Restriction of Chemicals (REACH) regulation (and analogous non-EU initiatives), and costs associated with complying with the Patient Protection and Affordable Care Act of 2010 and the regulations promulgated thereunder. In addition, compliance with laws and regulations is complicated by Ashland's substantial and growing global footprint, which will require significant and additional resources to comprehend and ensure compliance with applicable laws in the more than one hundred countries and localities where Ashland conducts business.

Failure to develop and market new products and production technologies could impact Ashland's competitive position and have an adverse effect on its businesses and results of operations.

The specialty chemical industry is subject to periodic technological change and ongoing product improvements. In order to maintain margins and remain competitive, Ashland must successfully develop and introduce new products or improvements that appeal to its customers, and ultimately to global consumers. Ashland plans to grow earnings, in part, by focusing on developing markets and solutions to meet increasing demand in those markets, including demand for personal care and pharmaceutical products which are subject to lengthy regulatory approval processes. Ashland's efforts to respond to changes in consumer demand in a timely and cost-efficient manner to drive earnings could be adversely affected by difficulties or delays in product development, including the inability to identify viable new products, successfully complete research and development, obtain regulatory approvals, obtain intellectual property protection or gain market acceptance of new products. Due to the lengthy development process, technological challenges and intense competition, there can be no assurance that any of the products Ashland is currently developing, or could develop in the future, will achieve substantial commercial success.

The competitive nature of Ashland's markets may delay or prevent the Company from passing increases in raw materials or energy costs on to its customers. In addition, certain of Ashland's suppliers may be unable to deliver products or raw materials or may withdraw from contractual arrangements. The occurrence of either event could adversely affect Ashland's results of operations.

Rising and volatile raw material prices, especially those of hydrocarbon derivatives, guar, cotton linters or wood pulp, may negatively impact Ashland's costs, results of operations and the valuation of its inventory. Similarly, energy costs are a significant component of certain of Ashland's product costs. Ashland is not always able to raise prices in response to such increased costs, and its ability to pass on the costs of such price increases is dependent upon market conditions. Likewise, reductions in the valuation of Ashland's inventory due to market volatility may not be recovered and could result in losses.

Ashland purchases certain products and raw materials from suppliers, often pursuant to written supply contracts. If those suppliers are unable to timely meet Ashland's orders or choose to terminate or otherwise avoid contractual arrangements, Ashland may not be able to make alternative supply arrangements. Also, domestic and global government regulations related to the manufacture or transport of certain raw materials may impede Ashland's ability to obtain those raw materials on commercially reasonable terms. If Ashland is unable to obtain and retain qualified suppliers under commercially acceptable terms, its ability to manufacture and deliver products in a timely, competitive and profitable manner or grow its business successfully could be adversely affected.

Ashland faces competition from other companies, which places downward pressure on prices and margins and may adversely affect Ashland's businesses and results of operations.

Ashland operates in highly competitive markets, competing against a number of domestic and foreign companies. Competition is based on several key criteria, including product performance and quality, product price, product availability and security of supply, responsiveness of product development in cooperation with customers and customer service, as well as the ability to bring innovative products or services to the marketplace. Certain key competitors are significantly larger than Ashland and have greater financial resources, leading to greater operating and financial flexibility. As a result, these competitors may be better able to

withstand changes in conditions within the relevant industry, changes in the prices of raw materials and energy and changes in general economic conditions. In addition, competitors' pricing decisions could compel Ashland to decrease its prices, which could negatively affect its margins and profitability. Additional competition in markets served by Ashland could adversely affect margins and profitability and could lead to a reduction in market share. Also, Ashland competes in certain markets that are declining and has targeted other markets for growth opportunities. If Ashland's strategies for dealing with declining markets and leveraging opportunity markets are not successful, its results of operations could be negatively affected.

Ashland's success depends upon its ability to attract and retain key employees and the identification and development of talent to succeed senior management.

Ashland's success depends on its ability to attract and retain key personnel, and Ashland relies heavily on its management team. The inability to recruit and retain key personnel or the unexpected loss of key personnel may adversely affect Ashland's operations. Also, a substantial portion of Ashland's U.S.-based employees will be retirement-eligible within the next five years. That, combined with relatively small number of middle tier managers with substantial experience in place to replace this group of retirement eligible employees, increases the potential negative impact of the risk that key employees could leave the Company. This risk of unwanted employee turnover also is substantial in positions of certain technical expertise and geographically in developing markets which Ashland has targeted for growth, especially in Asia, South America and Eastern Europe. In addition, because of its reliance on its management team, Ashland's future success depends, in part, on its ability to identify and develop talent to succeed its senior management. The retention of key personnel and appropriate senior management succession planning will continue to be critical to the successful implementation of Ashland's strategies.

Ashland's business exposes it to potential product liability claims and recalls, which could adversely affect its financial condition and performance.

The development, manufacture and sale of specialty chemical products by Ashland, including products produced for the food, beverage, personal care, pharmaceutical and nutritional supplement industries, involve an inherent risk of exposure to product liability claims, product recalls, product seizures and related adverse publicity. A product liability claim or judgment against Ashland could also result in substantial and unexpected expenditures, affect consumer or customer confidence in its products, and divert management's attention from other responsibilities. Although Ashland maintains product liability insurance, there can be no assurance that this type or the level of coverage is adequate or that Ashland will be able to continue to maintain its existing insurance or obtain comparable insurance at a reasonable cost, if at all. A product recall or a partially or completely uninsured product liability judgment against Ashland could have a material adverse effect on its results of operations and financial condition.

Business disruptions from natural, operational and other catastrophic risks could seriously harm Ashland's operations and financial performance. In addition, a catastrophic event at one of Ashland's facilities or involving its products or employees could lead to liabilities that could further impair its operations and financial performance.

Business disruptions, including those related to operating hazards inherent with the production of chemicals, natural disasters, severe weather conditions, supply or logistics disruptions, increasing costs for energy, temporary plant and/or power outages, information technology systems and network disruptions, cyber-security breach, terrorist attacks, armed conflict, war, pandemic diseases, fires, floods or other catastrophic events, could seriously harm Ashland's operations, as well as the operations of its customers and suppliers, and may adversely impact Ashland's financial performance. Although it is impossible to predict the occurrence or consequences of any such events, they could result in reduced demand for Ashland's products, make it difficult or impossible for Ashland to manufacture its products or deliver products and services to its customers or to receive raw materials from suppliers, or create delays and inefficiencies in the supply chain. In addition to leading to a serious disruption of Ashland's businesses, a catastrophic event at one of its facilities or involving its products or employees could lead to substantial legal liability to or claims by parties harmed by the event.

While Ashland maintains business continuity plans that are intended to allow it to continue operations or mitigate the effect of events that could disrupt its business, Ashland cannot provide assurances that its plans would fully protect it from all such events. In addition, insurance maintained by Ashland to protect against loss of business and other related consequences resulting from catastrophic events is subject to coverage limitations, depending on the nature of the risk insured. This insurance may not be sufficient to cover all of Ashland's damages or damages to others in the event of a catastrophe. In addition, insurance related to these types of risks may not be available now or, if available, may not be available in the future at commercially reasonable rates.

Ashland has incurred, and will continue to incur, substantial costs as a result of environmental, health and safety, and hazardous substances liabilities and related compliance requirements. These costs could adversely impact Ashland's cash flow, and, to the extent they exceed Ashland's established reserves for these liabilities, its results of operations.

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

remediation of hazardous substances and waste materials. Ashland has incurred, and will continue to incur, significant costs and capital expenditures to comply with these laws and regulations.

Environmental, health and safety regulations change frequently, and such regulations and their enforcement have tended to become more stringent over time. Accordingly, changes in environmental, health and safety laws and regulations and the enforcement of such laws and regulations could interrupt Ashland's operations, require modifications to its facilities or cause Ashland to incur significant liabilities, costs or losses that could adversely affect its profitability. Actual or alleged violations of environmental, health or safety laws and regulations could result in restrictions or prohibitions on plant operations as well as substantial damages, penalties, fines, civil or criminal sanctions and remediation costs. In addition, under some environmental laws, Ashland may be strictly liable and/or jointly and severally liable for environmental damages and penalties.

Ashland is also subject to various federal, state, local and foreign environmental laws and regulations that require environmental assessment or remediation efforts (collectively, environmental remediation) at multiple locations. Ashland uses engineering studies, historical experience and other factors to identify and evaluate remediation alternatives and their related costs in determining the estimated reserves for environmental remediation. Environmental remediation reserves are subject to numerous inherent uncertainties that affect Ashland's ability to estimate its share of the applicable costs. Such uncertainties involve the nature and extent of contamination at each site, the extent of required cleanup efforts under existing environmental regulations, widely varying costs of alternate cleanup methods, changes in environmental regulations, the potential effect of continuing improvements in remediation technology and the number and financial strength of other potentially responsible parties at multiparty sites. As a result, Ashland's actual costs for environmental remediation could affect Ashland's cash flow and, to the extent costs exceed established reserves for those liabilities, its results of operations.

Ashland is responsible for, and has financial exposure to, liabilities from pending and threatened claims, including those alleging personal injury caused by exposure to asbestos, which could adversely impact Ashland's results of operations and cash flow.

There are various claims, lawsuits and administrative proceedings pending or threatened, including those alleging personal injury caused by exposure to asbestos, against Ashland and its current and former subsidiaries. Such actions are with respect to commercial matters, product liability, toxic tort liability and other matters that seek remedies or damages, some of which are for substantial amounts. While these actions are being contested, their outcome is not predictable. Ashland's businesses could be adversely affected by financial exposure to these liabilities. Insurance maintained by Ashland to protect against claims for damages alleged by third parties is subject to coverage limitations, depending on the nature of the risk insured. This insurance may not be sufficient to cover all of Ashland's liabilities to others. In addition, insurance related to these types of risks may not be available now or, if available, may not be available in the future at commercially reasonable rates.

Projecting future asbestos costs is subject to numerous variables that are extremely difficult to predict. In addition to the significant uncertainties surrounding the number of claims that might be received, other variables include the type and severity of the disease alleged by each claimant, the long latency period associated with asbestos exposure, dismissal rates, costs of medical treatment, the impact of bankruptcies of other companies that are co-defendants in claims, uncertainties surrounding the litigation process from jurisdiction to jurisdiction and from case to case, and the impact of potential changes in legislative or judicial standards. Furthermore, any predictions with respect to these variables are subject to even greater uncertainty as the projection period lengthens. In light of these inherent uncertainties, Ashland believes that its asbestos reserves represent the best estimate within a range of possible outcomes. As a part of the process to develop these estimates of future asbestos costs, a range of long-term cost models was developed. These models are based on national studies that predict the number of people likely to develop asbestos-related diseases and are heavily influenced by assumptions regarding long-term inflation rates for indemnity payments and legal defense costs, as well as other variables mentioned previously. Because of the inherent uncertainties in projecting future asbestos liabilities and establishing appropriate reserves, Ashland's actual asbestos costs could adversely affect its results of operations and, to the extent they exceed its reserves, could adversely affect its results of operations.

Ashland may not be able to effectively protect or enforce its intellectual property rights.

Ashland relies on the patent, trademark, trade secret and copyright laws of the United States and other countries to protect its intellectual property rights. The laws of some countries may not protect Ashland's intellectual property rights to the same extent as the laws of the United States. Failure of foreign countries to have laws to protect Ashland's intellectual property rights or an inability to effectively enforce such rights in foreign countries could result in the loss of valuable proprietary information, which could have an adverse effect on Ashland's business and results of operations.

Even in circumstances where Ashland has a patent on certain technologies, such patents may not provide meaningful protection against competitors or against competing technologies. In addition, any patent applications submitted by Ashland may not result in an issued patent. There can be no assurance that Ashland's intellectual property rights will not be challenged, invalidated, circumvented or rendered unenforceable. Ashland could also face claims from third parties alleging that Ashland's products or processes infringe on their proprietary rights. If Ashland is found liable for infringement, it could be responsible for significant

damages, prohibited from using certain products or processes or required to modify certain products and processes. Any such infringement liability could adversely affect Ashland's product and service offerings, profitability and results of operations.

Ashland also has substantial intellectual property associated with its know-how and trade secrets that are not protected by patent or copyright laws. Ashland protects these rights by entering into confidentiality and non-disclosure agreements with most of its employees and with third parties. There can be no assurance that such agreements will not be breached or that Ashland will be able to effectively enforce them. In addition, Ashland's trade secrets and know-how may be improperly obtained by other means, such as a breach of Ashland's information technologies security systems or direct theft. Any unauthorized disclosure of any of Ashland's material know-how or trade secrets could adversely affect Ashland's business and results of operations.

Ashland's pension and postretirement benefit plan obligations are currently underfunded, and Ashland may have to make significant cash payments to some or all of these plans, which would reduce the cash available for Ashland's businesses.

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

Under the Employee Retirement Income Security Act of 1974 (ERISA), as amended, the Pension Benefit Guaranty Corporation (PBGC) has the authority to terminate an underfunded tax-qualified pension plan under limited circumstances. In the event Ashland's tax-qualified pension plans are terminated by the PBGC, Ashland could be liable to the PBGC for some portion of the underfunded amount.

Ashland's substantial indebtedness may adversely affect its business, results of operations and financial condition.

Primarily as a result of the acquisition of ISP, Ashland incurred a substantial amount of debt. Ashland's substantial indebtedness could adversely affect its business, results of operations and financial condition by, among other things:

- requiring Ashland to dedicate a substantial portion of its cash flow from operations to pay principal and interest on its debt, which would reduce the availability of Ashland's cash flow to fund working capital, capital expenditures, acquisitions, execution of its growth strategy and other general corporate purposes;
- limiting Ashland's ability to borrow additional amounts to fund working capital, capital expenditures, acquisitions, debt service requirements, execution of its growth strategy and other purposes;
- making Ashland more vulnerable to adverse changes in general economic, industry and regulatory conditions and in its business by limiting Ashland's flexibility in planning for, and making it more difficult for Ashland to react quickly to, changing conditions;
- placing Ashland at a competitive disadvantage compared with those of its competitors that have less debt and lower debt service requirements;
- making Ashland more vulnerable to increases in interest rates since some of its indebtedness is subject to variable rates of interest; and
- making it more difficult for Ashland to satisfy its financial obligations.

In addition, Ashland may not be able to generate sufficient cash flow from its operations to repay its indebtedness when it becomes due and to meet its other cash needs. If Ashland is not able to pay its debts as they become due, it could be in default under its credit facility or other indebtedness. Ashland might also be required to pursue one or more alternative strategies to repay indebtedness, such as selling assets, refinancing or restructuring its indebtedness or selling additional debt or equity securities. Ashland may not be able to refinance its debt or sell additional debt or equity securities or its assets on favorable terms, if at all, and if Ashland must sell its assets, it may negatively affect its ability to generate revenues.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Ashland's corporate headquarters is located in Covington, Kentucky. Principal offices of other major operations are located in Wilmington, Delaware (Specialty Ingredients and Water Technologies); Bridgewater and Roseland, New Jersey (Specialty Ingredients); Dublin, Ohio (Performance Materials); Lexington, Kentucky (Consumer Markets); Hyderabad, India (Specialty

Ingredients); and Barendrecht, the Netherlands; Shanghai, China; and Schaffhausen, Switzerland (shared service centers of Ashland's business segments). All of these office buildings are leased, except for portions of the Dublin, Ohio facilities that are owned. Principal manufacturing, marketing and other materially important physical properties of Ashland and its subsidiaries are described within the applicable business segment under "Item 1" in this annual report on Form 10-K. All of Ashland's physical properties are owned or leased. Ashland believes its physical properties are suitable and adequate for the Company's business. Additional information concerning certain leases may be found in Note K of Notes to Consolidated Financial Statements in this annual report on Form 10-K.

ITEM 3. LEGAL PROCEEDINGS

The following is a description of Ashland's material legal proceedings.

Asbestos-Related Litigation

Ashland is subject to liabilities from claims alleging personal injury caused by exposure to asbestos. Such claims result primarily from indemnification obligations undertaken in 1990 in connection with the sale of Riley Stoker Corporation (Riley), a former subsidiary. Although Riley was neither a producer nor a manufacturer of asbestos, its industrial boilers contained some asbestos-containing components provided by other companies.

Hercules, a wholly-owned subsidiary of Ashland, is also subject to liabilities from asbestos-related personal injury lawsuits involving claims which typically arise from alleged exposure to asbestos fibers from resin encapsulated pipe and tank products which were sold by one of Hercules' former subsidiaries to a limited industrial market.

Ashland and Hercules are also defendants in lawsuits alleging exposure to asbestos at facilities formerly or presently owned or operated by Ashland or Hercules.

For additional detailed information regarding liabilities arising from asbestos-related litigation, see "Management's Discussion and Analysis - Critical Accounting Policies - Asbestos Litigation" and Note N of Notes to Consolidated Financial Statements in this annual report on Form 10-K.

Environmental Proceedings

(a) *CERCLA and Similar State Law Sites* – Under the CERCLA of 1980 and similar state laws, Ashland and its subsidiaries may be subject to joint and several liability for cleanup costs in connection with alleged releases of hazardous substances at sites where it has been identified as a "potentially responsible party" (PRP). As of September 30, 2013, Ashland and its subsidiaries have been identified as a PRP by U.S. federal and state authorities, or by private parties seeking contribution, for the cost of environmental investigation and/or cleanup at 79 waste treatment or disposal sites. These sites are currently subject to ongoing investigation and remedial activities, overseen by the USEPA or a state agency, in which Ashland or its subsidiaries are typically participating as a member of a PRP group. Generally, the type of relief sought includes remediation of contaminated soil and/or groundwater, reimbursement for past costs of site cleanup and administrative oversight and/or long-term monitoring of environmental conditions at the sites. The ultimate costs are not predictable with assurance.

(b) *Hattiesburg, Mississippi Resource Conservation and Recovery Act Matter* – In November 2008, the Mississippi Department of Environmental Quality (MDEQ) issued a Notice of Violation to Hercules' now-closed Hattiesburg, Mississippi manufacturing facility alleging that a storm water retention basin at the facility had been operated as a hazardous waste storage and treatment facility without a permit in violation of the RCRA. Ashland has been working with the MDEQ to settle this matter in the context of the shutdown and ongoing remediation of the Hattiesburg facility. The MDEQ proposed a settlement penalty in excess of \$100,000. In May 2011, the USEPA issued an inspection report from a September 2010 inspection with allegations similar to those of the MDEQ and promulgated an information request. While it is reasonable to believe that this matter will involve a penalty from the MDEQ and/or the USEPA exceeding \$100,000, the potential liability with respect to this matter should not be material to Ashland.

(c) *Jefferson Borough, Pennsylvania Consent Decree Matter* – In October 2012, the USEPA notified Hercules of an alleged violation by Hercules of a 1992 Consent Decree (CD) concerning the Resin Disposal Superfund Site located in Jefferson Borough, Pennsylvania. Specifically, the USEPA alleged that (i) there were three uncontrolled releases in 2011 to the soil, ground water and/or surface water from an on-site treatment system, (ii) Hercules failed to timely notify the USEPA of such releases, and (iii) the failure to notify and consult with the USEPA violated the CD. In June 2013, Hercules and the USEPA entered into a settlement agreement pursuant to which Hercules was assessed \$2 million in penalties. The settlement agreement was fully executed and the penalty payment was made in August 2013. In May 2013, the Pennsylvania Department of Environmental Protection (PADEP) provided Hercules with notice of four alleged unauthorized releases of leachate and wastewater at the Resin Disposal Superfund Site to the ground, groundwater and a tributary. Three of the four releases in PADEP's notice were the subject of a prior USEPA

proceeding. Hercules and PADEP have discussed the allegations. While it is reasonable to believe that this matter will involve a penalty from the PADEP exceeding \$100,000, the potential liability with respect to this matter should not be material to Ashland.

For additional information regarding environmental matters and reserves, see “Management’s Discussion and Analysis – Critical Accounting Policies – Environmental remediation and asset retirement obligations” and Note N of Notes to Consolidated Financial Statements in this annual report on Form 10-K.

Other Pending Legal Proceedings

In addition to the matters described above, there are other various claims, lawsuits and administrative proceedings pending or threatened against Ashland and its current and former subsidiaries. Such actions are with respect to commercial matters, product liability, toxic tort liability and other environmental matters which seek remedies or damages, some of which are for substantial amounts. While Ashland cannot predict with certainty the outcome of such actions, it believes that adequate reserves have been recorded and losses already recognized with respect to such actions were immaterial as of September 30, 2013. There is a reasonable possibility that a loss exceeding amounts already recognized may be incurred related to these actions; however, Ashland believes that such potential losses were immaterial as of September 30, 2013.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM X. EXECUTIVE OFFICERS OF ASHLAND

The following is a list of Ashland’s executive officers, their ages and their positions and offices during the last five years (listed alphabetically after the Chief Executive Officer and the current members of Ashland’s Executive Committee).

JAMES J. O’BRIEN (age 59) is Chairman of the Board, Chief Executive Officer and a Director of Ashland and has served in such capacities since 2002.

J. KEVIN WILLIS (age 48) is Senior Vice President and Chief Financial Officer of Ashland and has served in such capacities since May 2013. Mr. Willis served as Vice President of Finance and Controller for the Specialty Ingredients commercial unit from August 2011 until May 2013 and Vice President of Finance and Treasurer from 2007 to 2011.

PETER J. GANZ (age 51) is Senior Vice President, General Counsel and Secretary of Ashland and has served as Senior Vice President and General Counsel since July 2011 and Secretary since November 2012. During the past five years, he has also served as a partner with Sedgwick LLP, an international law firm, and as Executive Vice President, General Counsel and Secretary of Foster Wheeler AG, a global engineering and construction contractor and power equipment supplier.

SUSAN B. ESLER (age 52) is Vice President and Chief Human Resources and Communications Officer of Ashland and has served in such capacities since 2006 and July 2011, respectively. During the past five years, she has also served as Vice President, Human Resources and Communications of Ashland.

LUIS FERNANDEZ-MORENO (age 51) is Senior Vice President of Ashland and President of Specialty Ingredients and has served in such capacities since October 2013. He previously served as Vice President of Ashland and President of Water Technologies from November 2012 until October 2013. During the past five years, he has served as Executive Vice President of Arch Chemicals, Inc., where he was responsible for the wood protection and HTH water products businesses, as Business Group Vice President, Dow Coating Materials and in a series of leadership positions with Rohm & Haas, including directing businesses such as paint and coating materials, plastic additives and printing technologies.

THEODORE L. HARRIS (age 48) is Senior Vice President and President, Global Supply Chain of Ashland; and President of Performance Materials and has served in such capacities since 2011, 2008 and 2009, respectively. During the past five years, he has also served as Vice President of Ashland; President of Environmental, Health and Safety and Information Technology; President of Ashland Distribution and General Manager of the Composite Polymers Division of Ashland.

J. WILLIAM HEITMAN (age 59) is Vice President and Controller of Ashland and has served in such capacities since 2008.

SAMUEL J. MITCHELL, JR. (age 52) is Senior Vice President of Ashland and President of Consumer Markets and has served in such capacities since 2011 and 2002, respectively. During the past five years, he has also served as Vice President of Ashland.

JOHN E. PANICHELLA (age 54) is Senior Vice President of Ashland and President of Water Technologies and has served in such capacities since October 2013. He previously served as Senior Vice President and President of Specialty Ingredients from January 2011 to October 2013, and Group Operating Officer from September 2012 to October 2013. During the past five years, he has also served as Vice President of Ashland, President of Ashland Aqualon Functional Ingredients and Vice President and President-Aqualon Division of Hercules.

STEVEN E. POST (age 59) is Vice President, Operations and Environmental, Health and Safety of Ashland and has served in such capacities since October 2011. During the past five years, he has also served as Senior Vice President, Operations-Specialty Chemicals for ISP's global manufacturing operations.

ANNE T. SCHUMANN (age 53) is Vice President and Chief Information and Administrative Services Officer of Ashland and has served in such capacities since 2008 and 2009, respectively. During the past five years, she has also served as Vice President, Acquisition Integration of Ashland and Vice President, Information Technology and Human Resources of Hercules.

WALTER H. SOLOMON (age 53) is Vice President and Chief Growth Officer of Ashland and has served in such capacities since 2005.

Each executive officer is elected by the Board of Directors of Ashland to a term of one year, or until a successor is duly elected, at the annual meeting of the Board of Directors, except in those instances where the officer is elected other than at an annual meeting of the Board of Directors, in which case his or her tenure will expire at the next annual meeting of the Board of Directors unless the officer is re-elected.

PART II

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

See Quarterly Financial Information on page F-50 for information relating to market price and dividends of Ashland's Common Stock.

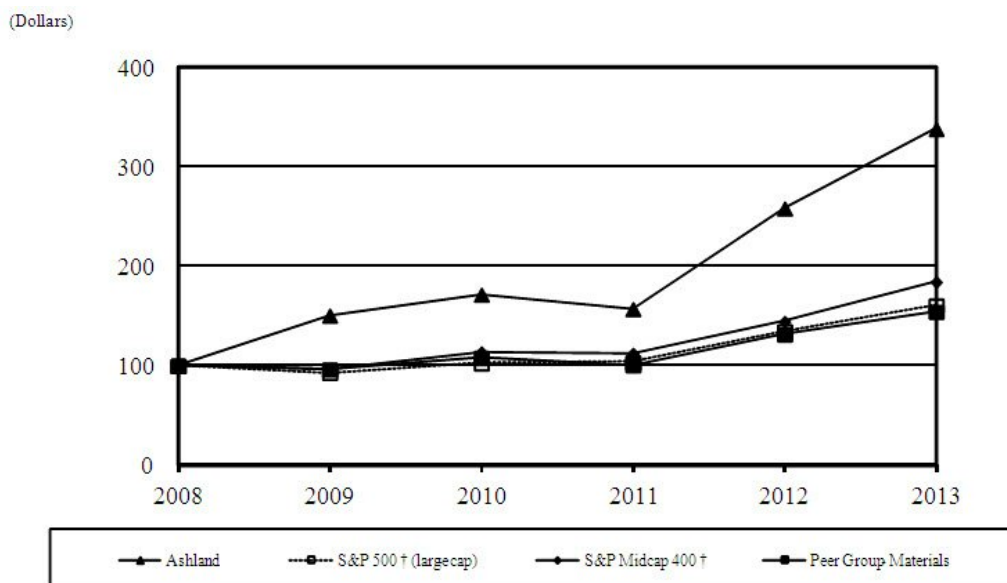
At October 31, 2013, there were approximately 14,102 holders of record of Ashland's Common Stock. Ashland Common Stock is listed on the New York Stock Exchange (NYSE) (ticker symbol ASH) and has trading privileges on NASDAQ.

There were no sales of unregistered securities required to be reported under Item 5 of Form 10-K. Ashland made no purchases of Ashland Common Stock during the fourth quarter of fiscal 2013.

FIVE-YEAR TOTAL RETURN PERFORMANCE GRAPH

The following graph compares Ashland's five-year cumulative total shareholder return with the cumulative total return of the S&P 500[†] large-cap index, S&P MidCap 400[†] index and one peer group of companies. Ashland was listed in the S&P 500[†] index until November 2008 and is now listed in the S&P MidCap 400[†] index. The cumulative total shareholder return for each of these groups assumes the reinvestment of dividends.

COMPARISON OF FIVE-YEAR CUMULATIVE TOTAL RETURN ASHLAND, S&P 500[†] LARGE-CAP INDEX, S&P MIDCAP 400[†] INDEX AND PEER GROUP



	2008	2009	2010	2011	2012	2013
Ashland	100	151	172	157	258	338
S&P 500 [†] (large-cap)	100	93	102	104	135	161
S&P MidCap 400 [†]	100	97	114	113	145	184
Peer Group - Materials	100	96	108	101	132	154

The peer group consists of the following industry indices:

- *Peer Group – Materials:* S&P 500[†] Materials (large-cap) and S&P MidCap 400[†] Materials. As of September 30, 2013, this peer group consisted of 60 companies.

ITEM 6. SELECTED FINANCIAL DATA

See Five-Year Selected Financial Information on page F-52.

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

See Management's Discussion and Analysis of Financial Condition and Results of Operations on pages M-1 through M-37.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

See Quantitative and Qualitative Disclosures about Market Risk on pages M-37 and M-38.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The consolidated financial statements and financial schedule of Ashland presented in this annual report on Form 10-K are listed in the index on page F-1.

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

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures – As of September 30, 2013, Ashland, under the supervision and with the participation of Ashland's management, including Ashland's Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of Ashland's disclosure controls and procedures as defined in Exchange Act Rules 13a-15(e) and 15d-15(e). Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that the disclosure controls and procedures were not effective as of September 30, 2013, due to a material weakness in internal control over financial reporting described below.

Management's Report on Internal Control over Financial Reporting – Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of Ashland's internal control over financial reporting as of September 30, 2013. Management conducted its assessment utilizing the criteria described in *Internal Control - Integrated Framework (1992)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

A material weakness is a deficiency or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis.

Ashland did not maintain effective controls over the valuation of inventory for the Elastomers line of business. Specifically, controls were not designed effectively to provide reasonable assurance that the inventory for the Elastomers line of business, which is accounted for on the Last-In, First-Out ("LIFO") method, was recorded at the lower-of-cost-or-market ("LCM"). The material weakness resulted in errors in the valuation of inventory in the Elastomers line of business that resulted in a correction of the Company's consolidated financial statements for the quarters ended December 31, 2011 and March 31, 2012 and out-of-period adjustments recorded in 2013. Additionally, this material weakness could result in misstatements of the aforementioned accounts and disclosures that would result in a material misstatement of the consolidated financial statements that would not be prevented or detected.

Because of this material weakness, management concluded that the Company did not maintain effective internal control over financial reporting as of September 30, 2013 based on criteria in *Internal Control - Integrated Framework (1992)* issued by the COSO.

The effectiveness of the Company's internal control over financial reporting as of September 30, 2013 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears herein.

Remediation Steps Taken to Address Material Weakness – The Company has taken the following steps to remediate the identified material weakness. Since June 30, 2013, the LCM analysis and adjustment have been completed subsequent to the valuation of inventory using the LIFO method. In addition, the Elastomers line of business was integrated into Ashland’s SAP system as of July 1, 2013. This integration puts the Elastomers line of business on the same enterprise resource planning system as the rest of the Company. Although the Company concluded that there was a material weakness regarding the LCM inventory valuation methodology for the Elastomers line of business at September 30, 2013, the Company believes these steps have strengthened its controls over financial reporting and addressed the material weakness. The Company will test and evaluate these controls as part of Ashland’s 2014 assessment of internal controls over financial reporting.

Changes in Internal Control over Financial Reporting – Ashland evaluated the changes in its internal control over financial reporting that occurred during the quarter ended September 30, 2013 and concluded that the remediation steps taken to address the material weakness, as described above, have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

Disclosure of Certain Transactions Under Section 13(r) of the Securities Exchange Act of 1934

Section 219 of the Iran Threat Reduction and Syria Human Rights Act of 2012 (ITRSHRA) added Section 13(r) to the Securities Exchange Act of 1934, as amended. Section 13(r) requires, among other things, that an issuer disclose in its annual or quarterly reports, as applicable, whether during the period covered by the report it or any of its affiliates knowingly conducted, without specific authority from a U.S. federal department or agency, any transaction or dealing with the Government of Iran, which includes, without limitation, any person or entity owned or controlled, directly or indirectly, by the Government of Iran or any of its political subdivisions, agencies or instrumentalities. The following disclosure relates to certain transactions previously disclosed by Ashland in its Form 10-Qs for the second and third quarters of fiscal 2013.

Ashland, indirectly through a subsidiary, owns 50% of the equity interests in ASK Chemicals GmbH (ASK), and Ashland has the right to appoint, and has appointed, two out of the five directors on the ASK supervisory board. For the period commencing October 1, 2012 and ending June 30, 2013, two subsidiaries of ASK sold granulate, coatings and hot top products to certain Iranian entities. Based on information available to Ashland, Ashland has reason to believe that some or all of these entities are owned or controlled, directly or indirectly, by the Government of Iran. The gross revenues and net profits attributable to such sales during the six months ended March 31, 2013, were approximately €715,000 and €75,000, respectively and during the three months ended June 30, 2013, were approximately €179,500 and €12,700, respectively.

In March 2013, the ASK supervisory board unanimously resolved to terminate and refrain from engaging in, and to cause all of ASK’s subsidiaries to terminate and refrain from engaging in, any transactions or activities with Iran, including transactions or activities prohibited by, or requiring disclosure under, ITRSHRA. Accordingly, ASK and all of its subsidiaries have terminated all business with or in Iran. None of Ashland or any of its subsidiaries or affiliates, including ASK and its subsidiaries, which may be considered affiliates of Ashland, has any intention to continue this activity or engage in any activity prohibited by, or requiring disclosure under, ITRSHRA.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

There is hereby incorporated by reference the information to appear under the caption “Election of Directors” in Ashland’s Proxy Statement, which will be filed with the SEC within 120 days after September 30, 2013. See also the list of Ashland’s executive officers and related information under “Executive Officers of Ashland” in Part I - Item X in this annual report on Form 10-K.

There is hereby incorporated by reference the information to appear under the caption “Corporate Governance - Governance Principles” in Ashland’s Proxy Statement.

There is hereby incorporated by reference the information to appear under the caption “Corporate Governance - Shareholder Nominations of Directors” in Ashland’s Proxy Statement.

There is hereby incorporated by reference the information to appear under the caption “Audit Committee Report” regarding Ashland’s audit committee and audit committee financial experts, as defined under Item 407(d)(4) and (5) of Regulation S-K in Ashland’s Proxy Statement.

ITEM 11. EXECUTIVE COMPENSATION

There is hereby incorporated by reference the information to appear under the captions “Compensation of Directors,” “Corporate Governance - Personnel and Compensation Committee Interlocks and Insider Participation,” “Executive Compensation,” “Compensation Discussion and Analysis,” and “Personnel and Compensation Committee Report on Executive Compensation” in Ashland’s Proxy Statement.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

There is hereby incorporated by reference the information to appear under the captions “Ashland Common Stock Ownership of Certain Beneficial Owners,” “Ashland Common Stock Ownership of Directors and Executive Officers of Ashland,” “Compensation of Directors – Annual Retainer” and “Executive Compensation – Nonqualified Deferred Compensation” in Ashland’s Proxy Statement.

The following table summarizes the equity compensation plans under which Ashland Common Stock may be issued as of September 30, 2013. Except as disclosed in the narrative to the table, all plans were approved by shareholders of Ashland.

Plan Category	Equity Compensation Plan Information		
	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
	(a)	(b)	(c)
Equity compensation plans approved by security holders.....	1,840,414 (1)	\$ 55.84 (2)	2,541,034 (3)
Equity compensation plans not approved by security holders.....	214,547 (4)	—	708,277 (5)
Total.....	2,054,961	\$ 55.84 (2)	3,249,311

(1) This figure includes (a) 44,610 stock options outstanding under the Amended and Restated Ashland Inc. Incentive Plan (“Amended Plan”) and (b) 10,326 stock options outstanding under the Hercules Incorporated Amended and Restated Long Term Incentive Compensation Plan. This figure also includes 37,019 net shares that could be issued under stock-settled SARs under the Amended Plan, 573,300 net shares that could be issued under stock-settled SARs under the 2006 Ashland Inc. Incentive Plan (“2006 Incentive Plan”) and 412,491 net shares that could be issued under stock-settled SARs under the Amended and Restated 2011 Ashland Inc. Incentive Plan (the “2011 Incentive Plan”), based upon the closing price of Ashland Common Stock on the NYSE as of September 30, 2013 of \$92.48. Additionally, this figure includes 243,054 restricted shares granted under the Amended Plan and deferred, 142,414 performance share units for the fiscal 2011-2013 performance period, 166,850 performance share units for the fiscal 2012-2014 performance period, and 121,144 performance share units for the fiscal 2013-2015 performance period, payable in Ashland Common Stock under the 2006 Incentive Plan, 2011 Incentive Plan and 2011 Incentive Plan, respectively, estimated assuming target performance is achieved. Also included in the figure are 61,181 shares to be issued under the pre-2005 Deferred Compensation Plan for Employees and 28,025 shares to be issued under the pre-2005 Deferred Compensation Plan for Non-Employee Directors, payable in Ashland Common Stock upon termination of employment or service with Ashland.

(2) The weighted-average exercise price excludes shares in Ashland Common Stock which may be distributed under the deferred compensation plans and the deferred restricted stock and performance share units which may be distributed under the Amended Plan, the 2006 Incentive Plan and the 2011 Incentive Plan, as described in footnotes (1) and (4) in this table.

(3) This figure includes 2,094,024 shares available for issuance under the 2011 Incentive Plan, 148,027 shares available for issuance under the pre-2005 Deferred Compensation Plan for Employees and 285,969 shares available for issuance under the pre-2005 Deferred Compensation Plan for Non-Employee Directors.

- (4) This figure includes 45,968 shares to be issued under the Deferred Compensation Plan for Employees (2005), which is described in the “Non-Qualified Deferred Compensation - Ashland Inc. Employees’ Deferral Plan” section of Ashland’s proxy statement, and 168,579 shares to be issued under the Deferred Compensation Plan for Non-Employee Directors (2005), which is described in the “Compensation of Directors - Annual Retainer” and “Compensation of Directors - Restricted Shares/Units” sections of Ashland’s proxy statement, payable in Ashland Common Stock upon termination of employment or service with Ashland. Because these plans are not equity compensation plans as defined by the rules of the NYSE, neither plan required approval by Ashland’s shareholders.
- (5) This figure includes 400,347 shares available for issuance under the Deferred Compensation Plan for Employees (2005) and 307,930 shares available for issuance under the Deferred Compensation Plan for Non-Employee Directors (2005). Because these plans are not equity compensation plans as defined by the rules of the NYSE, neither plan required approval by Ashland’s shareholders.

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

There is hereby incorporated by reference the information to appear under the captions “Corporate Governance – Director Independence and Certain Relationships,” “Related Person Transaction Policy,” and “Audit Committee Report” in Ashland’s Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

There is hereby incorporated by reference the information with respect to principal accounting fees and services to appear under the captions “Audit Committee Report” and “Ratification of Independent Registered Public Accountants” in Ashland’s Proxy Statement.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) Documents filed as part of this Report

- (1) and (2) Financial Statements and Financial Schedule
- (3) See Item 15(b) in this annual report on Form 10-K

The consolidated financial statements and financial schedule of Ashland presented in this annual report on Form 10-K are listed in the index on page F-1.

Schedules other than that listed above have been omitted because of the absence of the conditions under which they are required or because the information required is shown in the consolidated financial statements or the notes thereto. Separate financial statements of unconsolidated affiliates are omitted because each company does not constitute a significant subsidiary using the 20% tests when considered individually. Summarized financial information for all unconsolidated affiliates is disclosed in Note E of Notes to Consolidated Financial Statements.

(b) Documents required by Item 601 of Regulation S-K

- 3.1 – Third Restated Articles of Incorporation of Ashland and amendment thereto effective February 3, 2009 (filed as Exhibit 3.1 to Ashland’s Form 10-Q for the quarter ended December 31, 2008 (SEC File No. 001-32532), and incorporated herein by reference).
- 3.2** – By-laws of Ashland, effective as of June 30, 2005.
- 3.3** – Amendment to By-laws of Ashland, effective as of October 25, 2013.
- 4.1 – Ashland agrees to provide the SEC, upon request, copies of instruments defining the rights of holders of long-term debt of Ashland and all of its subsidiaries for which consolidated or unconsolidated financial statements are required to be filed with the SEC.

- 4.2 – Indenture, dated as of August 15, 1989, as amended and restated as of August 15, 1990, between Ashland Inc. and Citibank, N.A., as Trustee (filed as Exhibit 4.2 to Ashland’s Form 10-K for the fiscal year ended September 30, 2008 (SEC File No. 001-32532), and incorporated herein by reference).
- 4.3 – Agreement of Resignation, Appointment and Acceptance, dated as of November 30, 2006, by and among Ashland Inc., Wilmington Trust Company (Wilmington) and Citibank, N.A. (Citibank) whereby Wilmington replaced Citibank as Trustee under the Indenture dated as of August 15, 1989, as amended and restated as of August 15, 1990, between Ashland Inc. and Citibank (filed as Exhibit 4 to Ashland’s Form 10-Q for the quarter ended December 31, 2006 (SEC File No. 001-32532), and incorporated herein by reference).
- 4.4 – Indenture, dated May 27, 2009, by and among Ashland Inc., the Guarantors and U.S. Bank National Association (filed as Exhibit 4.1 to Ashland’s Form 10-Q for the quarter ended June 30, 2009 (SEC File No. 001-32532), and incorporated herein by reference).
- 4.5 – Warrant Agreement dated July 27, 1999 between Hercules and The Chase Manhattan Bank, as warrant agent (filed as Exhibit 4.4 to Hercules’ Form 8-K filed on July 28, 1999 (SEC File No. 001-00496), and incorporated herein by reference).
- 4.6 – Form of Series A Junior Subordinated Deferrable Interest Debentures (filed as Exhibit 4.5 to Hercules’ Form 8-K filed on July 28, 1999 (SEC File No. 001-00496), and incorporated herein by reference).
- 4.7 – Form of CRESTSSM Unit (filed as Exhibit 4.7 to Hercules’ Form 8-K filed on July 28, 1999 (SEC File No. 001-00496), and incorporated herein by reference).
- 4.8 – Form of Warrant (filed as Exhibit 4.8 to Hercules’ Form 8-K filed on July 28, 1999 (SEC File No. 001-00496), and incorporated herein by reference).
- 4.9 – Indenture, dated as of August 7, 2012, between Ashland Inc. and U.S. Bank N.A., as Trustee (filed as Exhibit 4.1 to Ashland’s Form 8-K filed on September 21, 2012 (SEC File No. 001-32532), and incorporated herein by reference).
- 4.10 – Registration Rights Agreement, dated as of August 7, 2012, between Ashland Inc. and Citigroup Global Markets Inc., as representative of the several Initial Purchasers (filed as Exhibit 4.2 to Ashland’s Form 8-K filed on September 21, 2012 (SEC File No. 001-32532), and incorporated herein by reference).
- 4.11** – First Supplemental Indenture, dated as of February 26, 2013, between Ashland Inc. and U.S. Bank National Association, as Trustee, in respect of the senior notes due 2022.
- 4.12 – Registration Rights Agreement, dated as of February 26, 2013, among Ashland Inc. and Citigroup Global Markets Inc., as representative of the Initial Purchasers, in respect of the additional senior notes due 2022 (filed as Exhibit 4.2 to Ashland’s Form 8-K filed on February 27, 2013 (SEC File No. 001-32532), and incorporated herein by reference).
- 4.13 – Indenture, dated as of February 26, 2013, between Ashland Inc. and U.S. Bank National Association, as Trustee (filed as Exhibit 4.3 to Ashland’s Form 8-K filed on February 27, 2013 (SEC File No. 001-32532), and incorporated herein by reference).
- 4.14 – First Supplemental Indenture, dated as of February 26, 2013, between Ashland Inc. and U.S. Bank National Association, as Trustee, in respect of the senior notes due 2016, 2018 and 2043 (filed as Exhibit 4.4 to Ashland’s Form 8-K filed on February 27, 2013 (SEC File No. 001-32532), and incorporated herein by reference).
- 4.15 – Registration Rights Agreement, dated as of February 26, 2013, among Ashland Inc. and Citigroup Global Markets Inc., as representative of the Initial Purchasers, in respect of the senior notes due 2016, 2018 and 2043 (filed as Exhibit 4.1 to Ashland’s Form 8-K filed on February 27, 2013 (SEC File No. 001-32532), and incorporated herein by reference).

- 4.16 – Registration Rights Agreement, dated as of March 14, 2013, between Ashland Inc. and Citigroup Global Markets Inc., as Initial Purchaser, in respect of the senior notes due 2043 (filed as Exhibit 4.1 to Ashland's Form 8-K filed on March 18, 2013 (SEC File No. 001-32532), and incorporated herein by reference).
- 4.17 – Second Supplemental Indenture, dated as of March 14, 2013, between Ashland Inc. and U.S. Bank National Association, as Trustee, in respect of the senior notes due 2043 (filed as Exhibit 4.2 to Ashland's Form 8-K filed on March 18, 2013 (SEC File No. 001-32532), and incorporated herein by reference).

The following Exhibits 10.1 through 10.24 are contracts or compensatory plans or arrangements or management contracts required to be filed as exhibits pursuant to Items 601(b)(10)(ii)(A) and 601(b)(10)(iii)(A) and (B) of Regulation S-K.

- 10.1 – Ashland Inc. Deferred Compensation Plan for Non-Employee Directors and Amendment No. 1 (filed as Exhibit 10.5 to Ashland's Form 10-Q for the quarter ended December 31, 2004 (SEC File No. 001-02918), and incorporated herein by reference).
- 10.2 – Ashland Inc. Deferred Compensation Plan and Amendment No. 1 (filed as Exhibit 10.3 to Ashland's Form 10-Q for the quarter ended December 31, 2004 (SEC File No. 001-02918), and incorporated herein by reference).
- 10.3 – Amended and Restated Ashland Inc. Deferred Compensation Plan for Employees (2005) (filed as Exhibit 10.3 to Ashland's Form 10-K for the fiscal year ended September 30, 2008 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.4 – Amended and Restated Ashland Inc. Deferred Compensation Plan for Non-Employee Directors (2005) (filed as Exhibit 10.4 to Ashland's Form 10-K for the fiscal year ended September 30, 2008 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.5 – Amended and Restated Ashland Inc. Supplemental Early Retirement Plan for Certain Employees (filed as Exhibit 10.5 to Ashland's Form 10-K for the fiscal year ended September 30, 2010 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.6 – Ashland Supplemental Defined Contribution Plan for Certain Employees (filed as Exhibit 10.3 to Ashland's Form 10-Q for the quarter ended March 31, 2011 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.7 – Amended and Restated Ashland Inc. Nonqualified Excess Benefit Pension Plan (filed as Exhibit 10.6 to Ashland's Form 10-K for the fiscal year ended September 30, 2008 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.8 – Hercules Incorporated Employee Pension Restoration Plan (filed as Exhibit 10.9 to Ashland's Form 10-K for the fiscal year ended September 30, 2010 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.9 – Form of Chief Executive Officer Change in Control Agreement (filed as Exhibit 10.1 to Ashland's Form 8-K filed on January 7, 2009 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.10 – Form of Executive Officer Change in Control Agreement (filed as Exhibit 10.2 to Ashland's Form 8-K filed on January 7, 2009 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.11 – Form of Executive Officer Change in Control Agreement, effective for agreements entered into after July 2009 (filed as Exhibit 10.11 to Ashland's Form 10-K for the fiscal year ended September 30, 2009 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.12 – Ashland Inc. Severance Pay Plan (filed as Exhibit 10.1 to Ashland's Form 10-Q for the quarter ended June 30, 2013 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.13 – Form of Indemnification Agreement between Ashland and members of its Board of Directors (filed as Exhibit 10.10 to Ashland's annual report on Form 10-K for fiscal year ended September 30, 2005 (SEC File No. 001-32532), and incorporated herein by reference).

- 10.14 – Amended and Restated Ashland Inc. Incentive Plan (filed as Exhibit 10.17 to Ashland’s Form 10-K for the fiscal year ended September 30, 2009 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.15 – 2006 Ashland Inc. Incentive Plan (filed as Exhibit 10 to Ashland’s Form 10-Q for the quarter ended December 31, 2005 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.16 – Form of Stock Appreciation Rights Award Agreement (filed as Exhibit 10.4 to Ashland’s Form 10-Q for the quarter ended March 31, 2011 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.17 – Form of Performance Unit (LTIP) Award Agreement (filed as Exhibit 10.5 to Ashland’s Form 10-Q for the quarter ended March 31, 2011 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.18 – Form of Restricted Stock Award Agreement (filed as Exhibit 10.6 to Ashland’s Form 10-Q for the quarter ended March 31, 2011 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.19 – Form of Restricted Stock Unit Agreement (filed as Exhibit 10.22 to Ashland’s Form 10-K for the fiscal year ended September 30, 2011 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.20 – Amendment to 2011 Ashland Inc. Incentive Plan (filed as Exhibit 10.1 to Ashland’s Form 8-K filed on February 1, 2013 (SEC File No. 001-32532) and incorporated herein by reference).
- 10.21 – Amended and Restated 2011 Ashland Inc. Incentive Plan (filed as Exhibit 10.1 to Ashland’s Form 8-K filed on February 1, 2013 (SEC File No. 001-32532) and incorporated herein by reference).
- 10.22** – Letter Agreement between Ashland and Luis Fernandez-Moreno dated July 29, 2013.
- 10.23** – Letter Agreement between Ashland and Luis Fernandez-Moreno dated November 4, 2013.
- 10.24 – Letter Agreement between Ashland and John E. Panichella dated November 13, 2013 (filed as Exhibit 10.1 to Ashland's Form 8-K filed on November 15, 2013 (SEC File No. 001-32532) and incorporated herein by reference).
- 10.25 – Master Formation Agreement dated July 15, 2010, among Ashland, Süd-Chemie Aktiengesellschaft and Ashland-Südchemie-Kernfest GmbH filed as Exhibit 10.26 to Ashland’s Form 10-K for the fiscal year ended September 30, 2010 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.26 – Master Contribution and Sale Agreement dated July 15, 2010, among Ashland, Ashland International Holdings, Inc., Süd-Chemie Aktiengesellschaft, Tecpro Holding Corporation Inc. and Ashland-Südchemie-Kernfest GmbH (filed as Exhibit 10.27 to Ashland’s Form 10-K for the fiscal year ended September 30, 2010 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.27 – Shareholders’ Agreement effective November 30, 2010 by and between Süd-Chemie Aktiengesellschaft and Süd-Chemie Finance GmbH and Ashland and Ashland International Holdings, Inc. (filed as Exhibit 10 to Ashland’s Form 10-Q for the quarter ended December 31, 2010 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.28 – Stock Purchase Agreement dated as of May 30, 2011, entered into by and among The Samuel J. Heyman 1981 Continuing Trust for Lazarus S. Heyman, The Samuel J. Heyman 1981 Continuing Trust for Eleanor S. Heyman, The Samuel J. Heyman 1981 Continuing Trust for Jennifer L. Heyman, The Samuel J. Heyman 1981 Continuing Trust for Elizabeth D. Heyman, The Lazarus S. Heyman Age 50 Trust for Assets Appointed Under Will of Lazarus S. Heyman, The Eleanor S. Heyman Age 50 Trust for Assets Appointed Under Will of Lazarus S. Heyman, The Jennifer L. Heyman Age 50 Trust for Assets Appointed Under Will of Lazarus S. Heyman, The Elizabeth D. Heyman Age 50 Trust for Assets Appointed Under Will of Lazarus S. Heyman, The Horizon Holdings Residual Trust, RFH Investment Holdings LLC, Ashland and Ronnie F. Heyman, as representative of the Seller Parties (filed as Exhibit 2.1 to Ashland’s Form 8-K filed on May 31, 2011 (SEC File No. 001-32532), and incorporated herein by reference).

- 10.29 – Transfer and Administration Agreement, dated as of August 31, 2012, among CVG Capital III LLC, Ashland Inc., Hercules Incorporated, Aqualon Company, ISP Technologies Inc., ISP Synthetic Elastomers LLC, and each other entity from time to time party thereto as an Originator, as Originators, Ashland Inc., as initial Master Servicer, each of Liberty Street Funding LLC, Market Street Funding LLC and Gotham Funding Corporation, as Conduit Investors and Uncommitted Investors, The Bank of Nova Scotia, as the Agent, a Letter of Credit Issuer, a Managing Agent, an Administrator and a Committed Investor, and the Letter of Credit Issuers, Managing Agents, Administrators, Uncommitted Investors and Committed Investors parties thereto from time to time (filed as Exhibit 10.1 to Ashland's Form 8-K filed on September 7, 2012 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.30 – Sale Agreement, dated as of August 31, 2012, among Ashland Inc., Hercules Incorporated, Aqualon Company, ISP Technologies Inc., ISP Synthetic Elastomers LLC and CVG Capital III LLC (filed as Exhibit 10.2 to Ashland's Form 8-K filed on September 7, 2012 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.31 – Parent Undertaking, dated as of August 31, 2012, by Ashland Inc. in favor of The Bank of Nova Scotia and the Secured Parties (filed as Exhibit 10.3 to Ashland's Form 8-K filed on September 7, 2012 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.32 – Credit Agreement dated as of March 14, 2013, among Ashland Inc., as Borrower, The Bank of Nova Scotia, as Administrative Agent, Swing Line Lender and an L/C Issuer, Citibank, N.A., as Syndication Agent, Bank of America, N.A., Deutsche Bank Securities Inc. and PNC Bank, National Association, as Co-Documentation Agents, and the Lenders from time to time party thereto (filed as Exhibit 10.1 to Ashland's Form 8-K filed on March 15, 2013 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.33 – First Amendment to Transfer and Administration Agreement, dated as of April 30, 2013, among Ashland Inc., CVG Capital III LLC, the Investors, Letter of Credit Issuers, Managing Agents and Administrators party thereto, and the Bank of Nova Scotia, as Agent for the Investors (filed as Exhibit 10.2 to Ashland's Form 10-Q for the quarter ended June 30, 2013 (SEC File No. 001-32532), and incorporated herein by reference).
- 10.34** – Omnibus Amendment to Transfer and Administration Agreement, dated as of August 21, 2013, among Ashland Inc., CVG Capital III LLC, the Originators, the Investors, Letter of Credit Issuers, Managing Agents and Administrators party thereto, and the Bank of Nova Scotia, as Agent for the Investors.
- 10.35** – Third Amendment to Transfer and Administration Agreement, dated as of October 15, 2013, among Ashland Inc., CVG Capital III LLC, the Originators, the Investors, Letter of Credit Issuers, Managing Agents and Administrators party thereto, and the Bank of Nova Scotia, as Agent for the Investors.
- 11** – Computation of Earnings Per Share (appearing in Note A of Notes to Consolidated Financial Statements in this annual report on Form 10-K).
- 12** – Computation of Ratio of Earnings to Fixed Charges.
- 21** – List of Subsidiaries.
- 23.1** – Consent of PricewaterhouseCoopers LLP.
- 23.2** – Consent of Hamilton, Rabinovitz & Associates, Inc.
- 24** – Power of Attorney.
- 31.1** – Certification of James J. O'Brien, Chief Executive Officer of Ashland, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 31.2** – Certification of J. Kevin Willis, Chief Financial Officer of Ashland, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

32**	– Certification of James J. O’Brien, Chief Executive Officer of Ashland, and J. Kevin Willis, Chief Financial Officer of Ashland, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	XBRL Instance Document.
101.SCH*	XBRL Taxonomy Extension Schema Document.
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document.

*Attached as Exhibit 101 to this report are the following documents formatted in XBRL (Extensible Business Reporting Language): (i) Statements of Consolidated Comprehensive Income for years ended September 30, 2013, 2012 and 2011; (ii) Consolidated Balance Sheets at September 30, 2013 and 2012; (iii) Statements of Consolidated Stockholders’ Equity at September 30, 2013, 2012 and 2011; (iv) Statements of Consolidated Cash Flows for years ended September 30, 2013, 2012 and 2011; and (v) Notes to Consolidated Financial Statements. Pursuant to Rule 406T of Regulation S-T, the Interactive Data Files on Exhibit 101 are deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

**Filed herewith.

SM Service mark, Ashland or its subsidiaries, registered in various countries.

TM Trademark, Ashland or its subsidiaries, registered in various countries.

[†] Trademark owned by a third party.

Upon written or oral request, a copy of the above exhibits will be furnished at cost.

SIGNATURES

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

ASHLAND INC.

(Registrant)

By:

/s/ J. Kevin Willis

J. Kevin Willis

Senior Vice President and Chief Financial Officer

Date: November 27, 2013

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant, in the capacities indicated, on November 27, 2013.

<u>Signatures</u>	<u>Capacity</u>
<u>/s/ James J. O'Brien</u> James J. O'Brien	Chairman of the Board, Chief Executive Officer and Director (Principal Executive Officer)
<u>/s/ J. Kevin Willis</u> J. Kevin Willis	Senior Vice President and Chief Financial Officer (Principal Financial Officer)
<u>/s/ J. William Heitman</u> J. William Heitman	Vice President and Controller (Principal Accounting Officer)
 *	
<u>Brendan M. Cummins</u> *	Director
<u>Roger W. Hale</u> *	Director
<u>Stephen F. Kirk</u> *	Director
<u>Kathleen Ligoeki</u> *	Director
<u>Vada O. Manager</u> *	Director
<u>Barry W. Perry</u> *	Director
<u>Mark C. Rohr</u> *	Director
<u>George A. Schaefer, Jr.</u> *	Director
<u>Janice J. Teal</u> *	Director
<u>John F. Turner</u> *	Director
<u>Michael J. Ward</u>	

*By: /s/ Peter J. Ganz

Peter J. Ganz

Attorney-in-Fact

Date: November 27, 2013

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

The following discussion should be read in conjunction with the Consolidated Financial Statements and the accompanying Notes to Consolidated Financial Statements for the years ended September 30, 2013, 2012 and 2011.

BUSINESS OVERVIEW

Ashland profile

Ashland is a leading, global specialty chemical company that provides products, services and solutions that meet customers' needs throughout a variety of industries. Ashland's chemistry is used in a wide variety of markets and applications, including architectural coatings, automotive, construction, energy, food and beverage, personal care, pharmaceutical, tissue and towel, and water treatment. With approximately 15,000 employees worldwide, Ashland serves customers in more than 100 countries.

Ashland's sales generated outside of North America were 49% in 2013, 47% in 2012 and 46% in 2011. Sales by region expressed as a percentage of total consolidated sales were as follows:

Sales by Geography	2013	2012	2011 (a)
North America (b)	51%	53%	54%
Europe	28%	27%	26%
Asia Pacific	14%	13%	13%
Latin America & other	7%	7%	7%
	<u>100%</u>	<u>100%</u>	<u>100%</u>

(a) Sales from the acquired operations of International Specialty Products Inc. (ISP) are included from the acquired date of August 23, 2011 and forward.

(b) Ashland includes only U.S. and Canada in its North America designation.

Business segments

Ashland's reporting structure is composed of four reportable segments: Ashland Specialty Ingredients (Specialty Ingredients), Ashland Water Technologies (Water Technologies), Ashland Performance Materials (Performance Materials) and Ashland Consumer Markets (Consumer Markets). For further descriptions of each business segment, see "Results of Operations – Business Segment Review" beginning on page M-12.

The contribution to sales by each business segment expressed as a percentage of total consolidated sales were as follows:

Sales by Business Segment	2013	2012	2011 (a)
Specialty Ingredients	33%	35%	20%
Water Technologies	22%	21%	29%
Performance Materials	19%	19%	21%
Consumer Markets	26%	25%	30%
	<u>100%</u>	<u>100%</u>	<u>100%</u>

(a) Sales from the acquired operations of ISP are included from the acquired date of August 23, 2011 and forward.

KEY DEVELOPMENTS

During 2013 and previous periods, the following operational decisions and economic developments had an impact on Ashland's current and future cash flows, results of operations and financial position.

Business results

Ashland's overall financial performance decreased by 9% during 2013 compared to 2012 as adjusted EBITDA results declined to \$1,242 million (see U.S. GAAP reconciliation on page M-8). This decline was due in large part to the operating results in two distinct areas of Ashland's businesses. During 2013, Specialty Ingredients' guar-based products business incurred an approximately \$190 million decline in gross profit compared to the prior year due to a \$31 million loss on the sale of certain higher cost guar inventory purchased in the prior year, lower margins as a result of improved guar supply and reduced customer stocking levels. The higher cost guar powder products during 2012 also caused certain customers during the current year to search for alternative,

lower cost products and to buy directly from suppliers. Secondly, the Elastomers business within the Performance Materials segment reported an approximate \$50 million decline in gross profit compared to the strong performance in 2012, as price increases were not sufficient to recover previous margin levels due to the fluctuating price of its key raw material butadiene. Excluding the effect these businesses had on Ashland during 2013, the operating results would have increased compared to the prior year period.

Acquisitions/Divestitures

During the last several years, Ashland has completed the transformation of its overall business into a global specialty chemical company. Much of this transformation has occurred due to significant acquisition and divestiture activity. The following discussion outlines the key acquisitions and divestitures during 2013, 2012 and 2011 that contributed to this transformation.

ISP acquisition

On August 23, 2011, Ashland completed its acquisition of ISP, a global specialty chemical manufacturer of innovative functional ingredients and technologies, in a transaction valued at \$3.2 billion. ISP reported sales of \$1.9 billion for the twelve months ended September 30, 2011. The purchase price was an all cash transaction, reduced by the amount of ISP's net indebtedness at closing. Ashland has included ISP within the Specialty Ingredients reporting segment, with the exception of ISP's Elastomers business line, a business with \$410 million of sales for the twelve months ended September 30, 2011, which has been included within the Performance Materials reporting segment.

Distribution divestiture

On March 31, 2011, Ashland completed the sale to Nexeo Solutions, LLC (Nexeo) of substantially all of the assets and certain liabilities of its global distribution business, which previously comprised the Ashland Distribution (Distribution) segment. The transaction was an asset sale with total post-closing adjusted cash proceeds received by Ashland of \$972 million, before transaction fees and taxes. Ashland recognized an after-tax gain of \$271 million during 2011. The tax effects on the gain were partially offset by a \$72 million release of tax valuation allowances on a capital loss carry-forward generated from the December 2008 divestiture of Ashland's interest in FiberVisions Holdings LLC. The gain was included within the discontinued operations caption in the Statement of Consolidated Comprehensive Income for 2011. Distribution recorded sales of \$3,419 million during the fiscal year ended September 30, 2010 and employed approximately 2,000 employees across North America and Europe.

Because this transaction signified Ashland's exit from the distribution business, the results of operations and cash flows of Distribution have been classified as discontinued operations for all periods presented. Certain indirect corporate costs included within selling, general and administrative expense that were previously allocated to the Distribution reporting segment that did not qualify for discontinued operations accounting classification were reported as costs within the Unallocated and other section of continuing operations, and equaled \$5 million and \$36 million for 2012 and 2011, respectively.

Ashland has retained and agreed to indemnify Nexeo for certain liabilities of the Distribution business arising prior to the closing of the sale. This includes pension and other postretirement benefits, as well as certain other liabilities, including certain litigation and environmental liabilities relating to the pre-closing period, as described in the definitive agreement. Costs directly related to these liabilities have been included within the discontinued operations caption for 2013, 2012 and 2011. The ongoing effects of the pension and postretirement plans for former Distribution employees are reported within the Unallocated and other section of continuing operations for segment reporting purposes.

As part of this sale, Ashland received transition service fees for ongoing administrative and other services provided to Nexeo. During 2012 and 2011, Ashland recognized transition service fees of \$25 million and \$17 million, respectively, which offset costs within the selling, general and administrative expense caption of the Statements of Consolidated Comprehensive Income. While the transition service agreements varied in duration depending upon the type of service provided, Ashland implemented plans to reduce costs as the transition services were phased out. See Note D for further information on the results of operations of Distribution for all periods presented.

Casting Solutions joint venture

In July 2010, Ashland and Süd-Chemie AG (Süd-Chemie) signed an agreement for the formation of an expanded 50/50 global joint venture serving the foundry chemical sector. The transaction closed on November 30, 2010 and combined three businesses: (i) Ashland's Casting Solutions business group, (ii) Süd-Chemie's Foundry-Products and Specialty Resins business unit and (iii) Ashland-Südchemie-Kernfest GmbH (ASK), the then existing 50% owned European-based joint venture between Ashland and Süd-Chemie, for which Ashland historically only recognized equity income of the joint venture within its consolidated results. Upon formation of the expanded global joint venture, Ashland used valuation methodologies for certain contributions that primarily consisted of various discounted cash flow models in recording its equity interest at approximately \$120 million. This investment basis was based on the fair value of the net assets of the Casting Solutions business group as well as the carrying value of Ashland's 50% equity interest in ASK.

During the fifth year of the joint venture's operations, Ashland will have the option to sell its shares in the expanded global joint venture to Süd-Chemie under mutually agreed terms. If Ashland does not execute this option by the end of the sixth year of

the joint venture's operations, Süd-Chemie will have the option to acquire Ashland's shares under mutually agreed terms. Under both options, if mutually agreed terms cannot be reached, then the fair market value of the shares will be determined through an appraisal process set forth in the agreement.

Ashland's equity interest in the expanded joint venture qualifies for equity method accounting treatment under U.S. GAAP. As a result, beginning on December 1, 2010, the results of the Performance Materials segment no longer included the sales, cost of sales, selling, general and administrative expense and corresponding taxes related to the Casting Solutions business; however, Ashland includes the financial results of the joint venture within operating income of the Performance Materials segment and in the equity and other income caption of the Statements of Consolidated Comprehensive Income. As part of this transaction, Ashland has agreed to continue to manufacture certain products on behalf of ASK.

Financing activities

During the last several years, Ashland has repositioned its borrowings to lower interest rate instruments and longer term borrowings. The following highlights several key transactions during this period.

3.000% senior notes, 3.875% senior notes, 4.750% senior notes and 6.875% senior notes

During 2013, Ashland completed its issuance of senior unsecured notes (senior notes) with an aggregate principal amount of \$2.3 billion. These senior notes are comprised of 3.000% senior notes due 2016 (\$600 million), 3.875% senior notes due 2018 (\$700 million), 4.750% senior notes due 2022 (\$625 million) and 6.875% senior notes due 2043 (\$375 million). The 2022 notes were issued as additional notes under the existing 2022 notes indenture entered into in August 2012, described further below, and have the same terms as the originally issued 2022 notes. The 2043 notes were issued at a \$1 million premium, while the new 2022 notes were issued at a \$6 million discount. In accordance with U.S. GAAP, the premium and discount are being accreted into the net interest and other financing expense caption of the Statements of Consolidated Comprehensive Income over the terms of the respective notes. Ashland paid \$32 million in fees and expenses with respect to the issuance of the senior notes, which is being amortized proportionately for each tranche of the senior notes.

2013 Senior Credit Facility

During 2013, Ashland entered into a new five-year senior unsecured revolving credit facility in an aggregate amount of \$1.2 billion (the 2013 Senior Credit Facility), which includes a \$250 million letter of credit sublimit and a \$100 million swing line loan sublimit. The 2013 Senior Credit Facility replaced the \$1.0 billion senior secured revolving credit facility under the \$3.9 billion senior secured credit facility entered into in conjunction with the ISP acquisition closing (the 2011 Senior Credit Facility). The 2013 Senior Credit Facility is not guaranteed, is unsecured and may be prepaid at any time without premium. Ashland paid \$6 million in fees and expenses with respect to the entry into the 2013 Senior Credit Facility, which is being amortized over the five-year period.

At Ashland's option, loans issued under the 2013 Senior Credit Facility will bear interest at either LIBOR or an alternate base rate, in each case plus the applicable interest rate margin. The loans' interest rates will fluctuate between LIBOR plus 1.50% per annum and LIBOR plus 2.50% per annum (or between the alternate base rate plus 0.50% per annum and the alternate base rate plus 1.50% per annum), based upon Ashland's corporate credit ratings or the consolidated gross leverage ratio (as defined in the 2013 Senior Credit Facility) (whichever yields a lower applicable interest rate margin) at such time. In addition, Ashland was initially required to pay fees of 0.30% per annum on the daily unused amount of the 2013 Senior Credit Facility through and including March 31, 2013, and thereafter the fee rate will fluctuate between 0.25% and 0.50% per annum, based upon Ashland's corporate credit ratings or the consolidated gross leverage ratio.

Total borrowing capacity remaining under the 2013 Senior Credit Facility was \$1,119 million, due to a reduction of \$81 million for letters of credit outstanding at September 30, 2013.

2011 Senior Credit Facility

On August 23, 2011, in conjunction with the ISP acquisition closing, Ashland entered into the 2011 Senior Credit Facility. The 2011 Senior Credit Facility was comprised of (i) a \$1.5 billion term loan A facility, (ii) a \$1.4 billion term loan B facility and (iii) a \$1.0 billion revolving credit facility. Proceeds from borrowings under the term loan A facility and the term loan B facility were used, together with cash on hand, to finance the cash consideration paid for the ISP acquisition, as well as to finance the repayment of existing indebtedness of ISP in connection with the acquisition.

In order to manage the variable interest rate risk associated with term loans A and B, Ashland entered into interest rate swap agreements. As of September 30, 2012, the total notional value of interest rate swaps related to term loans A and B equaled \$1.4 billion and \$650 million, respectively.

During 2012, Ashland prepaid \$350 million of principal on its term loan B facility, using proceeds from its newly issued accounts receivable securitization facility. As a result, Ashland recognized a \$6 million charge for the debt issuance costs associated

with the principal prepayment, which is included in the net interest and other financing expense caption in the Statement of Consolidated Comprehensive Income for 2012.

During 2013, Ashland used the net proceeds from its issuance of the senior notes, along with the initial \$85 million borrowing on the 2013 Senior Credit Facility and cash on hand, (i) to pay in full the 2011 Senior Credit Facility, including the \$1.41 billion outstanding principal of the term loan A facility and the \$1.03 billion outstanding principal of the term loan B facility, (ii) to pay \$52 million to terminate the interest rate swaps associated with the term loan A and term loan B facilities, (iii) to pay accrued interest, fees and expenses under the 2011 Senior Credit Facility and (iv) to pay \$38 million in fees and expenses with respect to the issuance of the senior notes and entry into the 2013 Senior Credit Facility. The \$52 million charge to terminate the interest rate swaps is included in the net interest and other financing expense caption of the Statement of Consolidated Comprehensive Income for 2013.

As a result of the repayment and the termination of the 2011 Senior Credit Facility during 2013, Ashland recognized a \$47 million charge for the accelerated amortization of previous debt issuance and other costs, which is included in the net interest and other financing expense caption of the Statement of Consolidated Comprehensive Income.

9.125% senior notes and 4.750% senior notes

In May 2009, Ashland issued \$650 million aggregate principal amount of 9.125% senior unsecured notes due 2017. The notes were issued at 96.577% of the aggregate principal amount to yield 9.75%. In connection with the 2011 Senior Credit Facility and certain prior senior credit facilities (collectively, the former senior credit facilities), these notes were secured on an equal and ratable basis with indebtedness under the former senior credit facilities. These notes were also guaranteed by the same guarantors under the former senior credit facilities. Ashland had the option to redeem outstanding notes at any time on or after June 1, 2013 at certain fixed redemption prices. The notes had a maturity date of June 1, 2017 and ranked equally with other unsecured and unsubordinated senior obligations.

In July 2012, Ashland commenced a tender offer to purchase for cash any and all of the premium \$650 million aggregate principal of the 9.125% senior notes. In conjunction with this tender offer, Ashland issued \$500 million aggregate principal amount of 4.750% senior notes due 2022. The proceeds of the new senior notes, together with available cash, were used to pay the consideration, accrued and unpaid interest and related fees and expenses in connection with Ashland's cash tender offer for the 9.125% senior notes. At the close of the tender offer, \$572 million aggregate principal amount of the 9.125% senior notes was redeemed by Ashland, representing 88% of the 9.125% senior notes. Ashland recognized a \$24 million charge for debt issuance costs and original issue discount related to the portion of the 9.125% senior notes that were redeemed early, as well as a \$67 million charge related to an early redemption premium payment, both of which are included in the net interest and other financing expense caption in the Statement of Consolidated Comprehensive Income for 2012.

In June 2013, Ashland used cash on hand to redeem the remaining \$78 million outstanding principal of the 9.125% senior notes and to pay the related accrued and unpaid interest. Ashland recognized a \$3 million charge for debt issuance costs and the original issue discount related to the 9.125% senior notes, as well as a \$4 million charge related to an early redemption premium payment, both of which are included in the net interest and other financing expense caption in the Statement of Consolidated Comprehensive Income for 2013.

Credit ratings

During 2013, Ashland's corporate credit ratings remained unchanged at BB by Standard & Poor's and Ba1 by Moody's Investor Services. At September 30, 2013, Standard & Poor's and Moody's Investor Services both rated Ashland's outlook as stable. Ashland's ability to access capital markets to provide liquidity has remained largely unchanged as a result of the stable ratings; however, improvements in the credit markets and Ashland's financial performance has allowed, and should continue in the future to allow, Ashland to borrow on more favorable terms, including less restrictive covenants and lower interest rates.

Restructuring and integration programs

Ashland periodically implements corporate restructuring programs related to acquisitions, divestitures or other cost reduction programs in order to enhance profitability through streamlined operations and an improved overall cost structure. The following highlights the key programs Ashland has initiated over the last several years.

Severance costs

During 2011, Ashland announced steps to reduce stranded costs resulting from the divestiture of Distribution and the contribution of the Casting Solutions business to the expanded global joint venture with Süd-Chemie. Targeted cost reductions for the Distribution and Casting Solutions' stranded costs were \$40 million. In addition, Ashland implemented plans to integrate ISP subsequent to its purchase in August 2011. Targeted synergy cost reductions related to this acquisition were \$50 million.

Steps to address cost reduction opportunities began with Ashland's voluntary severance offer (VSO) in June 2011 to approximately 1,500 full-time, non-union, U.S.-based employees, primarily within various shared resource groups as well as

certain positions within the Specialty Ingredients business, which ultimately resulted in 150 employees being formally approved for the VSO. An involuntary program was also initiated in 2011 as a further step to capture targeted savings levels from these transactions and other business cost savings initiatives. The VSO and involuntary programs resulted in a severance charge of \$34 million during 2011. The involuntary program continued during 2012 and resulted in an expense of \$17 million. Both charges were recognized within the selling, general and administrative expense caption of the Statements of Consolidated Comprehensive Income. As of September 30, 2013, the remaining restructuring reserve for these and other programs totaled \$17 million.

As of September 30, 2013, approximately \$75 million of annualized cost savings have been achieved from these cost reduction programs primarily through reductions in the supply chain, IT and finance resource groups. The \$40 million original estimated cost savings were principally completed during 2012 for the Distribution and Casting Solutions stranded costs, while \$35 million of the remaining \$50 million of synergy savings were achieved through September 30, 2013, with the remaining \$15 million expected to be completed by the end of calendar 2013.

Facility costs

During 2012, Ashland incurred a \$20 million lease abandonment charge related to its exit from an office facility that was obtained as part of the Hercules acquisition. The costs related to the reserve will be paid over the remaining lease term through May 2016. Also during 2012, in order to maximize operational efficiencies, Ashland abandoned a construction project for a multi-purpose facility. This project abandonment resulted in a \$13 million charge which primarily related to expenses incurred for engineering and construction in progress. Both charges were recognized within the selling, general and administrative expense caption during 2012. As of September 30, 2013, the restructuring reserve for these programs totaled \$8 million.

Specific business programs

In addition to the corporate restructuring programs previously identified, each business periodically initiates its own specific restructuring programs based on smaller scale acquisitions and divestitures within its own business or based on the prevailing economic environment within the markets or industries it serves. These programs are disclosed by each applicable business in further detail within the “Business Segment” discussion section.

Stock programs

Stock repurchase program

During 2013, the Board of Directors of Ashland authorized a \$600 million common stock repurchase program. This new authorization replaced Ashland’s previous \$400 million share repurchase authorization. Under the new program, Ashland’s common shares may be repurchased in open market transactions, privately negotiated transactions or pursuant to one or more accelerated stock repurchase programs or Rule 10b5-1 plans. This new repurchase program will expire on December 31, 2014.

As part of the \$600 million common stock repurchase program, Ashland announced and completed an accelerated share repurchase agreement (ASR Agreement) with Citibank, N.A. (Citibank) during 2013. Under the ASR Agreement, Ashland paid an initial purchase price of \$150 million to Citibank and received an initial delivery of approximately 1.3 million shares of its common stock. The ASR Agreement had a variable maturity, at Citibank’s option, with a maximum pricing period termination date of August 21, 2013. In June 2013, Citibank exercised its early termination option under the ASR Agreement and the pricing period was closed. The settlement price, which represents the weighted average price of Ashland’s common stock over the pricing period less a discount, was \$86.32 per share. Based on this settlement price, the final number of shares repurchased by Ashland that were to be delivered by Citibank under the ASR Agreement was 1.7 million shares. Ashland received the additional 0.4 million shares from Citibank in June 2013 to settle the difference between the initial share delivery and the total number of shares repurchased.

In March 2011, the Board of Directors of Ashland approved the \$400 million stock repurchase program previously mentioned. Under the program that began on April 1, 2011, Ashland purchased common shares through a \$200 million 10b5-1 automatic trading plan. Effective May 31, 2011, as a result of the announcement of the pending ISP acquisition, Ashland terminated the 10b5-1 automatic trading program. Ashland still had the ability to make discretionary purchases of Ashland Common Stock on the open market, pursuant to the Board’s original \$400 million share repurchase authorization. Purchases under the plan amounted to \$71 million, or 1.2 million shares, during 2011. Ashland did not repurchase any shares during 2012 under this program.

Stockholder dividends

In May 2013, the Board of Directors of Ashland announced a quarterly cash dividend increase to 34 cents per share, \$1.36 per share on an annual basis, to eligible shareholders of record. This amount was paid for quarterly dividends in June and September 2013 and was an increase from the quarterly cash dividend of 22.5 cents per share paid during the first and second quarters of fiscal 2013.

In May 2012, the Board of Directors of Ashland announced a quarterly cash dividend increase to 22.5 cents per share, 90 cents per share on an annual basis, to eligible shareholders of record. This amount was paid for quarterly dividends in June and September 2012 and was an increase from the quarterly cash dividend of 17.5 cents per share paid during the first and second quarters of fiscal 2012.

In May 2011, the Board of Directors of Ashland announced a quarterly cash dividend increase to 17.5 cents per share, 70 cents per share on an annual basis, to eligible shareholders of record. This amount was paid for quarterly dividends in June and September 2011 and was an increase from the quarterly cash dividend of 15 cents per share paid during the first and second quarters of fiscal 2011.

RESULTS OF OPERATIONS – CONSOLIDATED REVIEW

Use of non-GAAP measures

Ashland has included within this document certain non-GAAP measures which include EBITDA (net income, plus income tax expense (benefit), net interest and other financing expenses, and depreciation and amortization), Adjusted EBITDA (EBITDA adjusted for discontinued operations, net gain (loss) on acquisitions and divestitures, other income and (expense) and key items, which may include pro forma effects for significant acquisitions or divestitures, as applicable) and Adjusted EBITDA margin (Adjusted EBITDA, which can include pro forma adjustments, divided by sales). Such measurements are not prepared in accordance with U.S. GAAP and as related to pro forma adjustments, contain Ashland's best estimates of cost allocations and shared resource costs. Management believes the use of non-GAAP measures on a consolidated and business segment basis assists investors in understanding the ongoing operating performance by presenting comparable financial results between periods. The non-GAAP information provided is used by Ashland management and may not be determined in a manner consistent with the methodologies used by other companies. EBITDA and Adjusted EBITDA provide a supplemental presentation of Ashland's operating performance on a consolidated and business segment basis. Adjusted EBITDA generally includes adjustments for unusual, non-operational or restructuring-related activities. In addition, certain financial covenants related to Ashland's 2013 Senior Credit Facility are based on similar non-GAAP measures and are defined further in the sections that reference this metric.

In accordance with U.S. GAAP, Ashland recognizes actuarial gains and losses for defined benefit pension and other postretirement benefit plans annually in the fourth quarter of each fiscal year and whenever a plan is determined to qualify for a remeasurement during a fiscal year. Actuarial gains and losses occur when actual experience differs from the estimates used to allocate the change in value of pension and other postretirement benefit plans to expense throughout the year or when assumptions change, as they may each year. Significant factors that can contribute to the recognition of actuarial gains and losses include changes in discount rates used to remeasure pension and other postretirement obligations on an annual basis or upon a qualifying remeasurement, differences between actual and expected returns on plan assets and other changes in actuarial assumptions, for example the life expectancy of plan participants. Management believes Adjusted EBITDA, which includes the expected return on pension plan assets and excludes both the actual return on pension plan assets and the impact of actuarial gains and losses, provides investors with a meaningful supplemental presentation of Ashland's operating performance. Management believes these actuarial gains and losses are primarily financing activities that are more reflective of changes in current conditions in global financial markets (and in particular interest rates) that are not directly related to the underlying business and that do not have an immediate, corresponding impact on the compensation and benefits provided to eligible employees and retirees. For further information on the actuarial assumptions and plan assets referenced above, see MD&A - Critical Accounting Policies - Employee benefit obligations and Note M of the Notes to Consolidated Financial Statements.

Ashland has included free cash flow as an additional non-GAAP metric of cash flow generation. Ashland believes free cash flow is relevant because capital expenditures are an important element of Ashland's ongoing cash activities. By deducting capital expenditures from operating cash flows, Ashland is able to provide a better indication of the ongoing cash being generated that is ultimately available for both debt and equity holders as well as other investment opportunities. Prior to 2013, Ashland deducted dividends from this calculation but has discontinued this practice to be more comparable to the broader market's calculation of the term free cash flow.

Consolidated review

Net income

Ashland's net income amounted to \$683 million in 2013, \$26 million in 2012 and \$414 million in 2011, or \$8.57, \$0.33 and \$5.17 diluted earnings per share, respectively. Ashland's net income is primarily affected by results within operating income, net interest and other financing expense, income taxes, discontinued operations and other significant events or transactions that are unusual or nonrecurring. Operating income includes Ashland's adjustment for the immediate recognition of the change in the fair value of the plan assets and net actuarial gains and losses annually for defined benefit pension plans and other postretirement benefit plans each fiscal year. See "Critical Accounting Policies" for additional details regarding Ashland's accounting policies for benefit plan obligations.

Income from continuing operations, which excludes results from discontinued operations, amounted to \$677 million in 2013, \$38 million in 2012 and \$56 million in 2011, or \$8.50, \$0.48 and \$0.70 diluted earnings per share, respectively. Operating income was \$1,241 million, \$302 million and \$130 million during 2013, 2012 and 2011, respectively. See the “Operating income” discussion for an analysis of these results.

Ashland incurred pretax net interest and other financing expense of \$282 million, \$317 million and \$121 million during 2013, 2012 and 2011, respectively. All years were impacted by certain charges associated with debt refinancing activity. For further information on the items reported within this caption, see the “net interest and other financing expense” caption discussion in the comparative Statements of Consolidated Comprehensive Income caption review analysis.

The effective income tax expense rate of 28.8% for 2013 and the effective income tax benefit rates of 371.4% and 1,766.7% for 2012 and 2011, respectively, were significantly affected by a number of discrete items discussed in further detail within the “income tax expense” caption discussion in the comparative Statements of Consolidated Comprehensive Income caption review analysis.

Discontinued operations, which are reported net of taxes, resulted in income of \$6 million and \$358 million during 2013 and 2011, respectively, and an expense of \$12 million during 2012. The results each year include the updates to the asbestos liability and receivable models as well as other activity associated with previously divested businesses, with 2011 also including the direct operating results of the former Distribution business. For further information on items reported within this caption, see the “discontinued operations” caption discussion in the comparative Statements of Consolidated Comprehensive Income caption review analysis.

Operating income

Operating income amounted to \$1,241 million, \$302 million and \$130 million in 2013, 2012 and 2011, respectively. Operating income for each period is significantly affected by the immediate recognition from the change in the fair value of the plan assets and net actuarial gains and losses for defined benefit pension plans and other postretirement benefit plans, and resulted in a gain of \$498 million in 2013 and expense of \$493 million and \$318 million in 2012 and 2011, respectively.

Operating income results in 2013 included a \$22 million gain resulting from Ashland’s settlement of an insurance claim, a \$13 million gain resulting from Ashland’s settlement of a customer claim, \$44 million of other restructuring and ISP integration costs, a \$16 million net environmental charge related to previously divested businesses and a \$41 million total impairment charge related to certain in-process research and development (IPR&D) assets associated with the acquisition of ISP. The results in 2013 also included a \$31 million inventory charge for certain guar-based products.

Operating income results in 2012 compared to 2011 included an additional \$159 million of operating income from the full year in which Ashland owned ISP in 2012, compared to the 39-day period in 2011 (ISP was acquired on August 23, 2011). Additionally, the results in 2012 included \$85 million in restructuring and other integration costs, which consisted of a \$20 million lease abandonment charge related to the closure of a corporate facility, \$23 million of ISP integration costs, a \$13 million charge related to the abandonment of a construction project for a multi-purpose facility, as well as \$29 million for severance and restructuring charges from Ashland’s ongoing stranded cost and ISP integration programs. Results for 2012 also included an \$8 million net environmental charge related to businesses previously owned by Ashland. In addition, operating income in 2012 included noncash charges of \$28 million related to the fair value assessment of inventory acquired from ISP at the date of acquisition. The results in 2012 also included a \$13 million impairment charge related to certain in-process research and development (IPR&D) assets associated with the acquisition of ISP.

Operating income results in 2011 included \$55 million for severance and restructuring charges. The results in 2011 also included \$19 million for environmental reserve adjustments and \$2 million for the Casting Solutions transaction and start-up costs related to the Süd-Chemie joint venture. In addition, operating income in 2011 included noncash charges of \$16 million related to the fair value assessment of inventory acquired from ISP at the date of acquisition.

Operating income for 2013, 2012 and 2011 included depreciation and amortization of \$423 million, \$423 million and \$280 million (which excludes accelerated depreciation of \$2 million, \$7 million and \$19 million, respectively, for each year), respectively. EBITDA totaled \$1,662 million, \$714 million and \$762 million for 2013, 2012 and 2011, respectively. Adjusted EBITDA results in the following table have been prepared to illustrate the ongoing effects of Ashland’s operations, which exclude certain key items since management believes the use of such non-GAAP measures on a consolidated and business segment basis assists investors in understanding the ongoing operating performance by presenting the financial results between periods on a more comparable basis. The ISP business results of \$339 million in 2011 relate to the operating income earned and depreciation and amortization expense for the period in which Ashland did not yet own this business.

(In millions)	2013	2012	2011
Net income	\$ 683	\$ 26	\$ 414
Income tax expense (benefit)	274	(52)	(53)
Net interest and other financing expense	282	317	121
Depreciation and amortization (a)	423	423	280
EBITDA	1,662	714	762
(Income) loss from discontinued operations (net of income taxes)	(6)	12	(358)
Actuarial (gain) loss on pension and other postretirement plan remeasurement (b)	(498)	493	318
Restructuring and other integration costs	44	85	36
Insurance settlement	(22)	—	—
Settled claim	(13)	—	—
Environmental reserve adjustments	16	8	19
Impairment of IPR&D assets	41	13	—
Net loss (gain) on acquisitions and divestitures	14	(1)	5
Asset impairment and accelerated depreciation	2	7	19
Inventory fair value adjustment	—	28	16
Results of the ISP business prior to acquisition	—	—	339
Other	2	—	3
Adjusted EBITDA	<u>\$ 1,242</u>	<u>\$ 1,359</u>	<u>\$ 1,159</u>

(a) Excludes \$2 million, \$7 million and \$19 million of asset impairment and accelerated depreciation during 2013, 2012 and 2011, respectively.

(b) For supplemental information on the components of this adjustment, see page M-32 within the MD&A - Critical Accounting Policies - Employee benefit obligations.

Statements of Consolidated Comprehensive Income – caption review

A comparative analysis of the Statements of Consolidated Comprehensive Income by caption is provided as follows for the years ended September 30, 2013, 2012 and 2011.

(In millions)	2013	2012	2011	2013 change	2012 change
Sales	\$ 7,813	\$ 8,206	\$ 6,502	\$ (393)	\$ 1,704

Sales for 2013 decreased \$393 million, or 5%, compared to 2012 primarily as a result of pricing declines and changes in product mix, which decreased sales by \$247 million and \$82 million, respectively. Certain divestitures reduced sales by a combined \$34 million, while overall volume levels remained virtually unchanged, decreasing \$4 million. Unfavorable currency exchange decreased sales by \$26 million.

Sales for 2012 increased \$1,704 million, or 26%, compared to 2011 primarily due to the inclusion of ISP results for the full year during 2012 compared to the 39-day period owned in 2011, resulting in an increase of \$1,710 million, or 26%. Increases in pricing, implemented to recover the effects of increases in raw material costs, increased sales \$464 million, while net acquisitions and divestitures, excluding ISP, reduced sales \$221 million, or 3%. Decreased volumes reduced sales \$157 million, while unfavorable currency exchange rates decreased sales \$130 million. Favorable mix of product sold increased sales an additional \$38 million.

(In millions)	2013	2012	2011	2013 change	2012 change
Cost of sales	\$ 5,419	\$ 6,025	\$ 4,890	\$ (606)	\$ 1,135
Gross profit as a percent of sales	30.6%	26.6%	24.8%		

Cost of sales for 2013 decreased \$606 million, or 10%, compared to 2012 primarily due to a \$290 million gain (income of \$151 million in 2013 and loss of \$139 million in 2012) from the pension and other postretirement benefit plan remeasurement. Lower raw material costs decreased cost of sales \$207 million while changes in product mix that resulted in a decrease of \$67 million, or 1%. Certain divestitures caused a combined decrease of \$25 million. Currency exchange caused a decrease of \$15

million, while volume remained virtually unchanged, decreasing \$3 million. The current period included a \$51 million inventory charge for certain guar-based products and inventory adjustments within Elastomers and a \$22 million gain resulting from Ashland's settlement of an insurance claim. The prior year period included a noncash charge of \$28 million related to the fair value assessment of inventory acquired from ISP at the date of acquisition.

Cost of sales for 2012 increased \$1,135 million, or 23%, compared to 2011 primarily due to the inclusion of ISP costs for the full year during 2012 compared to the 39-day period owned in 2011, resulting in an increase of \$1,255 million, or 26%. Escalating raw material costs increased cost of sales \$229 million, or 5%, while a \$42 million increase in cost of sales occurred from the pension and other postretirement benefit plan remeasurement (\$139 million in 2012 and \$97 million in 2011). Change in product mix increased cost of sales by an additional \$22 million, or 1%, while decreased volumes reduced cost of sales \$113 million, or 2%. Excluding ISP, the net acquisitions and divestitures impact caused a combined decrease of \$204 million, or 4%, while favorable currency exchange decreased cost of sales by \$96 million, or 2%. Cost of sales for 2012 and 2011 also included noncash charges of \$28 million and \$16 million, respectively, related to the fair value assessment of inventory acquired from ISP at the date of acquisition.

(In millions)	2013	2012	2011	2013 change	2012 change
Selling, general and administrative expense	\$ 1,044	\$ 1,800	\$ 1,451	\$ (756)	\$ 349
As a percent of sales	13.4%	21.9%	22.3%		

Selling, general and administrative expenses for 2013 decreased 42% compared to 2012, while expenses as a percent of sales decreased 8.5 percentage points. The significant decline was substantially related to the fluctuation in adjustments from the net actuarial gains and losses for defined benefit pension plans and other postretirement benefit plans, which resulted in a \$701 million decline compared to the prior year (income of \$347 million in 2013 and loss of \$354 million in 2012). The current and prior year also included expense of \$44 million and \$80 million, respectively, for severance, restructuring and integration charges, in addition to expense of \$16 million and \$8 million, respectively, for environmental reserve adjustments.

Selling, general and administrative expenses for 2012 increased 24% compared to 2011, as expenses as a percent of sales decreased 0.4 percentage points. The inclusion of ISP costs for the full year during 2012 compared to the 39-day period owned in 2011, resulted in increased costs of \$233 million. Other additional expenses impacting the comparability of 2012 compared to 2011 included \$80 million and \$35 million for restructuring and other integration charges during 2012 and 2011, respectively, an increase in net actuarial loss of \$133 million for defined benefit pension plans and other postretirement benefit plans (\$354 million in 2012 and \$221 million in 2011) and environmental reserve charges of \$8 million and \$19 million in 2012 and 2011, respectively. Favorable currency exchange resulted in decreased costs of \$18 million in 2012.

(In millions)	2013	2012	2011	2013 change	2012 change
Research and development expense	\$ 178	\$ 137	\$ 80	\$ 41	\$ 57

Research and development expenses during 2013 increased \$41 million as compared to 2012 due to a non-cash \$41 million impairment charge related to certain IPR&D assets associated with the acquisition of ISP.

Research and development expenses for 2012 increased \$57 million as compared to 2011. The increase primarily relates to the inclusion of ISP costs for the full year during 2012 compared to the 39-day period owned in 2011, which added an additional \$37 million compared to the prior year. Research and development expense for 2012 also included a \$13 million impairment charge related to certain IPR&D assets associated with the acquisition of ISP.

(In millions)	2013	2012	2011	2013 change	2012 change
Equity and other income					
Equity income	\$ 27	\$ 35	\$ 17	\$ (8)	\$ 18
Other income	42	23	32	19	(9)
	<u>\$ 69</u>	<u>\$ 58</u>	<u>\$ 49</u>	<u>\$ 11</u>	<u>\$ 9</u>

Total equity and other income increased 19% during 2013 compared to 2012. Equity income declined \$8 million in the current year primarily due to lower operating results from joint ventures within the Specialty Ingredients and Performance Materials

business segments. The increase in other income during the current year is primarily due to a gain of \$13 million resulting from Ashland's settlement of a claim related to sales commissions and receivables within the Specialty Ingredients business segment.

Total equity and other income increased 18% during 2012 compared to 2011. The increase in equity income in 2012 primarily related to equity income from Specialty Ingredients' joint ventures as well as the Performance Materials business segment, which was the result of improved performance within the expanded global joint venture with Süd-Chemie (ASK Chemicals). Certain start-up costs of \$3 million associated with the joint venture were also incurred during 2011, which contributed to the improved operational results. See Note D of Notes to Consolidated Financial Statements for additional information on this expanded global joint venture. The decrease in other income for 2012 compared to 2011 was attributable to declines associated with Specialty Ingredients and other corporate activities.

(In millions)	2013	2012	2011	2013 change	2012 change
Net interest and other financing expense (income)					
Interest expense	\$ 273	\$ 251	\$ 131	\$ 22	\$ 120
Interest income	(4)	(8)	(16)	4	8
Other financing costs	13	74	6	(61)	68
	<u>\$ 282</u>	<u>\$ 317</u>	<u>\$ 121</u>	<u>\$ (35)</u>	<u>\$ 196</u>

Interest expense and other financing costs, excluding interest income, declined \$39 million in 2013 compared to 2012. Both the current and prior year had significant charges included within the interest expense captions. During 2013, interest expense included a \$47 million charge for the accelerated amortization of debt issuance and other costs resulting from the repayment of the 2011 Senior Credit Facility, as well as a \$52 million charge resulting from the termination of the interest rate swap agreements associated with the 2011 Senior Credit Facility. The 2013 period also included a \$3 million charge for debt issuance costs and the original issue discount from certain instruments, as well as a \$4 million charge related to an early redemption premium payment, both resulting from Ashland's repayment of the remaining 9.125% senior notes during the current year. The prior year also had similar charges within its period that are discussed further below. Excluding these charges in both years, interest expense declined \$48 million primarily due to a lower outstanding debt balance, as total debt outstanding at September 30, 2013 and 2012 was \$3,267 million and \$3,590 million, respectively. In addition, the decline in interest expense and other financing costs was partially related to the lower weighted-average interest rate during the current year of 4.3%, which was a 60 basis point decline from the prior year, primarily resulting from Ashland's repayment of the 2011 Senior Credit Facility and the remaining 9.125% senior notes.

Excluding interest income, interest expense and other financing costs increased by \$188 million in 2012 compared to 2011. Interest expense for 2012 included \$97 million of accelerated amortization of deferred debt issuance costs and prepayment penalties associated with the early payoff of the 9.125% senior notes, as well as the prepayment of \$350 million of principal on Ashland's term loan B facility, while 2011 included a \$12 million accelerated amortization charge for the early repayment of Ashland's \$289 million term loan A balance and termination of the accounts receivable securitization facility in March 2011. Excluding these charges in both years, interest expense and other financing costs increased \$103 million, which was primarily attributable to increased average levels of debt outstanding during 2012 as a result of the 2011 Senior Credit Facility entered into in August 2011 in conjunction with the ISP acquisition.

(In millions)	2013	2012	2011	2013 change	2012 change
Net (loss) gain on acquisitions and divestitures					
PVAc divestiture	\$ 1	\$ 2	\$ —	\$ (1)	\$ 2
Süd-Chemie joint venture	—	—	23	—	(23)
ISP acquisition transaction costs	—	(2)	(21)	2	19
MAP Transaction adjustments	(8)	(8)	(3)	—	(5)
Pentaerythritol divestiture	—	3	(7)	(3)	10
Other	(1)	6	3	(7)	3
	<u>\$ (8)</u>	<u>\$ 1</u>	<u>\$ (5)</u>	<u>\$ (9)</u>	<u>\$ 6</u>

Net loss on acquisitions and divestitures during 2013 includes a \$14 million expense settlement and several favorable tax adjustments related to the 2005 transfer of Ashland's 38% interest in the Marathon Ashland Petroleum joint venture and two other small businesses to Marathon Oil Corporation (Marathon) (the MAP Transaction) for certain state tax attributes.

Net gain on acquisitions and divestitures during 2012 includes ISP transaction costs of \$2 million, as well as gains of \$2 million and \$5 million resulting from the sale of Ashland's polyvinyl acetate homopolymer and copolymer (PVAc) business previously included within the Performance Materials business segment and the sale of Water Technologies' middle market commercial business to Rochester Midland Corporation, respectively. The prior year also includes an \$8 million loss for subsequent adjustments to the MAP Transaction and a \$3 million gain related to subsequent environmental reserve adjustments related to the Pentaerythritol divestiture.

Net loss on acquisitions and divestitures during 2011 includes a \$23 million gain from Ashland's fair market value assessment of the Casting Solutions net assets contributed to the expanded joint venture with Süd-Chemie AG (Süd-Chemie) in November 2010. In addition, Ashland incurred a \$21 million charge for transaction costs associated with the ISP acquisition and a \$3 million loss for subsequent adjustments to the MAP Transaction. Other items recorded during the period include a \$6 million gain associated with Ashland's sale of its 50% joint venture interest in Exaloid Süd-Chemie S.L., a \$7 million loss associated with the sale of its Pentaerythritol business and a \$3 million charge for contingent environmental indemnifications associated with the sale of a previous divestiture.

(In millions)	2013	2012	2011	2013 change	2012 change
Income tax expense (benefit)	\$ 274	\$ (52)	\$ (53)	\$ 326	\$ 1
Effective tax rate	28.8%	371.4%	1,766.7%		
Effective tax rate (excluding key items)	24.6%	25.8%	27.9%		

Income tax expense for 2013 included \$185 million of tax expense recorded on the \$498 million pension and other postretirement benefit plan remeasurement gain, a \$33 million tax benefit related to charges totaling \$99 million from an interest rate swap agreement termination and accelerated amortization of debt issuance and other costs, a zero benefit recorded on the MAP Transaction charge of \$14 million and a net benefit of \$16 million primarily attributable to a foreign income tax rate change.

Income tax benefit for 2012 included a \$186 million benefit recorded on the \$493 million pension and other postretirement benefit plan remeasurement loss, a \$34 million benefit recorded on \$97 million of charges incurred for early payment of certain debt instruments, tax benefits of \$43 million associated with other key item charges of \$141 million which are detailed in the Adjusted EBITDA table on page M-8, tax expense of \$41 million to establish state valuation allowances and a tax benefit of \$15 million for deferred tax adjustments related to ongoing international restructuring efforts. The state valuation allowance of \$41 million was established primarily as a result of the \$493 million pension and postretirement charge, which moved Ashland into a cumulative three year pretax loss position in certain state tax jurisdictions. The \$15 million international restructuring amount will not be a recurring benefit in future years.

Income tax benefit for 2011 included a tax benefit of \$92 million for valuation allowance releases primarily related to state deferred tax assets and tax expense of \$60 million related to the repatriation of foreign earnings to the United States. In addition, 2011 income tax expense included a benefit of \$9 million for research and development credits, of which \$4 million related to credits signed into law on a retroactive basis, and tax expense of \$8 million associated with unfavorable tax adjustments related to the Süd-Chemie joint venture.

(In millions)	2013	2012	2011	2013 change	2012 change
Income (loss) from discontinued operations					
(net of income taxes)					
Distribution	\$ (6)	\$ (11)	\$ 333	\$ 5	\$ (344)
Asbestos-related litigation reserves	2	(1)	20	3	(21)
APAC	10	—	3	10	(3)
Electronic Chemicals	—	—	2	—	(2)
	<u>\$ 6</u>	<u>\$ (12)</u>	<u>\$ 358</u>	<u>\$ 18</u>	<u>\$ (370)</u>

Income from discontinued operations for 2013 includes favorable net adjustments (after-tax) to the asbestos reserve and related receivables of \$2 million, as well as subsequent tax adjustments to the gain on the sale of Distribution that resulted in a loss of \$6 million. The 2013 amount also included income of \$10 million resulting from subsequent tax adjustments related to the sale of APAC (divested in 2006).

The loss from discontinued operations for 2012 includes unfavorable net adjustments (after-tax) to the asbestos reserve and related receivables of \$1 million, as well as subsequent tax adjustments to the gain on the sale of Distribution that resulted in a loss of \$11 million.

Income from discontinued operations for 2011 includes a gain of \$271 million on the sale of Distribution and two quarters of Distribution's operating results as a result of the March 31, 2011 sale of the Distribution business to Nexeo. The operational results for 2011 were \$62 million which includes the proportionate share of the pension and other postretirement actuarial gain or loss that was allocated to this business. Distribution's sales for 2011, included in discontinued operations, were \$1,868 million, while the gross profit margin was 8.8% in 2011.

The remaining impacts within discontinued operations were favorable net adjustments (after-tax) to the asbestos reserve and related receivables for 2011 of \$20 million as a result of Ashland's ongoing assessment of these matters. Additionally, subsequent tax adjustments were made during 2011 to the gain on the sale of APAC and adjustments to environmental claims from the gain on the sale of Electronic Chemicals (divested in 2003). See Notes D and N of Notes to Consolidated Financial Statements for further information.

RESULTS OF OPERATIONS – BUSINESS SEGMENT REVIEW

Ashland's businesses are managed along four industry segments: Specialty Ingredients, Water Technologies, Performance Materials and Consumer Markets. Results of Ashland's business segments are presented based on its management structure and internal accounting practices. The structure and practices are specific to Ashland; therefore, the financial results of Ashland's business segments are not necessarily comparable with similar information for other comparable companies. Ashland allocates all costs to its business segments except for certain significant company-wide restructuring activities, such as certain restructuring plans described in Note F of Notes to Consolidated Financial Statements, and other costs or adjustments that relate to former businesses that Ashland no longer operates, as well as certain components of pension and other postretirement costs. Ashland refines its expense allocation methodologies to the reportable segments from time to time as internal accounting practices are improved, more refined information becomes available and businesses change. Revisions to Ashland's methodologies that are deemed insignificant are applied on a prospective basis.

The EBITDA and Adjusted EBITDA amounts presented within this business section are provided as a means to enhance the understanding of financial measurements that Ashland has internally determined to be relevant measures of comparison for each segment. Each of these non-GAAP measures is defined as follows: EBITDA (operating income plus depreciation and amortization), Adjusted EBITDA (EBITDA adjusted for key items, which may include pro forma effects for significant acquisitions or divestitures, as applicable), and Adjusted EBITDA margin (Adjusted EBITDA, which may include pro forma adjustments, divided by sales or sales adjusted for pro forma results). Ashland does not allocate items to each business segment below operating income, such as interest expense and income taxes. As a result, business segment EBITDA and Adjusted EBITDA are reconciled directly to operating income since it is the most directly comparable U.S. GAAP measure.

Change in accounting policy regarding pension and other postretirement benefits

During 2011, Ashland elected to change its method of recognizing actuarial gains and losses for its defined benefit pension plans and other postretirement benefit plans. Previously, Ashland recognized the actuarial gains and losses as a component of stockholders' equity within the Consolidated Balance Sheet on an annual basis and amortized the gains and losses into operating results over the average future service period of active employees within the related plans. Ashland elected to immediately recognize the change in the fair value of plan assets and net actuarial gains and losses annually in the fourth quarter of each fiscal year and whenever a plan is determined to qualify for a remeasurement during a fiscal year. The remaining components of pension and other postretirement benefits expense are recorded on a quarterly basis. While Ashland's historical policy of recognizing pension and other postretirement benefit expense is considered acceptable under U.S. GAAP, Ashland believes that the new policy is preferable as it eliminates the delay in recognizing gains and losses within operating results. This change also improved transparency within Ashland's operating results by immediately recognizing the effects of economic and interest rate trends on plan investments and assumptions in the year these gains and losses are actually incurred. This change in accounting policy has been applied retrospectively, adjusting all periods prior to 2011.

In connection with this change in accounting policy for pension and other postretirement benefits, Ashland also elected to change its method of accounting for certain costs included in inventory. Ashland elected to exclude the amount of its pension and other postretirement benefit costs applicable to inactive participants from inventoriable costs and charge them directly to cost of sales. While Ashland's historical policy of including all pension and other postretirement benefit costs as a component of inventoriable costs was acceptable, Ashland believes that the new policy is preferable, as inventoriable costs only include costs that are directly attributable to current employees. Applying this change in 2011 retrospectively, in connection with the change in accounting for pension and other postretirement benefit costs, did not have a significant impact on previously reported inventory, cost of sales or segment reported results in any of the prior period financial statements.

In addition, as a further attempt to properly match actual operational expenses each business segment is incurring, Ashland changed its expense allocation for pension and other postretirement benefit plans during 2011. Previously, Ashland allocated all components of pension and other postretirement benefit plan expenses to each business segment on a ratable basis. Ashland now allocates only the service cost component of these plans to the business segment that incurred this expense. All other pension and other postretirement benefit plan expense components are recorded within the Unallocated and other reporting segment. Ashland believes the revised expense allocation more appropriately matches the cost incurred for active employees to the respective business segment. The prior year financial information disclosed in the following tables for each business segment reflects the retrospective application of this expense allocation change.

The following table shows sales, operating income and statistical operating information by business segment for each of the last three years ended September 30.

(In millions)	2013	2012	2011
Sales			
Specialty Ingredients	\$ 2,616	\$ 2,878	\$ 1,256
Water Technologies	1,722	1,734	1,902
Performance Materials	1,479	1,560	1,373
Consumer Markets	1,996	2,034	1,971
	<u>\$ 7,813</u>	<u>\$ 8,206</u>	<u>\$ 6,502</u>
Operating income (loss)			
Specialty Ingredients	\$ 281	\$ 457	\$ 171
Water Technologies	80	72	93
Performance Materials	68	99	37
Consumer Markets	295	236	213
Unallocated and other	517	(562)	(384)
	<u>\$ 1,241</u>	<u>\$ 302</u>	<u>\$ 130</u>
Depreciation and amortization			
Specialty Ingredients	\$ 263	\$ 265	\$ 113
Water Technologies	73	75	85
Performance Materials	54	52	59
Consumer Markets	35	36	38
Unallocated and other	—	2	4
	<u>\$ 425</u>	<u>\$ 430</u>	<u>\$ 299</u>
Operating information			
Specialty Ingredients (a) (b)			
Sales per shipping day	\$ 10.3	\$ 11.4	\$ 4.3
Metric tons sold (thousands)	392.1	395.5	174.6
Gross profit as a percent of sales	30.1%	33.0%	32.9%
Water Technologies (a)			
Sales per shipping day	\$ 6.8	\$ 6.9	\$ 7.5
Gross profit as a percent of sales	33.7%	31.7%	30.8%
Performance Materials (a) (b)			
Sales per shipping day	\$ 5.8	\$ 6.2	\$ 5.2
Metric tons sold (thousands)	527.3	543.9	493.8
Gross profit as a percent of sales	14.9%	16.6%	13.1%
Consumer Markets (a)			
Lubricant sales gallons	158.4	158.7	171.3
Premium lubricants (percent of U.S. branded volumes)	33.6%	30.3%	31.3%
Gross profit as a percent of sales	31.6%	27.1%	27.3%

(a) Sales are defined as sales and operating revenues. Gross profit is defined as sales, less cost of sales.

(b) All statistical information presented for 2011 excludes activity related to ISP, which was acquired on August 23, 2011.

Specialty Ingredients

Specialty Ingredients offers industry-leading products, technologies and resources for solving formulation and product-performance challenges in key markets including personal and home care, pharmaceutical, food and beverage, coatings, construction, energy and other industries. Using natural, synthetic and semisynthetic polymers derived from plant and seed extract, cellulose ethers and vinyl pyrrolidones, Specialty Ingredients offers comprehensive and innovative solutions for today's demanding consumer and industrial applications.

On August 23, 2011, Ashland completed its acquisition of ISP, a global specialty chemical manufacturer of innovative functional ingredients and technologies, in a transaction valued at \$3.2 billion. ISP reported sales of \$1.9 billion for the twelve months ended September 30, 2011. Ashland has included ISP within the Specialty Ingredients reporting segment, with the exception of ISP's Elastomers business line, a business with \$410 million of sales for the twelve months ended September 30, 2011, which has been included within the Performance Materials reporting segment. Sales for ISP's business in 2011 prior to the August 23, 2011 acquisition were \$1,284 million.

2013 compared to 2012

Specialty Ingredients' sales decreased \$262 million, or 9%, to \$2,616 million in 2013 compared to \$2,878 million in 2012, primarily a result of lower pricing, which decreased sales \$136 million, or 5%. The decline in pricing was principally within the energy market where significant price declines occurred as a result of much weaker demand in the current year for certain guar products. Volume decreased \$24 million, or 1%, during 2013 compared to 2012 as metric tons sold decreased to 392.1 thousand. Changes in product mix decreased sales \$89 million, or 3%, effected primarily from the decline in guar product demand, while unfavorable currency exchange decreased sales \$13 million.

Gross profit during 2013 decreased \$162 million compared to 2012. The current year included a \$31 million loss on certain guar inventory, as well as a \$22 million gain resulting from Ashland's settlement of an insurance claim. The prior year included a noncash charge of \$28 million related to the fair value assessment of inventory acquired from ISP at the date of acquisition. Increased raw material costs and lower prices resulted in gross profit decline of \$132 million, while volume and product mix combined to decrease gross profit by \$42 million. Unfavorable currency exchange decreased gross profit by \$7 million. In total, gross profit margin during 2013 decreased 2.9 percentage points to 30.1% compared to 2012.

During 2013, Specialty Ingredients' guar-based products business incurred an approximately \$190 million decline in gross profit compared to the prior year due to a \$31 million loss on the sale of certain higher cost guar inventory purchased in the prior year, lower margins as a result of improved guar supply and reduced customer stocking levels. The higher cost guar powder products during 2012 also caused certain customers during the current year to search for alternative, lower cost products and to buy directly from suppliers.

Selling, general and administrative expenses (which include research and development expenses throughout the business segment discussion and analysis) increased \$25 million, or 5%, during 2013 as compared to 2012, primarily due to increased research and development expense of \$33 million, which included \$41 million and \$13 million in noncash impairment charges for 2013 and 2012, respectively, related to certain IPR&D assets purchased as part of the acquisition of ISP. Equity and other income increased \$12 million in 2013 compared to 2012 primarily due to income of \$13 million recorded during 2013 to resolve a claim.

Operating income totaled \$281 million for the current year compared to \$457 million in 2012. EBITDA decreased \$178 million, from \$722 million in 2012 to \$544 million in 2013. Adjusted EBITDA decreased \$213 million, from \$763 million in 2012 to \$550 million in 2013. Adjusted EBITDA margin decreased 5.5 percentage points in 2013 from 26.5% in 2012 to 21.0% in 2013.

2012 compared to 2011

Specialty Ingredients' sales increased 129% to \$2,878 million in 2012 compared to \$1,256 million in 2011. The inclusion of ISP results for the full year during 2012 compared to the 39-day period owned in 2011, resulted in increased sales of \$1,344 million, or 107%, while higher pricing increased sales an additional \$236 million, or 19%. Volume increased sales \$21 million, or 2%, during 2012 as metric tons sold increased to 395.5 thousand. The mix of product sold increased sales an additional \$42 million, or 3%, while unfavorable currency exchange decreased sales \$21 million, or 2%. Overall, Specialty Ingredients recorded significant sales growth within the energy market in 2012, increasing approximately 150% on a comparable basis in 2012 to \$413 million, which was primarily due to guar product sales increasing \$240 million or approximately 200% compared to the prior year.

Gross profit during 2012 increased \$555 million compared to 2011. The inclusion of ISP results for the full year during 2012 compared to the 39-day period owned in 2011, resulted in increased gross profit of \$399 million, which included noncash charges of \$28 million and \$16 million in 2012 and 2011, respectively, related to the fair value assessment of inventory acquired from ISP at the date of acquisition. Pricing more than offset higher costs, causing an additional \$127 million increase in gross profit, which

included production start-up costs of approximately \$3 million associated with a new production facility during 2011. Increased volume and favorable product mix improved gross profit by \$10 million and \$21 million, respectively, while unfavorable currency exchange during 2012 decreased gross profit \$5 million. In total, gross profit margin during 2012 increased 0.1 percentage points to 33.0% compared to 2011.

Selling, general and administrative expenses increased \$272 million, or 121%, during 2012 as compared to 2011, primarily due to the inclusion of ISP expenses for the full year during 2012 compared to the 39-day period owned in 2011, which resulted in an increase of \$253 million. Expense for 2012 also included a \$13 million impairment charge related to certain IPR&D assets associated with the acquisition of ISP. Increases in salaries, benefits and incentive compensation of \$11 million also contributed to increased expense. Equity and other income increased \$3 million in 2012 compared to 2011.

Operating income totaled \$457 million for 2012 compared to \$171 million in 2011. EBITDA increased \$438 million, from \$284 million in 2011 to \$722 million in 2012. Adjusted EBITDA increased \$155 million, from \$608 million in 2011 to \$763 million in 2012. Adjusted EBITDA margin increased 2.6 percentage points in 2012 from 23.9% in 2011 to 26.5% in 2012.

EBITDA and Adjusted EBITDA reconciliation

The following EBITDA and Adjusted EBITDA presentation for the three annual periods is provided as a means to enhance the understanding of financial measurements that Ashland has internally determined to be relevant measures of comparison for the results of Specialty Ingredients. Adjusted EBITDA results have been prepared to illustrate the ongoing effects of Ashland's operations, which exclude certain key items. The \$13 million adjustment in 2013 relates to Ashland's settlement of a customer claim. The \$41 million charge in 2013 relates to impairment charges related to certain IPR&D assets associated with the acquisition of ISP. The \$22 million adjustment in 2013 relates to a gain resulting from Ashland's settlement of an insurance claim. The inventory fair value adjustments of \$28 million in 2012 and \$16 million in 2011 relate to the portion of acquired inventory sold during the period that was recorded at fair value in conjunction with the acquisition of ISP. The ISP business results during 2011 of \$308 million, which excludes the ISP Elastomers business that is included within the Performance Materials segment, relate to the operating income and depreciation and amortization recognized for the period in which Ashland did not yet own this business and is included herein to provide comparable financial results in the prior years.

(In millions)	September 30		
	2013	2012	2011
Operating income	\$ 281	\$ 457	\$ 171
Depreciation and amortization	263	265	113
EBITDA	544	722	284
Settled claim	(13)	—	—
Insurance settlement	(22)	—	—
Inventory fair value adjustment	—	28	16
Impairment of IPR&D assets	41	13	—
Results of the ISP business prior to acquisition, excluding Elastomers business	—	—	308
Adjusted EBITDA	<u>\$ 550</u>	<u>\$ 763</u>	<u>\$ 608</u>

Water Technologies

Water Technologies is a leading supplier of specialty chemicals and services to the pulp, paper, mining, food and beverage, power generation, refining, chemical processing, general manufacturing and municipal markets. It offers chemical and equipment technologies and services designed to help customers improve operational efficiencies, enhance product quality, protect plant assets and minimize environmental impact.

During 2013, this business segment announced a business reorganization to improve the focus on its two key business units, Pulp & Paper and Industrial Water, by forming separate global sales organizations for each business. The new organizations will help improve service to both the Pulp & Paper and Industrial Water customers. The redesign project also modifies some of the key processes in each business, leading to improved efficiency, reduced complexity and increased agility, all of which are focused on improving Water Technologies' responsiveness to changes in the market. As part of this reorganization, Ashland expects to eliminate approximately \$20 million of annualized selling, general and administrative costs globally in order to achieve full run-rate savings by the end of the December 2013 quarter. As a result of this reorganization, Ashland recorded a \$13 million restructuring charge during 2013, \$11 million of which was recorded within the business.

In January 2012, Ashland completed the sale of its aviation and refrigerant lubricants business, a polyol/ester-based synlubes (Synlubes) business previously included within the Water Technologies business segment, to Monument Chemical Inc., a Heritage

Group Company. Annual sales of the business were approximately \$50 million. Total net assets related to this business totaled \$20 million as of the date of sale and primarily consisted of property, plant and equipment.

2013 compared to 2012

Water Technologies' sales decreased less than 1% to \$1,722 million in 2013 compared to \$1,734 million in 2012. The sale of Synlubes and other divested businesses resulted in decreased sales of \$23 million, or 1%, while pricing and unfavorable currency exchange decreased sales \$12 million and \$7 million, respectively. Volume increased sales by \$30 million, or 2%.

Gross profit increased \$31 million in 2013 compared to 2012. Improved volumes resulted in increased gross profit of \$13 million, while cost reductions increased gross profit by \$28 million. The sale of Synlubes and other divested businesses resulted in a gross profit decline of \$7 million, while unfavorable currency exchange decreased gross profit by \$3 million. In total, gross profit margin during 2013 increased 2.0 percentage points to 33.7% compared to 2012, primarily as a result of cost reductions.

Selling, general and administrative expenses increased \$24 million during 2013 as compared to 2012, primarily as a result of the \$11 million restructuring charge during 2013 associated with certain cost structure initiatives within the business previously discussed. In addition, higher incentive compensation expense of \$8 million during 2013 contributed to the overall increase in expense. Equity and other income increased \$1 million during 2013 as compared to 2012.

Operating income totaled \$80 million during 2013 compared to \$72 million during 2012. EBITDA increased \$9 million, from \$144 million in 2012 to \$153 million in 2013. Adjusted EBITDA increased \$15 million, from \$149 million in 2012 to \$164 million in 2013. Adjusted EBITDA margin increased 0.9 percentage points in 2013 from 8.6% in 2012 to 9.5% in 2013.

2012 compared to 2011

Water Technologies' sales decreased 9% to \$1,734 million in 2012 compared to \$1,902 million in 2011. The sale of Ashland's Synlubes business resulted in decreased sales of \$69 million, or 4%, while volume declines reduced sales \$71 million, or 4%. Higher product pricing increased sales \$34 million, or 2%, while unfavorable currency exchange decreased sales an additional \$62 million, or 3%.

Gross profit decreased \$40 million in 2012 compared to 2011. Decreased volumes were the primary factor in the gross profit decline, resulting in a \$42 million decrease, while the sale of the Synlubes business resulted in decreased gross profit in 2012 of \$1 million. Unfavorable currency exchange reduced gross profit an additional \$20 million. These decreases, however, were partially offset by favorable pricing during 2012 as compared to 2011, which increased gross profit by \$23 million. In total, gross profit margin during 2012 increased 0.9 percentage points to 31.7% compared to 2011, as the business focused on higher margin products, which reduced volume in certain markets.

Selling, general and administrative expenses declined \$18 million during 2012 as compared to 2011, primarily as a result of a \$7 million decline in severance charges as well as a favorable currency exchange. Equity and other income increased \$1 million during 2012 as compared to 2011.

Operating income totaled \$72 million during 2012 compared to \$93 million during 2011. EBITDA decreased \$30 million, from \$174 million in 2011 to \$144 million in 2012. Adjusted EBITDA decreased \$45 million, from \$194 million in 2011 to \$149 million in 2012. Adjusted EBITDA margin decreased 1.6 percentage points in 2012 from 10.2% in 2011 to 8.6% in 2012.

EBITDA and Adjusted EBITDA reconciliation

The following EBITDA and Adjusted EBITDA presentation for the three annual periods is provided as a means to enhance the understanding of financial measurements that Ashland has internally determined to be relevant measures of comparison for the results of Water Technologies. Adjusted EBITDA results have been prepared to illustrate the ongoing effects of Ashland's operations, which exclude certain key items.

(In millions)	September 30		
	2013	2012	2011
Operating income	\$ 80	\$ 72	\$ 93
Depreciation and amortization (a)	73	72	81
EBITDA	153	144	174
Severance	11	2	9
Environmental charges	—	—	7
Accelerated depreciation	—	3	4
Adjusted EBITDA	<u>\$ 164</u>	<u>\$ 149</u>	<u>\$ 194</u>

(a) Excludes accelerated depreciation of \$3 million and \$4 million in 2012 and 2011, respectively.

Performance Materials

Performance Materials is a global leader helping customers create stronger, lighter, more resistant substitutes for traditional materials through higher performing, cost-efficient resin and adhesive technologies that improve the manufacturing, fabrication and design process. Applied industries include manufacturing, building and construction, packaging and converting. In addition, the Elastomers line of business provides high-quality styrene butadiene rubber primarily to the tire market. Performance Materials also provides metal casting consumables and design services for effective foundry management through its 50% ownership in the ASK Chemicals GmbH joint venture.

In January 2012, Ashland completed the sale of its PVAc business previously included within the Performance Materials business segment to Celanese Corporation. Annual sales of the business were approximately \$45 million. Total net assets related to this business totaled \$20 million as of the date of sale and primarily consisted of property, plant and equipment. The sale included the transfer of the PVAc business, inventory and related technology, but did not include any real estate or manufacturing facilities. Ashland's PVAc business included two brands, Flexbond™ and Vinac™ emulsions.

On August 23, 2011, Ashland completed its acquisition of ISP, a global specialty chemical manufacturer of innovative functional ingredients and technologies, in a transaction valued at \$3.2 billion. ISP reported sales of \$1.9 billion for the twelve months ended September 30, 2011. Ashland has included ISP within the Specialty Ingredients reporting segment, with the exception of ISP's Elastomers business line, a business with \$410 million of sales for the twelve months ended September 30, 2011, which has been included within the Performance Materials reporting segment. Sales for ISP's Elastomers business line in 2011 prior to the August 23, 2011 acquisition were \$362 million.

In July 2010, Ashland and Süd-Chemie signed an agreement for the formation of an expanded global joint venture serving the foundry chemical sector. The transaction closed on November 30, 2010 and combined three businesses: (i) Ashland's Casting Solutions business group, (ii) Süd-Chemie's Foundry-Products and Specialty Resins business unit and (iii) Ashland-Südchemie-Kernfest GmbH (ASK), the then existing 50% owned European-based joint venture between Ashland and Süd-Chemie, for which Ashland historically only recognized equity income of the joint venture within its consolidated results. Ashland's Casting Solutions and ASK businesses recorded sales of \$279 million and \$145 million, respectively, during each business' most recently completed fiscal year prior to the closing. The Foundry-Products and Specialty Resins business unit of Süd-Chemie contributed to the joint venture generated sales of approximately \$146 million for its most recently completed fiscal year prior to the closing.

Ashland's equity interest in the expanded joint venture qualifies for equity method accounting treatment under U.S. GAAP. As a result, beginning on December 1, 2010, the results of the Performance Materials segment no longer included the sales, cost of sales, selling, general and administrative expense and corresponding taxes related to the Casting Solutions business; however, Ashland includes the financial results of the joint venture within operating income of the Performance Materials segment and in the equity and other income caption of the Statements of Consolidated Comprehensive Income. As part of this transaction, Ashland has agreed to continue to manufacture certain products on behalf of ASK. In addition, the expanded joint venture left certain stranded costs that Ashland has eliminated.

2013 compared to 2012

Performance Materials' sales decreased 5% to \$1,479 million in 2013 compared to \$1,560 million in 2012. Lower product pricing decreased sales \$48 million, or 3%, while volume decreased sales by \$10 million, excluding acquisitions and divestitures, as 527.3 thousand metric tons were sold. Change in product mix and unfavorable currency decreased sales \$7 million and \$5 million, respectively, while the sale of Ashland's PVAc business reduced sales \$11 million.

Gross profit decreased \$40 million in 2013 compared to 2012. The current period included a \$20 million inventory charge in the Elastomers line of business and accelerated depreciation charges of \$2 million related to plant closures. These plant closure charges were incurred as part of the ongoing stranded cost and ISP integration programs. Pricing reduced gross profit by \$17 million, while volume and changes in product mix combined to increase gross profit by \$1 million. The sale of Ashland's PVAc business decreased gross profit by \$2 million. In total, gross profit margin during 2013 decreased 1.7 percentage points to 14.9%, as compared to 2012.

During 2013, the Elastomers line of business reported an approximate \$50 million decline in gross profit compared to the strong performance in 2012, as price increases were not sufficient to recover previous margin levels due to the fluctuating price of its key raw material butadiene, as well as the inventory charge of \$20 million previously mentioned.

Selling, general and administrative expenses decreased \$8 million, or 5%, during 2013 compared to 2012, primarily due to decreased incentive compensation and bad debt expense. Equity and other income decreased \$1 million during 2013 compared to 2012, primarily due to decreased equity income from the ASK Chemicals joint venture.

Operating income totaled \$68 million in 2013 compared to \$99 million in 2012. EBITDA decreased \$28 million, from \$148 million in 2012 to \$120 million in 2013. Adjusted EBITDA decreased \$37 million to \$122 million in 2013. Adjusted EBITDA margin decreased 2.0 percentage points to 8.2% in 2013.

2012 compared to 2011

Performance Materials' sales increased 14% to \$1,560 million in 2012 compared to \$1,373 million in 2011. The inclusion of results from ISP's Elastomers business for the full year during 2012 compared to the 39-day period owned in 2011, resulted in increased sales of \$366 million, or 27%, while the exclusion of sales from the Casting Solutions business, including a reduction in tolling revenue, decreased sales \$115 million, or 8%. The sale of Ashland's PVAc business also reduced sales \$40 million, or 3%. Higher product pricing increased sales by \$29 million, or 2%, primarily as a result of pricing increases in the composites line of business that were announced to fully offset increases in raw material costs. Volume decreased sales by \$25 million, or 2%, as 543.9 million metric tons were sold, while unfavorable currency exchange decreased sales by \$28 million, or 2%.

Gross profit increased \$77 million in 2012 compared to 2011. The prior year included plant closure charges of \$15 million related to accelerated depreciation. This charge was incurred as part of the previously announced capacity reduction within the Composites and Adhesives business in reaction to a substantial overall decline in industry demand as well as Ashland's continued overall effort to optimize each business' cost structure. The inclusion of results from ISP's Elastomers business for the full year during 2012 compared to the 39-day period owned in 2011, increased gross profit by \$56 million, or 31%, while the exclusion of financial results from the Casting Solutions business, including the tolling agreement, reduced gross profit by \$13 million, or 7%. The sale of Ashland's PVAc business also reduced gross profit by \$4 million. Pricing increased gross profit by \$33 million, while volume decreased gross profit by \$4 million. Unfavorable currency exchange and change in product mix combined to decrease gross profit by \$6 million. In total, gross profit margin during 2012 increased 3.5 percentage points to 16.6%, as compared to 2011.

Selling, general and administrative expenses increased \$23 million, or 15%, during 2012 compared to 2011, primarily due to the inclusion of expenses related to ISP's Elastomers business for the full year during 2012 compared to the 39-day period owned in 2011, which resulted in an increase of \$17 million, while higher incentive compensation expense resulted in increased expense of \$6 million. Equity and other income increased \$8 million during 2012 compared to 2011, primarily due to increased equity income from the ASK Chemicals joint venture.

Operating income totaled \$99 million in 2012 compared to \$37 million in 2011. EBITDA increased \$67 million, from \$81 million in 2011 to \$148 million in 2012. Adjusted EBITDA increased \$26 million to \$159 million in 2012. Adjusted EBITDA margin increased 2.5 percentage points to 10.2% in 2012.

Out-of-Period Adjustments

Fiscal year 2013 included inventory valuation charges related to the Elastomers line of business of approximately \$20 million, of which \$12 million related to 2012 and \$8 million related to 2013.

Ashland initially identified an error in the application of lower-of-cost-or-market ("LCM") valuation principles to the inventory of the Elastomers line of business during the quarter ended June 30, 2013. As a result, Ashland recorded a \$17 million inventory charge to reduce the carrying value of inventory in the Elastomers line of business in the quarter ended June 30, 2013 and, at the time, believed that the \$17 million charge primarily related to prior interim periods within 2013. The charge was disclosed in Ashland's Quarterly Report on Form 10-Q for the quarter ended June 30, 2013. During the quarter ended September 30, 2013, Ashland performed additional analyses related to the inventory valuation in the Elastomers line of business, which determined that a further charge of \$3 million should be recorded and that the impact on interim periods during 2012 was more significant. For additional information with respect to the impact of the errors on interim periods, see "Quarterly Financial Information (Unaudited)" on page F-50 and for additional information with regard to Ashland's assessment of related deficiencies in internal controls over financial reporting, see Item 9A. "Controls and Procedures" on page 18.

EBITDA and Adjusted EBITDA reconciliation

The following EBITDA and Adjusted EBITDA presentation for the three annual periods is provided as a means to enhance the understanding of financial measurements that Ashland has internally determined to be relevant measures of comparison for the results of Performance Materials. Adjusted EBITDA results have been prepared to illustrate the ongoing effects of Ashland's operations, which exclude certain key items. The ISP Elastomers business results of \$34 million during 2011 relate to the operating income and depreciation and amortization recognized for the period in which Ashland did not yet own this business and is included herein to provide comparable financial results in the prior year.

(In millions)	September 30		
	2013	2012	2011
Operating income	\$ 68	\$ 99	\$ 37
Depreciation and amortization (a)	52	49	44
EBITDA	120	148	81
Severance	—	7	1
Accelerated depreciation and other plant closure costs	2	4	15
Results of ISP Elastomers business prior to acquisition	—	—	34
Casting Solutions joint venture start-up costs	—	—	2
Adjusted EBITDA	\$ 122	\$ 159	\$ 133

(a) Excludes \$2 million, \$3 million and \$15 million of accelerated depreciation during 2013, 2012 and 2011, respectively.

Consumer Markets

Consumer Markets delivers premium-branded automotive, commercial and industrial lubricants, automotive chemicals and car-care products. It operates and franchises approximately 900 Valvoline Instant Oil ChangeSM centers in the United States. It markets ValvolineTM lubricants and automotive chemicals; MaxLifeTM lubricants for cars with higher mileage engines; NextGenTM motor oil, created with 50-percent recycled oil; SynPowerTM synthetic motor oil; Eagle OneTM and Car BriteTM automotive appearance products; and ZerexTM antifreeze.

During 2011, Consumer Markets introduced a new automotive oil product line called ValvolineTM NextGenTM. NextGenTM is the first major brand of motor oil in the industry made of 50% recycled oil, and like other ValvolineTM motor oils, it is backed by Valvoline's engine guarantee. ValvolineTM expects this new product to continue to enhance its overall position within the automotive oil industry.

2013 compared to 2012

Consumer Markets' sales decreased 2% to \$1,996 million in 2013 compared to \$2,034 million in 2012. Lower product pricing decreased sales by \$52 million, or 3%. Volume effects on sales remained unchanged as lubricant gallons sold slightly declined to 158.4 million gallons during 2013 compared to 158.7 million gallons during 2012. Changes in product mix increased sales by \$15 million, or 1%, while unfavorable currency exchange decreased sales \$1 million.

Gross profit increased \$80 million during 2013 compared to 2012, primarily due to raw material cost declines, which increased gross profit by \$69 million. Lubricant volume increased gross profit \$3 million while improved product mix increased gross profit \$9 million. The currency exchange effect during the year reduced gross profit by \$1 million. In total, gross profit margin during 2013 increased 4.5 percentage points to 31.6%.

Selling, general and administrative expenses increased \$23 million, or 7%, during 2013 as compared to 2012, primarily as a result of higher advertising expense of \$13 million and increased incentive compensation of \$8 million. Equity and other income increased by \$2 million in 2013 compared to 2012 principally due to increased income earned by the Valvoline Cummins joint venture.

Operating income totaled \$295 million in 2013 as compared to \$236 million in 2012. EBITDA increased \$58 million from \$272 million in 2012 to \$330 million in 2013. EBITDA margin increased 3.1 percentage points to 16.5% in 2013 compared to 13.4% in 2012. There were no unusual or key items that affected comparability for EBITDA during 2013 and 2012.

2012 compared to 2011

Consumer Markets' sales increased 3% to \$2,034 million in 2012 compared to \$1,971 million in 2011. Higher product pricing was the primary factor in sales growth between periods, resulting in a \$165 million, or 8%, increase in sales. Volume decreased sales by \$82 million, or 4%, as lubricant gallons sold declined to 158.7 million gallons during 2012 compared to 171.3 million gallons in 2011. Change in product mix decreased sales by \$4 million, while unfavorable currency exchange decreased sales an additional \$16 million.

Gross profit increased \$11 million during 2012 compared to 2011, primarily due to pricing, which increased gross profit by \$45 million. Lubricant volume declines resulted in a decrease of \$28 million, while changes in product mix and unfavorable currency exchange each decreased gross profit by \$3 million. In total, gross profit margin during 2012 decreased 0.2 percentage points to 27.1%.

Selling, general and administrative expenses decreased \$9 million, or 3%, during 2012 as compared to 2011, primarily as a result of decreases in advertising and promotion expense of \$21 million, partially offset by higher employee expense of \$10 million. Equity and other income increased by \$3 million in 2012 compared to 2011.

Operating income totaled \$236 million in 2012 as compared to \$213 million in 2011. EBITDA increased \$21 million from \$251 million in 2011 to \$272 million in 2012. EBITDA margin increased 0.7 percentage points to 13.4% in 2012 compared to 12.7% in 2011. There were no unusual or key items that affected comparability for EBITDA during 2012 and 2011.

EBITDA and Adjusted EBITDA reconciliation

The following EBITDA presentation for the three annual periods is provided as a means to enhance the understanding of financial measurements that Ashland has internally determined to be relevant measures of comparison for the results of Consumer Markets. There were no unusual or key items that affected comparability for Adjusted EBITDA during 2013, 2012 and 2011.

(In millions)	September 30		
	2013	2012	2011
Operating income	\$ 295	\$ 236	\$ 213
Depreciation and amortization	35	36	38
EBITDA	<u>\$ 330</u>	<u>\$ 272</u>	<u>\$ 251</u>

Unallocated and other

Unallocated and other recorded income of \$517 million for 2013 and expense of \$562 million for 2012 and \$384 million for 2011. Unallocated and other includes pension and other postretirement net periodic costs and income that have not been allocated to business segments. These costs include interest cost, expected return on assets and amortization of prior service cost, which resulted in income of \$79 million, \$32 million and \$14 million for 2013, 2012 and 2011, respectively. Unallocated and other also includes net actuarial gains and losses on pension and other postretirement plan remeasurements, which resulted in a gain of \$498 million in 2013 and losses of \$493 million and \$318 million in 2012 and 2011, respectively. Fluctuations in these amounts from year to year result primarily from changes in the discount rate but are also partially affected by differences between the expected and actual return on plan assets during each year as well as changes in other actuarial assumptions. For additional information regarding the actual remeasurement for certain key assumptions for each year, see MD&A - Critical Accounting Policies - Employee benefit obligations and Note M of Notes to Consolidated Financial Statements.

Other significant costs for 2013, other than pension and postretirement net periodic income previously described, primarily related to \$22 million in environmental charges, as well as restructuring expense of \$34 million related to severance program costs and other ISP integration activities.

Other significant costs for 2012, other than pension and postretirement net periodic costs previously described, primarily related to \$14 million in environmental charges, as well as \$85 million in restructuring and other integration costs, which includes stranded costs from divestitures of \$5 million, a \$20 million lease abandonment charge associated with Ashland's closure of a corporate facility, a \$13 million charge related to the abandonment of a construction project for a multi-purpose facility, severance charges of \$19 million associated with Ashland's involuntary program and the ongoing ISP integration and \$28 million related to other ISP integration activities.

Other significant costs for 2011, other than pension and other postretirement net periodic costs previously described, primarily related to corporate costs previously allocated to Distribution of \$36 million, \$24 million for severance charges associated with Ashland's voluntary severance offer (VSO) program and the ongoing ISP integration and \$18 million for net environmental charges associated with adjustments to ongoing obligations of previously divested businesses. The following table provides a summary of activity for each year.

(In millions)	September 30		
	2013	2012	2011
Actuarial gain (loss) on pension and other postretirement plan remeasurement	\$ 498	\$ (493)	\$ (318)
Pension and other postretirement net periodic income (a)	79	32	14
Restructuring activities (includes severance, integration and stranded divestiture costs)	(34)	(85)	(60)
Environmental reserves for divested businesses	(22)	(14)	(18)
Other expense	(4)	(2)	(2)
Total unallocated income (expense)	<u>\$ 517</u>	<u>\$ (562)</u>	<u>\$ (384)</u>

(a) Amounts exclude service costs of \$45 million, \$38 million and \$42 million during 2013, 2012 and 2011, respectively, which are allocated to Ashland's business segments.

FINANCIAL POSITION

Liquidity

Ashland had \$346 million in cash and cash equivalents as of September 30, 2013, of which \$323 million was held by foreign subsidiaries and had no significant limitations that would prohibit remitting the funds to satisfy corporate obligations. However, if such amounts were repatriated to the United States, additional taxes may need to be accrued and paid depending upon the source of the earnings remitted. Certain amounts are intended to be permanently reinvested and Ashland currently has no plans to repatriate any amounts for which additional U.S. taxes would need to be accrued. In making this assessment, Ashland has taken into account numerous factors including evidence that certain earnings have already been reinvested outside the U.S., future plans to reinvest the earnings outside the U.S., financial requirements of Ashland and its foreign subsidiaries, long- and short-term operational and fiscal objectives and the cost of remitting such foreign earnings. Ashland's cash flows from operating, investing and financing activities, as reflected in the Statements of Consolidated Cash Flows, are summarized as follows.

(In millions)	2013	2012	2011
Cash provided (used) by:			
Operating activities from continuing operations	\$ 791	\$ 385	\$ 243
Investing activities from continuing operations	(320)	(241)	(2,102)
Financing activities from continuing operations	(592)	(317)	1,212
Discontinued operations	(58)	(32)	957
Effect of currency exchange rate changes on cash and cash equivalents	2	(9)	10
Net (decrease) increase in cash and cash equivalents	<u>\$ (177)</u>	<u>\$ (214)</u>	<u>\$ 320</u>

Operating activities

The following discloses the cash flows associated with Ashland's operating activities for 2013, 2012 and 2011, respectively.

(In millions)	2013	2012	2011
Cash flows (used) provided by operating activities from continuing operations			
Net income	\$ 683	\$ 26	\$ 414
(Income) loss from discontinued operations (net of income taxes)	(6)	12	(358)
Adjustments to reconcile income from continuing operations to cash flows from operating activities			
Depreciation and amortization	425	430	299
Debt issuance cost amortization	65	54	26
Purchased in-process research and development impairment	41	13	—
Deferred income taxes	194	(154)	(57)
Equity income from affiliates	(27)	(35)	(17)
Distributions from equity affiliates	12	3	5
Gain from sale of property and equipment	(2)	(1)	(2)
Stock based compensation expense - Note P	30	28	16
Stock contributions to qualified savings plans	—	—	13
Net loss (gain) on acquisitions and divestitures - Notes B and C	8	(3)	5
Inventory fair value adjustment related to ISP acquisition	—	28	16
Actuarial (gain) loss on pension and postretirement plan remeasurement	(498)	493	318
Change in operating assets and liabilities (a)	(134)	(509)	(435)
Total cash flows provided by operating activities from continuing operations	<u>\$ 791</u>	<u>\$ 385</u>	<u>\$ 243</u>

(a) Excludes changes resulting from operations acquired or sold.

Cash flows generated from operating activities from continuing operations, a major source of Ashland's liquidity, amounted to \$791 million in 2013, \$385 million in 2012 and \$243 million in 2011. The cash generated during each period is primarily driven

by net income results, excluding results from discontinued operations, and adjusted for certain items such as depreciation and amortization (including debt issuance cost amortization) and actuarial adjustments to the pension and postretirement plans, as well as changes in working capital, which are fluctuations within accounts receivable, inventory, and trade and other payables. Ashland continues to emphasize working capital management as a high priority that is aligned with annual company goals.

In 2013, a working capital inflow of \$113 million was primarily a result of decreased inventory levels primarily within the Specialty Ingredients business that carried lower value guar-based product at the end of the current year compared to the prior year. In 2012, a working capital outflow of \$196 million was primarily a result of increased inventory resulting from restocking of certain key products or to support sales growth in various areas of business. Working capital for 2012 also included a \$92 million cash outflow for change in control payments associated with the ISP acquisition. In 2011, a working capital outflow of \$238 million was primarily a result of increased inventory resulting from the support of sales growth as well as restocking of certain base products that were low or in sold out positions during previous years. Working capital also included reduced trade and other payable balances, primarily the result of decreased incentive compensation accruals.

Operating cash flows for 2013 included income from continuing operations of \$677 million, a \$498 million actuarial gain on pension and postretirement plan remeasurement and noncash adjustments of \$425 million for depreciation and amortization and \$65 million for debt issuance cost amortization. Operating cash flows for 2012 included income from continuing operations of \$38 million, a \$493 million actuarial loss on pension and postretirement plan remeasurement and noncash adjustments of \$430 million for depreciation and amortization and \$54 million for debt issuance cost amortization. Operating cash flows for 2012 also included a cash outflow of \$67 million related to the premium paid for early redemption of the majority of Ashland's 9.125% senior notes, as well as the previously mentioned \$92 million cash outflow for change in control payments associated with the ISP acquisition. Operating cash flows for 2013 and 2012 included impairment charges of \$41 million and \$13 million, respectively, related to certain IPR&D assets associated with the acquisition of ISP. Operating cash flows for 2011 included income from continuing operations of \$56 million, a \$318 million actuarial loss on pension and postretirement plan remeasurement and noncash adjustments of \$299 million for depreciation and amortization and \$26 million for debt issuance cost amortization. Operating cash flows for 2012 and 2011 included inventory fair value adjustments of \$28 million and \$16 million, respectively, related to the ISP acquisition.

Ashland contributed cash of \$128 million to its pension plans during 2013 compared to \$170 million in 2012 and \$50 million in 2011 and paid income taxes of \$69 million during 2013 compared to \$88 million in 2012 and \$97 million in 2011. Cash receipts for interest income were \$4 million in 2013, \$8 million in 2012 and \$16 million in 2011, while cash payments for interest expense amounted to \$182 million in 2013, \$202 million in 2012 and \$109 million in 2011.

Investing activities

The following discloses the cash flows associated with Ashland's investing activities for 2013, 2012 and 2011, respectively.

(In millions)	2013	2012	2011
Cash flows (used) provided by investing activities from continuing operations			
Additions to property, plant and equipment	\$ (314)	\$ (298)	\$ (201)
Proceeds from disposal of property, plant and equipment	5	6	14
Purchase of operations - net of cash acquired	—	—	(2,002)
Proceeds from sale of available-for-sale securities	—	10	11
Proceeds (uses) from sale of operations or equity investments	(11)	41	76
Total cash flows used by investing activities from continuing operations	<u>\$ (320)</u>	<u>\$ (241)</u>	<u>\$ (2,102)</u>

Cash used by investing activities was \$320 million in 2013 compared to \$241 million and \$2,102 million for 2012 and 2011, respectively. The significant cash investing activities for 2013 included cash outflows of \$314 million for capital expenditures.

The significant cash investing activities for 2012 included cash outflows of \$298 million for capital expenditures, partially offset by combined cash proceeds of \$41 million related to sales of Ashland's PVAc and Synlubes businesses.

The significant cash investing activity for 2011 included cash outflows of \$2,002 million (net of cash acquired) for the purchase of ISP's operations in August of 2011 and \$201 million for capital expenditures. These cash outflows were partially offset by cash inflows of \$76 million from the sale of operations, primarily related to the contribution of the expanded joint venture with Süd-Chemie, and \$14 million from disposals of property, plant and equipment. Proceeds from the sale of auction rate securities were \$11 million in 2011.

Financing activities

The following discloses the cash flows associated with Ashland's financing activities for 2013, 2012 and 2011, respectively.

(In millions)	2013	2012	2011
Cash flows (used) provided by financing activities from continuing operations			
Proceeds from issuance of long-term debt	\$ 2,320	\$ 502	\$ 2,910
Repayment of long-term debt	(2,613)	(1,023)	(1,513)
(Repayments of)/proceeds from short-term debt, net	(36)	261	12
Repurchase of common stock	(150)	—	(71)
Debt issuance costs	(38)	(10)	(82)
Cash dividends paid	(88)	(63)	(51)
Proceeds from exercise of stock options	1	4	3
Excess tax benefits related to share-based payments	12	12	4
Total cash flows (used) provided by financing activities from continuing operations	<u>\$ (592)</u>	<u>\$ (317)</u>	<u>\$ 1,212</u>

Cash used by financing activities was \$592 million for 2013 and \$317 million for 2012, as compared to cash provided by financing activities of \$1,212 million for 2011. Significant cash financing activities for 2013 included the proceeds of \$2.3 billion related to Ashland's issuance of the senior notes, offset by repayments of short term debt of \$36 million, as well as \$2.6 billion in repayments of long-term debt, primarily a result of Ashland's repayment of its term loan A and term loan B facilities. Financing activities for 2013 also included \$150 million in common stock repurchased, cash dividends paid of \$1.13 per share, that totaled \$88 million, \$38 million in cash paid for debt issuance costs, as well as cash inflows of \$13 million for proceeds from the exercise of stock options and excess tax benefits related to share-based payments.

Significant cash financing activities for 2012 included net repayments of long-term debt and net proceeds from short-term debt of \$521 million and \$261 million, respectively, and cash dividends paid of \$.80 per share, for a total of \$63 million. The net repayment of long-term debt primarily relates to Ashland's repayment of \$572 million aggregate principal amount of its 9.125% senior notes due 2017 and \$350 million of its term loan B facility, offset by proceeds of \$500 million from Ashland's issuance of 4.75% senior notes due 2022. The net proceeds from short-term debt primarily relates to \$300 million of proceeds from Ashland's \$350 million accounts receivable securitization facility. Financing activities for 2012 also included cash inflows of \$16 million for proceeds from the exercise of stock options and stock appreciation rights and excess tax benefits related to share-based payments.

Significant cash financing activities for 2011 included cash inflows of \$2.9 billion associated with long-term financing secured with a group of lenders for the acquisition of ISP and other net short-term and long-term debt proceeds of \$22 million. These cash inflows were partially offset by repayments of long-term debt of \$1,513 million, which includes \$1,196 million associated with payment of ISP's indebtedness in connection with the ISP acquisition and \$289 million for Ashland's repayment of its previous term loan A in March 2011, \$82 million in debt issuance costs paid, \$71 million for the repurchase of common stock and cash dividends paid of \$.65 per share for a total of \$51 million. Financing activities also included cash inflows of \$7 million for proceeds from the exercise of stock options and stock appreciation rights and excess tax benefits related to share-based payments.

Cash provided by discontinued operations

The following discloses the cash flows associated with Ashland's discontinued operations for 2013, 2012 and 2011, respectively.

(In millions)	2013	2012	2011
Cash (used) provided by discontinued operations			
Operating cash flows	\$ (58)	\$ (31)	\$ 2
Investing cash flows	—	(1)	955
Total cash flows (used) provided by discontinued operations	<u>\$ (58)</u>	<u>\$ (32)</u>	<u>\$ 957</u>

Cash provided by discontinued operations for 2011 includes \$955 million of net proceeds from the Distribution sale. Activity for 2011 also included the results of operations of the Distribution business, which amounted to cash inflows of \$20 million. The remaining cash outflow fluctuations in each period principally related to other previously divested businesses and to payment of asbestos and environmental liabilities.

Free cash flow and other liquidity information

The following represents Ashland's calculation of free cash flow for the disclosed periods and reconciles free cash flow to cash flows provided by operating activities from continuing operations. Free cash flow does not reflect adjustments for certain non-discretionary cash flows such as mandatory debt repayments. See "Results of Operations - Consolidated Review - Use of non-GAAP measures" for additional information.

(In millions)	September 30		
	2013	2012	2011
Cash flows provided by operating activities from continuing operations	\$ 791	\$ 385	\$ 243
Less:			
Additions to property, plant and equipment	(314)	(298)	(201)
Payment resulting from termination of interest rate swaps (b)	52	—	—
ISP acquisition - change in control payment (a)	—	92	—
Premium paid for early redemption of 9.125% senior notes (b)	—	67	—
Free cash flows	<u>\$ 529</u>	<u>\$ 246</u>	<u>\$ 42</u>

(a) Since payment was generated from investing activity, this amount has been included within this calculation.

(b) Since payment was generated from financing activity, this amount has been included within this calculation.

At September 30, 2013, working capital (current assets minus current liabilities, excluding long-term debt due within one year) amounted to \$1,158 million, compared to \$1,411 million at the end of 2012. Ashland's working capital is affected by its use of the LIFO method of inventory valuation that valued inventories below their replacement costs by \$21 million at September 30, 2013 and \$43 million at September 30, 2012. Liquid assets (cash, cash equivalents and accounts receivable) amounted to 105% of current liabilities at September 30, 2013 and September 30, 2012.

The following summary reflects Ashland's cash, investment securities and unused borrowing capacity as of September 30, 2013, 2012 and 2011.

(In millions)	September 30		
	2013	2012	2011
Cash and cash equivalents	\$ 346	\$ 523	\$ 737
Unused borrowing capacity			
Revolving credit facility	\$ 1,119	\$ 905	\$ 914
Accounts receivable securitization facility	\$ 80	\$ 50	\$ —

Total borrowing capacity remaining under the \$1.2 billion revolving credit facility was \$1,119 million, representing a reduction of \$81 million for letters of credit outstanding at September 30, 2013. In total, Ashland's available liquidity position, which includes cash, the revolving credit facility and accounts receivable securitization facility, was \$1,545 million at September 30, 2013 as compared to \$1,478 million at September 30, 2012 and \$1,651 million at September 30, 2011, which included \$80 million in 2013 and \$50 million in 2012 of available liquidity from Ashland's accounts receivable securitization facility. Total borrowing capacity was \$1.2 billion in 2013 and \$1.0 billion in 2012 and 2011 for the revolving credit facility, the increase resulting from the revolving credit facility under the 2011 Senior Credit Facility being replaced in March 2013 with the revolving credit facility under the 2013 Senior Credit Facility. For further information, see the "Key Developments" discussion within Management's Discussion and Analysis.

Capital resources

Debt

The following summary reflects Ashland's debt as of September 30, 2013 and 2012.

(In millions)	September 30	
	2013	2012
Short-term debt	\$ 308	\$ 344
Long-term debt (including current portion)	2,959	3,246
Total debt	<u>\$ 3,267</u>	<u>\$ 3,590</u>

The current portion of long-term debt was \$12 million at September 30, 2013 and \$115 million at September 30, 2012. Debt as a percent of capital employed was 42% at September 30, 2013 and 47% at September 30, 2012. At September 30, 2013, Ashland's total debt had an outstanding principal balance of \$3,423 million and discounts of \$156 million. The scheduled aggregate maturities of debt for the next five fiscal years are as follows: \$50 million in 2014, \$279 million in 2015, \$600 million in 2016, none in 2017 and \$700 million in 2018.

Debt activity during 2013

During 2013, Ashland completed its issuance of senior notes with an aggregate principal amount of \$2.3 billion. These senior notes are comprised of 3.000% senior notes due 2016 (\$600 million), 3.875% senior notes due 2018 (\$700 million), 4.750% senior notes due 2022 (\$625 million) and 6.875% senior notes due 2043 (\$375 million). The 2022 notes were issued as additional notes under the existing 2022 notes indenture entered into in August 2012, described further below, and have the same terms as the originally issued 2022 notes. The 2043 notes were issued at a \$1 million premium, while the new 2022 notes were issued at a \$6 million discount. In addition, Ashland redeemed the remaining \$78 million outstanding principal of the 9.125% senior notes.

During 2013, Ashland entered into the 2013 Senior Credit Facility, which replaced the \$1.0 billion senior secured revolving credit facility under the 2011 Senior Credit Facility.

Ashland used the net proceeds from its issuance of the senior notes, along with the initial \$85 million borrowing on the 2013 Senior Credit Facility and cash on hand, (i) to pay in full the 2011 Senior Credit Facility, including the \$1.41 billion outstanding principal of the term loan A facility and the \$1.03 billion outstanding principal of the term loan B facility, (ii) to pay \$52 million to terminate the interest rate swaps associated with the term loan A and term loan B facilities, (iii) to pay accrued interest, fees and expenses under the 2011 Senior Credit Facility and (iv) to pay \$38 million in fees and expenses with respect to the issuance of the senior notes and entry into the 2013 Senior Credit Facility.

Debt activity during 2012

In July 2012, Ashland commenced a tender offer to purchase for cash any and all of the premium \$650 million aggregate principal of the 9.125% senior notes. In conjunction with this tender offer, Ashland issued \$500 million aggregate principal amount of 4.750% senior unsecured, unsubordinated notes due 2022. The proceeds of the new notes, together with available cash, were used to pay the consideration, accrued and unpaid interest and related fees and expenses in connection with Ashland's cash tender offer of the 9.125% senior notes. At the close of the tender offer, \$572 million aggregate principal amount of the 9.125% senior notes was redeemed by Ashland, representing 88% of the old notes. In addition, a redemption premium of \$67 million was paid to the former note holders.

On August 31, 2012, Ashland entered into a \$350 million accounts receivable securitization facility pursuant to (i) a Sale Agreement, among Ashland and certain of its direct and indirect subsidiaries (each an Originator and collectively, the Originators) and CVG Capital III LLC, a wholly-owned "bankruptcy remote" special purpose subsidiary of the Originators (CVG) and (ii) a Transfer and Administration Agreement, among CVG, each Originator, Ashland, as Master Servicer, certain Conduit Investors, Uncommitted Investors, Letter of Credit Issuers, Managing Agents, Administrators and Committed Investors, and The Bank of Nova Scotia, as agent for various secured parties (the Agent).

Under the Sale Agreement, each Originator will transfer, on an ongoing basis, substantially all of its accounts receivable, certain related assets and the right to the collections on those accounts receivable to CVG. Under the terms of the Transfer and Administration Agreement, CVG may, from time to time, obtain up to \$350 million (in the form of cash or letters of credit for the benefit of Ashland and its subsidiaries) from the Conduit Investors, the Uncommitted Investors and/or the Committed Investors through the sale of an undivided interest in such accounts receivable, related assets and collections. The Transfer and Administration Agreement has a term of three years, but is extendable at the discretion of the Investors. Ashland accounts for the securitization facility as secured borrowings, and the receivables sold pursuant to the facility are included in the Consolidated Balance Sheets as accounts receivable. Fundings under the Transfer and Administration Agreement will be repaid as accounts receivable are collected, with new fundings being advanced (through daily reinvestments) as new accounts receivable are originated by the Originators and transferred to CVG, with settlement generally occurring monthly. Ashland continues to classify any borrowings under this facility as a short-term debt instrument within the Consolidated Balance Sheets. Once sold to CVG, the accounts receivable, related assets and rights to collection described above are separate and distinct from each Originator's own assets and

are not available to its creditors should such Originator become insolvent. Substantially all of CVG's assets have been pledged to the Agent in support of its obligations under the Transfer and Administration Agreement.

At September 30, 2013 and 2012, the outstanding amount of accounts receivable transferred by Ashland to CVG was \$549 million and \$616 million, respectively. Ashland had drawn \$270 million and \$300 million, respectively, under the facility as of September 30, 2013 and 2012 in available funding from qualifying receivables. Funds drawn at the inception of the accounts receivable securitization facility were used to prepay \$350 million of principal on Ashland's term loan B facility in 2012. The weighted-average interest rate for this instrument was 1.0% for 2013 and the period issued during 2012.

Debt covenant restrictions

The 2013 Senior Credit Facility contains usual and customary representations, warranties and affirmative and negative covenants, including financial covenants for leverage and interest coverage ratios, limitations on liens, additional indebtedness, certain negative pledges, investments, mergers, sale of assets and restricted payments and other customary limitations. As of September 30, 2013, Ashland is in compliance with all debt agreement covenant restrictions.

The 2013 Senior Credit Facility defines the consolidated leverage ratio as the ratio of consolidated indebtedness minus cash and cash equivalents to consolidated EBITDA (Covenant Adjusted EBITDA) for any measurement period. In general, the 2013 Senior Credit Facility defines Covenant Adjusted EBITDA as net income plus consolidated interest charges, taxes, depreciation and amortization expense, fees and expenses related to capital market transactions, restructuring and integration charges, noncash stock and equity compensation expense, and any other nonrecurring expenses or losses that do not represent a cash item in such period or any future period; less any noncash gains or other items increasing net income. The computation of Covenant Adjusted EBITDA differs from the calculation of EBITDA and Adjusted EBITDA, which have been reconciled previously on page M-8. In general, consolidated indebtedness includes debt plus all purchase money indebtedness, banker's acceptances and bank guaranties, deferred purchase price of property or services, attributable indebtedness and guarantees. The maximum consolidated leverage ratio permitted under the 2013 Senior Credit Facility during its entire duration is 3.25.

The 2013 Senior Credit Facility defines the consolidated interest coverage ratio as the ratio of Covenant Adjusted EBITDA to consolidated interest charges for any measurement period. The minimum required consolidated interest coverage ratio under the 2013 Senior Credit Facility during its entire duration is 3.00.

At September 30, 2013, Ashland's calculation of the consolidated leverage ratio was 2.7 compared to the maximum consolidated leverage ratio permitted under the 2013 Senior Credit Facility of 3.25. At September 30, 2013, Ashland's calculation of the consolidated interest coverage ratio was 7.1 compared to the minimum required ratio of 3.00. Any change in Covenant Adjusted EBITDA of \$100 million would have an approximate 0.2x effect on the consolidated leverage ratio and a 0.7x effect on the consolidated interest coverage ratio. Any change in consolidated indebtedness of \$100 million would affect the consolidated leverage ratio by approximately 0.1x.

Cash projection

Ashland projects that cash flow from operations and other available financial resources such as cash on hand and revolving credit should be sufficient to meet investing and financing requirements to enable Ashland to comply with the covenants and other terms of its financing obligations. These projections are based on various assumptions that include, but are not limited to: operational results, working capital cash generation, capital expenditures, pension funding requirements and tax payment and receipts.

Based on Ashland's current debt structure included in Note I of Notes to Consolidated Financial Statements, future annual interest expense is expected to range from approximately \$160 million to \$180 million based on applicable fixed and floating interest rates, assuming interest rates remain stable.

Stockholders' equity

Stockholders' equity increased \$524 million since September 30, 2012 to \$4,553 million at September 30, 2013. This increase was primarily due to net income during the period of \$683 million as well as the recognition of previous unrealized losses of \$38 million associated with Ashland's terminated interest rate swaps, deferred translation gains of \$37 million and \$9 million in common shares issued under stock incentive and other plans, partially offset by \$150 million in common stock repurchased, regular cash dividends of \$88 million and adjustments to pension and postretirement obligations of \$5 million.

Stock repurchase program

During 2013, the Board of Directors of Ashland authorized a \$600 million common stock repurchase program. This new authorization replaced Ashland's previous \$400 million share repurchase authorization. Under the new program, Ashland's common shares may be repurchased in open market transactions, privately negotiated transactions or pursuant to one or more accelerated stock repurchase programs or Rule 10b5-1 plans. This new repurchase program will expire on December 31, 2014.

As part of the \$600 million common stock repurchase program, Ashland announced and completed the ASR Agreement with Citibank during 2013. Under the ASR Agreement, Ashland paid an initial purchase price of \$150 million to Citibank and received an initial delivery of approximately 1.3 million shares of its common stock. The ASR Agreement had a variable maturity, at Citibank's option, with a maximum pricing period termination date of August 21, 2013. In June 2013, Citibank exercised its early termination option under the ASR Agreement and the pricing period was closed. The settlement price, which represents the weighted average price of Ashland's common stock over the pricing period less a discount, was \$86.32 per share. Based on this settlement price, the final number of shares repurchased by Ashland that were to be delivered by Citibank under the ASR Agreement was 1.7 million shares. Ashland received the additional 0.4 million shares from Citibank in June 2013 to settle the difference between the initial share delivery and the total number of shares repurchased.

In March 2011, the Board of Directors of Ashland approved the \$400 million stock repurchase program previously mentioned. Under the program that began on April 1, 2011, Ashland purchased common shares through a \$200 million 10b5-1 automatic trading plan. Effective May 31, 2011, as a result of the announcement of the pending ISP acquisition, Ashland terminated the 10b5-1 automatic trading program. Ashland still had the ability to make discretionary purchases of Ashland Common Stock on the open market, pursuant to the Board's original \$400 million share repurchase authorization. Purchases under the plan amounted to \$71 million, or 1.2 million shares, during 2011. Ashland did not repurchase any shares during 2012 under this program.

Stockholder dividends

In May 2013, the Board of Directors of Ashland announced a quarterly cash dividend increase to 34 cents per share, \$1.36 per share on an annual basis, to eligible shareholders of record. This amount was paid for quarterly dividends in June and September 2013 and was an increase from the quarterly cash dividend of 22.5 cents per share paid during the first and second quarters of fiscal 2013.

In May 2012, the Board of Directors of Ashland announced a quarterly cash dividend increase to 22.5 cents per share, 90 cents per share on an annual basis, to eligible shareholders of record. This amount was paid for quarterly dividends in June and September 2012 and was an increase from the quarterly cash dividend of 17.5 cents per share paid during the first and second quarters of fiscal 2012.

In May 2011, the Board of Directors of Ashland announced a quarterly cash dividend increase to 17.5 cents per share, 70 cents per share on an annual basis, to eligible shareholders of record. This amount was paid for quarterly dividends in June and September 2011 and was an increase from the quarterly cash dividend of 15 cents per share paid during the first and second quarters of fiscal 2011.

Capital expenditures

Ashland is currently forecasting approximately \$275 million of capital expenditures for 2014, funded primarily from operating cash flows. Capital expenditures were \$314 million for 2013 and averaged \$271 million during the last three years. A summary of capital expenditures by business segment during 2013, 2012 and 2011 follow.

(In millions)	2013	2012	2011
Specialty Ingredients	\$ 145	\$ 125	\$ 74
Water Technologies	50	56	49
Performance Materials	42	54	32
Consumer Markets	41	40	34
Unallocated and other	36	23	12
Total capital expenditures	<u>\$ 314</u>	<u>\$ 298</u>	<u>\$ 201</u>

A summary of the capital employed in Ashland's current operations, which is calculated by adding equity to capital investment, as of the end of the last three years follows.

(In millions)		2013	2012	2011
Capital employed (a)				
Specialty Ingredients	\$	5,884	\$ 6,005	\$ 5,763
Water Technologies		1,577	1,587	1,646
Performance Materials		1,042	1,087	1,205
Consumer Markets		702	688	676

(a) Excludes the assets and liabilities classified within the unallocated and other segment and primarily includes debt and other long-term liabilities such as asbestos and pension. The net liability in this segment was \$4,652 million, \$5,338 million and \$5,155 million as of September 30, 2013, 2012 and 2011, respectively.

Contractual obligations and other commitments

The following table aggregates Ashland's obligations and commitments to make future payments under existing contracts at September 30, 2013. Contractual obligations for which the ultimate settlement of quantities or prices are not fixed and determinable have been excluded.

(In millions)	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Contractual obligations					
Raw material and service contract purchase obligations (a)	\$ 635	\$ 138	\$ 247	\$ 128	\$ 122
Employee benefit obligations (b)	381	62	70	76	173
Operating lease obligations (c)	217	43	72	34	68
Debt (d)	3,423	50	879	700	1,794
Debt interest payments (e)	1,938	164	316	268	1,190
Unrecognized tax benefits (f)	133	—	—	—	133
Total contractual obligations	<u>\$ 6,727</u>	<u>\$ 457</u>	<u>\$ 1,584</u>	<u>\$ 1,206</u>	<u>\$ 3,480</u>
Other commitments					
Letters of credit (g)	\$ 81	\$ 81	\$ —	\$ —	\$ —

(a) Includes raw material and service contracts where minimal committed quantities and prices are fixed.

(b) Includes estimated funding of Ashland's qualified U.S. and non-U.S. pension plans for 2014, as well as projected benefit payments through 2023 under Ashland's unfunded pension and other postretirement benefit plans. Excludes the benefit payments from the pension plan trust funds. See Note M of Notes to Consolidated Financial Statements for additional information.

(c) Includes leases for office buildings, retail outlets, transportation equipment, warehouses and storage facilities and other equipment. For further information, see Note K of Notes to Consolidated Financial Statements.

(d) Capitalized lease obligations are not significant and are included within this caption. For further information, see Note I of Notes to Consolidated Financial Statements.

(e) Includes interest expense on both variable and fixed rate debt assuming no prepayments. Variable interest rates have been assumed to remain constant through the end of the term at rates that existed as of September 30, 2013.

(f) Due to uncertainties in the timing of the effective settlement of tax positions with respect to taxing authorities, Ashland is unable to determine the timing of payments related to noncurrent unrecognized tax benefits, including interest and penalties. Therefore, these amounts were included in the "More than 5 years" column.

(g) Ashland issues various types of letters of credit as part of its normal course of business. For further information, see Note I of Notes to Consolidated Financial Statements.

OFF-BALANCE SHEET ARRANGEMENTS

As part of its normal course of business, Ashland is a party to various financial guarantees and other commitments. These arrangements involve elements of performance and credit risk that are not included in the Consolidated Balance Sheets. The possibility that Ashland would have to make actual cash expenditures in connection with these obligations is largely dependent on the performance of the guaranteed party, or the occurrence of future events that Ashland is unable to predict. Ashland has reserved the approximate fair value of these guarantees in accordance with U.S. GAAP.

NEW ACCOUNTING PRONOUNCEMENTS

For a discussion and analysis of recently issued accounting pronouncements and its impact on Ashland, see Note A of Notes to Consolidated Financial Statements.

CRITICAL ACCOUNTING POLICIES

The preparation of Ashland's Consolidated Financial Statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, sales and expenses, and the disclosures of contingent assets and liabilities. Significant items that are subject to such estimates and assumptions include, but are not limited to, long-lived assets (including goodwill and other intangible assets), employee benefit obligations, income taxes, liabilities and receivables associated with asbestos litigation and environmental remediation. Although management bases its estimates on historical experience and various other assumptions that are believed to be reasonable under the circumstances, actual results could differ significantly from the estimates under different assumptions or conditions. Management has reviewed the estimates affecting these items with the Audit Committee of Ashland's Board of Directors.

Long-lived assets

Tangible assets

The cost of property, plant and equipment is depreciated by the straight-line method over the estimated useful lives of the assets. Buildings are depreciated principally over 25 to 35 years and machinery and equipment principally over 4 to 25 years. Ashland reviews property, plant and equipment asset groups for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. Ashland monitors these changes and events on at least a quarterly basis. Examples of events or changes in circumstances could include, but are not limited to, a prolonged economic downturn, current period operating or cash flow losses combined with a history of losses or a forecast of continuing losses associated with the use of an asset group, or a current expectation that an asset group will be sold or disposed of before the end of its previously estimated useful life. Recoverability is based upon projections of anticipated future undiscounted cash flows associated with the use and eventual disposal of the property, plant and equipment asset groups, as well as specific appraisals in certain instances. Reviews occur at the lowest level for which identifiable cash flows are largely independent of cash flows associated with other property, plant and equipment asset groups. If the future undiscounted cash flows result in a value that is less than the carrying value, then the long-lived asset is considered impaired and a loss is recognized based on the amount by which the carrying amount exceeds the estimated fair value. Various factors that Ashland uses in determining the impact of these assessments include the expected useful lives of long-lived assets and the ability to realize any undiscounted cash flows in excess of the carrying amounts of such asset groups, and are affected primarily by changes in the expected use of the assets, changes in technology or development of alternative assets, changes in economic conditions, changes in operating performance and changes in expected future cash flows. Because judgment is involved in determining the fair value of property, plant and equipment asset groups, there is risk that the carrying value of these assets may require adjustment in future periods.

Total depreciation expense on property, plant and equipment for 2013, 2012 and 2011 was \$309 million, \$313 million and \$225 million, respectively. Depreciation expense for 2013, 2012 and 2011 included \$2 million, \$7 million and \$19 million, respectively, in asset impairment and accelerated depreciation. Capitalized interest for 2013, 2012 and 2011 was \$1 million.

Finite-lived intangible assets

Finite-lived intangible assets principally consist of certain trademarks and trade names, intellectual property, customer relationships and sales contracts. These intangible assets are amortized on a straight-line basis over their estimated useful lives. The cost of trademarks and trade names is amortized principally over 4 to 25 years, intellectual property over 5 to 20 years, customer relationships over 3 to 24 years and other intangibles over 2 to 50 years. Ashland reviews finite-lived intangible assets for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. Ashland monitors these changes and events on at least a quarterly basis.

Amortization expense recognized on finite-lived intangible assets was \$116 million for 2013, \$117 million for 2012 and \$74 million for 2011, and is primarily included in the selling, general and administrative expense caption of the Statements of Consolidated Comprehensive Income.

Goodwill

In accordance with U.S. GAAP, Ashland reviews goodwill and other indefinite-lived intangible assets for impairment either annually or when events and circumstances indicate an impairment may have occurred. This annual assessment is performed as of July 1 and consists of Ashland determining each reporting unit's current fair value compared to its current carrying value. Ashland has determined that its reporting units for allocation of goodwill include the Specialty Ingredients, Water Technologies, Consumer Markets and Performance Materials segments. Within the Performance Materials reportable segment, because further discrete financial information is provided and management regularly reviews this information, this reportable segment is further broken down into the Composites and Adhesives and Elastomers reporting units. Goodwill associated with each of these reporting units as of September 30, 2013 was \$2,231 million for Specialty Ingredients, \$657 million for Water Technologies, \$167 million for Consumer Markets, \$301 million for Composites and Adhesives and \$10 million for Elastomers.

When externally quoted market prices of Ashland's reporting units are not readily available, Ashland makes various estimates and assumptions in determining the estimated fair values of those units through the use of a combination of discounted cash flow models and valuations based on earnings multiples for guideline public companies in each reporting unit's industry peer group. Discounted cash flow models are highly reliant on various assumptions. Significant assumptions Ashland utilized in these models for the current year included: projected business results and future industry direction, long-term growth factors (ranging from 2.5% to 5%) and weighted-average cost of capital (ranging from 10% to 12.5%). Ashland uses assumptions that it deems to be reasonable estimates of likely future events and compares the total fair values of each reporting unit to Ashland's market capitalization, and implied control premium, to determine if the fair values are reasonable compared to external market indicators. Subsequent changes in these key assumptions could affect the results of future goodwill impairment reviews.

In conjunction with the July 1 annual assessment of goodwill, Ashland's valuation techniques did not indicate any impairment. Each reporting unit's fair value was significantly over its carrying values, except for the Specialty Ingredients and Elastomers reporting units, whose calculated fair value exceeded its carrying value by less than 10%. Based on the sensitivity analysis performed on two key assumptions in the discounted cash flow model of the Specialty Ingredients reporting unit, a negative 1% change in the long-term growth factor or a negative 1% change in the weighted-average cost of capital assumption would have resulted in a fair value slightly below the current carrying value. Based on the sensitivity analysis performed on two key assumptions in the discounted cash flow model of the Elastomers reporting unit, a negative 1% change in the long-term growth factor assumption would have resulted in a fair value still above the current carrying value, while a negative 1% change in the weighted-average cost of capital assumption would have resulted in a fair value slightly below the current carrying value.

In calculating the fair value of Specialty Ingredients within the model, Ashland reaffirmed its historical assumptions for the long-term growth factor of 5% and a weighted-average cost of capital of 10%. For Elastomers, Ashland reaffirmed its historical assumptions for the long-term growth factor of 2.5% and a weighted-average cost of capital of 11%. The weighted-average costs of capital of 10% and 11% are considered by Ashland to be conservative based on Ashland's significantly lower overall weighted-average borrowing rate during 2013 of 4.3% as well as the general overall lower interest rate environment that currently exists in the credit markets. Assuming no changes in the key assumptions identified and projected results, Ashland currently anticipates the future fair value of both the Specialty Ingredients and Elastomers reporting units to increase over time; however, future declines in the operating results of either reporting unit could indicate a need to reevaluate the fair value of these businesses under U.S. GAAP requirements and may ultimately result in an impairment to goodwill. Ashland continues to monitor for any potential indicators of impairment.

Ashland compared and assessed the total fair values of the reporting units to Ashland's market capitalization at the annual assessment date, including the implied control premium, to determine if the fair values are reasonable compared to external market indicators. The calculated fair value for each reporting unit summed together exceeded Ashland's market value as of the annual impairment testing date for 2013 by approximately 10%, which Ashland considers reasonable. Because the fair value results for each reporting unit did not indicate a potential impairment existed, Ashland did not recognize any goodwill impairment during 2013, 2012 and 2011. Subsequent to this annual impairment test, no indications of an impairment were identified.

Other indefinite-lived intangible assets

Other indefinite-lived intangible assets include in-process research and development (IPR&D) and certain trademarks and trade names. These assets had a carrying value of \$495 million as of September 30, 2013. Ashland reviews these intangible assets for possible impairment annually or whenever events or changes in circumstances indicate that carrying amounts may not be recoverable. Ashland tests these assets using a "relief-from-royalty" valuation method compared to the carrying value, except for IPR&D assets, which are described within its section. Significant assumptions inherent in the valuation methodologies for these intangibles include, but are not limited to, such estimates as projected business results, growth rates, weighted-average cost of capital, which ranged from 10.2% to 12.2%, and royalty rates (ranging from 0.5% to 6%). In conjunction with the July 1 annual assessment of indefinite-lived intangible assets, Ashland's models did not indicate any impairment, as each indefinite-lived intangible asset's fair value exceeded their carrying values.

Ashland's assessment of an impairment charge on any of these assets classified currently as having indefinite lives, including goodwill, could change in future periods if any or all of the following events were to occur with respect to a particular reporting unit: a significant change in projected business results, a divestiture decision, increase in Ashland's weighted-average cost of capital rates, decrease in growth rates or other assumptions, economic deterioration that is more severe or of a longer duration than anticipated, or another significant economic event. For further information, see Note H of Notes to Consolidated Financial Statements.

IPR&D

Ashland has identified in-process research and development (IPR&D) projects within the acquired ISP business that, as of the date of acquisition, had not been established in the marketplace. These projects consist of various enhancements of existing products or new potential applications for products. Ashland used various valuation models based on discounted probability weighted future cash flows on a project-by-project basis in identifying projects as distinct assets. During 2012, Ashland finalized

its strategic assessment and evaluation of these projects. As of September 30, 2011, Ashland recorded the value of these projects as \$135 million. Since Ashland had not been given the opportunity to fully investigate each IPR&D project before the acquisition was completed, the newly appointed management team completed its assessment of each ongoing IPR&D project from ISP during the fourth quarter of 2012. This resulted in an adjustment to the initially recorded value, reducing the fair value assigned to IPR&D projects to \$86 million, with a corresponding increase to goodwill. Additionally as a part of this assessment, Ashland identified several projects that were abandoned during 2012 due to ongoing research and development activities that occurred subsequent to the acquisition of ISP. Ashland's abandonment of these projects based on post-acquisition events resulted in a \$13 million impairment charge during 2012, classified within the research and development expense caption of the Statement of Consolidated Comprehensive Income. The completion of this strategic assessment resulted in 11 projects identified as distinct assets that totaled \$73 million as of September 30, 2012.

Identified IPR&D acquired in a business combination is capitalized and tested for impairment annually and when events and circumstances indicate an impairment may have occurred. As a result, the remaining projects were assessed throughout 2013, with Ashland decreasing the assets by \$41 million for projects abandoned or impaired during the year. As of September 30, 2013, five IPR&D projects remain as assets for \$32 million. These assets will continue to be subjected to future impairment or amortization as the individual projects continue through the various stages of the feasibility assessment process. The future feasibility of these assets will be evaluated on a quarterly basis by Ashland or when a significant event has been deemed to have occurred. For further information on IPR&D assets, see Note H of Notes to Consolidated Financial Statements.

Employee benefit obligations

Pension plans

Ashland and its subsidiaries sponsor contributory and noncontributory qualified defined benefit pension plans that cover certain employees in the United States and in a number of other countries. In addition, Ashland has non-qualified unfunded pension plans which provide supplemental defined benefits to those employees whose benefits under the qualified pension plans are limited by the Employee Retirement Income Security Act of 1974 and the Internal Revenue Code. Ashland funds the costs of the non-qualified plans as the benefits are paid. Pension obligations for applicable employees of non-U.S. consolidated subsidiaries are provided for in accordance with local practices and regulations of the respective countries. For further information, see Note M of Notes to Consolidated Financial Statements.

Other postretirement benefit plans

Ashland and its subsidiaries sponsor health care and life insurance plans for eligible employees in the U.S. and Canada who retire or are disabled. Ashland's retiree life insurance plans are noncontributory, while Ashland shares the costs of providing health care coverage with its retired employees through premiums, deductibles and coinsurance provisions. Ashland funds its share of the costs of the postretirement benefit plans as the benefits are paid. For further information, see Note M of Notes to Consolidated Financial Statements.

Change in accounting policy regarding pension and other postretirement benefits

During 2011, Ashland elected to change its method of recognizing actuarial gains and losses for its defined benefit pension plans and other postretirement benefit plans. Previously, Ashland recognized the actuarial gains and losses as a component of stockholders' equity within the Consolidated Balance Sheet on an annual basis and amortized the gains and losses into operating results over the average future service period of active employees within the related plans. Ashland elected to immediately recognize the change in the fair value of plan assets and net actuarial gains and losses annually in the fourth quarter of each fiscal year and whenever a plan is determined to qualify for a remeasurement during a fiscal year. The remaining components of pension and other postretirement benefits expense are recorded on a quarterly basis. While Ashland's historical policy of recognizing pension and other postretirement benefit expense is considered acceptable under U.S. GAAP, Ashland believes that the new policy is preferable as it eliminates the delay in recognizing gains and losses within operating results. This change also improved transparency within Ashland's operating results by immediately recognizing the effects of economic and interest rate trends on plan investments and assumptions in the year these gains and losses are actually incurred. This change in accounting policy has been applied retrospectively, adjusting all periods prior to 2011.

The following table discloses the components of the actuarial gain or loss on pension and other postretirement plan remeasurements for each of the last three years.

(In millions)	2013	2012	2011
Actuarial (gain) loss on pension and other postretirement plan remeasurement:			
Change in discount rate and other actuarial assumptions (a)	\$ (575)	\$ 624	\$ 178
Actual return on plan assets (a)	(161)	(357)	(121)
Expected return on plan assets (a)	238	226	226
Total actuarial (gain) loss on pension and other postretirement plan remeasurement	(498)	493	283
Less: Actuarial gain recognized in discontinued operations	—	—	(35)
Total actuarial (gain) loss on pension and other postretirement plan remeasurement from continuing operations	<u>\$ (498)</u>	<u>\$ 493</u>	<u>\$ 318</u>

(a) For additional information on key assumptions and actual plan asset performance in each year, see the “Actuarial assumptions” discussion within this section.

Change in expense allocation for pension and other postretirement benefit plans

In connection with this change in accounting policy for pension and other postretirement benefits, Ashland also elected to change its method of accounting for certain costs included in inventory. Ashland elected to exclude the amount of its pension and other postretirement benefit costs applicable to inactive participants from inventoriable costs and charge them directly to cost of sales. While Ashland’s historical policy of including all pension and other postretirement benefit costs as a component of inventoriable costs was acceptable, Ashland believes that the new policy is preferable, as inventoriable costs only include costs that are directly attributable to current employees. Applying this change in 2011 retrospectively, in connection with the change in accounting for pension and other postretirement benefit costs, did not have a significant impact on previously reported inventory, cost of sales or segment reported results in any of the prior period financial statements.

In addition, as a further attempt to properly match actual operational expenses each business segment is incurring, Ashland changed its expense allocation for pension and other postretirement benefit plans during 2011. Previously, Ashland allocated all components of pension and other postretirement benefit plan expenses to each business segment on a ratable basis. Ashland now allocates only the service cost component of these plans to the business segment that incurred this expense. All other pension and other postretirement benefit plan expense components are recorded within the Unallocated and other reporting segment. Ashland believes the revised expense allocation more appropriately matches the cost incurred for active employees to the respective business segment.

Actuarial assumptions

Ashland’s pension and other postretirement obligations and annual expense calculations are based on a number of key assumptions including the discount rate at which obligations can be effectively settled, the anticipated rate of compensation increase, the expected long-term rate of return on plan assets and certain employee-related factors, such as turnover, retirement age and mortality. Because Ashland’s retiree health care plans contain various caps that limit Ashland’s contributions and because medical inflation is expected to continue at a rate in excess of these caps, the health care cost trend rate has no material impact on Ashland’s postretirement health care benefit costs.

Ashland developed the discount rate used to determine the present value of its obligations under the U.S. pension and postretirement health and life plans by matching the stream of benefit payments from the plans to spot rates determined from an actuarial-developed yield curve based on high-quality corporate bonds. During 2013, Ashland elected to use the above mean yield curve, a change from the yield curve used in prior years. Ashland uses this approach to reflect the specific cash flows of these plans for determining the discount rate. The discount rates determined as of September 30, 2013 ranged from 4.37% - 4.93% for the U.S. pension plans and 3.89% - 4.75% for the postretirement health and life plans. Under the prior yield curve, the September 30, 2013 discount rates would have ranged from 4.04% - 4.60% for the U.S. pension plans and 3.57% - 4.43% for the postretirement health and life plans. Non-U.S. pension plans followed a similar process based on financial markets in those countries where Ashland provides a defined benefit pension plan.

Ashland’s expense under both U.S. and non-U.S. pension plans is determined using the discount rate as of the beginning of the fiscal year, which amounted to a weighted-average rate of 3.70% for 2013, 4.76% for 2012 and 5.01% for 2011. The rates used for the postretirement health and life plans were 3.23% for 2013, 4.39% for 2012 and 4.68% for 2011. The 2014 expense for the pension plans will be based on a weighted-average discount rate of 4.68%, while 4.28% will be used for the postretirement health and life plans.

The weighted-average rate of compensation increase assumptions were 3.66% for 2013, 3.69% for 2012 and 3.66% for 2011. The compensation increase assumptions for the U.S. plans were 3.75% for 2013, 2012 and 2011. The rate of the compensation increase assumption for the U.S. plans will remain at 3.75% in determining Ashland's pension costs for 2014.

The weighted-average long-term expected rate of return on assets was assumed to be 7.26% for 2013, 7.67% for 2012 and 7.68% for 2011. The long-term expected rate of return on assets for the U.S. plans was assumed to be 8.00% for 2013 and 8.25% for 2012 and 2011. For 2013, the pension plan assets generated an actual weighted-average return of 5.15%, compared to 12.44% in 2012 and 4.31% in 2011. For 2013, the U.S. pension plan assets generated an actual return of 5.24%, compared to 12.15% in 2012 and 4.73% in 2011. The long-term expected rate of return on assets for the U.S. plans will be 8.00% for 2014. However, the expected return on plan assets is designed to be a long-term assumption, and actual returns will be subject to considerable year-to-year variances. Ashland estimates total fiscal 2014 pension expense for U.S. and non-U.S. pension plans to be approximately \$1 million, which excludes the impact of actuarial gains or losses.

The following table discloses the estimated increases in pension and postretirement expense that would have resulted from a one percentage point change in each of the assumptions for each of the last three years.

(In millions)	2013	2012	2011
Increase in pension costs from			
Decrease in the discount rate	\$ 557	\$ 707	\$ 498
Increase in the salary adjustment rate	44	54	50
Increase in other postretirement costs from			
Decrease in the discount rate	20	26	27

U.S. pension legislation and future funding requirements

In July 2012, the Moving Ahead for Progress in the 21st Century Act (MAP-21) was enacted in the U.S. and, in part, provides temporary relief for employers who sponsor defined benefit pension plans related to funding contributions under the Employee Retirement Income Security Act of 1974. Specifically, MAP-21 allows for the use of a 25-year average interest rate within an upper and lower range for purposes of determining minimum funding obligations instead of an average interest rate for the two most recent years, as was previously required. This relief will impact Ashland's future required funding contributions to its U.S. qualified pension plans. Reflecting the impact of this law, Ashland expects to contribute approximately \$20 million to its U.S. pension plans and approximately \$25 million to its non-U.S. pension plans during 2014.

Income taxes

Ashland is subject to income taxes in the United States and numerous foreign jurisdictions. Significant judgment in the forecasting of taxable income using historical and projected future operating results is required in determining Ashland's provision for income taxes and the related assets and liabilities. The provision for income taxes includes income taxes paid, currently payable or receivable, and deferred taxes. Under U.S. GAAP, deferred tax assets and liabilities are determined based on differences between financial reporting and tax basis of assets and liabilities, and are measured using enacted tax rates and laws that are expected to be in effect when the differences reverse. Deferred tax assets are also recognized for the estimated future effects of tax loss carryforwards. The effect on deferred taxes of changes in tax rates is recognized in the period in which the enactment date occurs. Valuation allowances are established when necessary on a jurisdictional basis to reduce deferred tax assets to the amounts expected to be realized. With the exception of certain investments in which Ashland has an ownership percentage of 50% or less, Ashland asserted in the quarter ended June 30, 2013 that all other foreign earnings would be prospectively indefinitely reinvested. Ashland has previously accrued U.S. tax for certain historical earnings where the permanent reinvestment assertion was not made and will continue to monitor the assertion related to future earnings based upon cash requirements within and outside the U.S. In the event that the actual outcome of future tax consequences differs from Ashland's estimates and assumptions due to changes or future events such as tax legislation, geographic mix of earnings, completion of tax audits or earnings repatriation plans, the resulting change to the provision for income taxes could have a material effect on the Statement of Consolidated Comprehensive Income and Consolidated Balance Sheet.

The recoverability of deferred tax assets and the recognition and measurement of uncertain tax positions are subject to various assumptions and judgment by Ashland. If actual results differ from the estimates made by Ashland in establishing or maintaining valuation allowances against deferred tax assets, the resulting change in the valuation allowance would generally impact earnings or other comprehensive income depending on the nature of the respective deferred tax asset. Additionally, the positions taken with regard to tax contingencies may be subject to audit and review by tax authorities, which may result in future taxes, interest and penalties. Positive and negative evidence is considered in determining the need for a valuation allowance against deferred

tax assets, which includes such evidence as historical earnings, projected future earnings, tax planning strategies and expected timing of reversal of existing temporary differences.

In determining the recoverability of deferred tax assets Ashland gives consideration to all available positive and negative evidence including reversals of deferred tax liabilities (other than those with an indefinite reversal period), projected future taxable income, tax planning strategies and recent financial operations. Ashland attaches the most weight to historical earnings due to their verifiable nature. In evaluating the objective evidence that historical results provide, we consider three years of cumulative income or loss. In addition, Ashland has reflected increases and decreases in our valuation allowance based on the overall weight of positive versus negative evidence on a jurisdiction by jurisdiction basis.

As a result of the ISP and Hercules acquisitions during 2011 and 2009, respectively, significant historical tax positions and structures related to ISP and Hercules continue to be combined within Ashland. Some of these previous tax positions and structures from ISP and Hercules required a complete reassessment regarding certain of Ashland's pre-acquisition tax positions and structures. As such, material changes in certain tax matters may occur in the future based on deviations from Ashland's current estimates and assumptions in combining these tax positions and structures. For additional information, see Note L of Notes to Consolidated Financial Statements.

Asbestos litigation

Ashland and Hercules, a wholly-owned subsidiary of Ashland that was acquired in 2009, have liabilities from claims alleging personal injury caused by exposure to asbestos. To assist in developing and annually updating independent reserve estimates for future asbestos claims and related costs given various assumptions, Ashland retained Hamilton, Rabinovitz & Associates, Inc. (HR&A). The methodology used by HR&A to project future asbestos costs is based largely on recent experience, including claim-filing and settlement rates, disease mix, enacted legislation, open claims and litigation defense. The claim experience of Ashland and Hercules are separately compared to the results of previously conducted third party epidemiological studies estimating the number of people likely to develop asbestos-related diseases. Those studies were undertaken in connection with national analyses of the population expected to have been exposed to asbestos. Using that information, HR&A estimates a range of the number of future claims that may be filed, as well as the related costs that may be incurred in resolving those claims. Changes in asbestos-related liabilities and receivables are recorded on an after-tax basis within the discontinued operations caption in the Statements of Consolidated Comprehensive Income. See Note N of Notes to Consolidated Financial Statements for additional information.

Ashland asbestos-related litigation

The claims alleging personal injury caused by exposure to asbestos asserted against Ashland result primarily from indemnification obligations undertaken in 1990 in connection with the sale of Riley Stoker Corporation (Riley), a former subsidiary. The amount and timing of settlements and number of open claims can fluctuate significantly from period to period.

Ashland asbestos-related liability

From the range of estimates, Ashland records the amount it believes to be the best estimate of future payments for litigation defense and claim settlement costs, which generally approximates the mid-point of the estimated range of exposure from model results. Ashland reviews this estimate and related assumptions quarterly and annually updates the results of a non-inflated, non-discounted approximate 50-year model developed with the assistance of HR&A.

During the most recent update, completed during 2013, it was determined that the liability for Ashland asbestos claims should be decreased by \$28 million. Total reserves for asbestos claims were \$463 million at September 30, 2013 compared to \$522 million at September 30, 2012.

Ashland asbestos-related receivables

Ashland has insurance coverage for most of the litigation defense and claim settlement costs incurred in connection with its asbestos claims, and coverage-in-place agreements exist with the insurance companies that provide most of the coverage currently being accessed. As a result, any increases in the asbestos reserve have been largely offset by probable insurance recoveries. The amounts not recoverable generally are due from insurers that are insolvent, rather than as a result of uninsured claims or the exhaustion of Ashland's insurance coverage.

For the Ashland asbestos-related obligations, Ashland has estimated the value of probable insurance recoveries associated with its asbestos reserve based on management's interpretations and estimates surrounding the available or applicable insurance coverage, including an assumption that all solvent insurance carriers remain solvent. Approximately 65% of the estimated receivables from insurance companies are expected to be due from domestic insurers, all of which have a credit rating of B+ or higher by A. M. Best, as of September 30, 2013. The remainder of the insurance receivable is due from London insurance companies, which generally have lower credit quality ratings, and from Underwriters at Lloyd's, whose insurance policy obligations have been transferred to a subsidiary of Berkshire Hathaway. Ashland discounts this portion of the receivable based upon the projected timing of the receipt of cash from those insurers unless likely settlement amounts can be determined.

During 2012, Ashland received \$7 million in cash after reaching a settlement with certain insolvent London market insurance companies. The cash received from this settlement during the current period was recognized as an after-tax gain of \$6 million within discontinued operations of the Statement of Consolidated Comprehensive Income since Ashland's policy is to not record asbestos receivables for any carriers that are insolvent until cash is received.

In October 2012, Ashland initiated arbitration proceedings against Underwriters at Lloyd's and certain Chartis (AIG member) companies seeking to enforce these insurers' contractual obligations to provide indemnity for asbestos liabilities and defense costs under existing coverage-in-place agreements. In addition, Ashland has initiated a lawsuit in Kentucky state court against certain Berkshire Hathaway entities (National Indemnity Company and Resolute Management Inc.) on grounds that these Berkshire entities have wrongfully interfered with Underwriters' and Chartis' performance of their respective contractual obligations to provide asbestos coverage by directing the insurers to reduce and delay certain claim payments. While Ashland anticipates its position will be supported by the proceedings, an adverse resolution of these proceedings could have a significant effect on the timing of loss reimbursement and the amount of Ashland's recorded insurance receivables from these insurers.

At September 30, 2013, Ashland's receivable for recoveries of litigation defense and claim settlement costs from insurers amounted to \$408 million (excluding the Hercules receivable for asbestos claims), of which \$88 million relates to costs previously paid. Receivables from insurers amounted to \$423 million at September 30, 2012. During 2013, the model used for purposes of valuing the asbestos reserve described above, and its impact on valuation of future recoveries from insurers, was updated. This model update resulted in a \$3 million decrease in the receivable for probable insurance recoveries.

Hercules asbestos-related litigation

Hercules, a wholly-owned subsidiary of Ashland acquired during 2009, has liabilities from claims alleging personal injury caused by exposure to asbestos. Such claims typically arise from alleged exposure to asbestos fibers from resin encapsulated pipe and tank products which were sold by one of Hercules' former subsidiaries to a limited industrial market. The amount and timing of settlements and number of open claims can fluctuate significantly from period to period.

Hercules asbestos-related liability

From the range of estimates, Ashland records the amount it believes to be the best estimate of future payments for litigation defense and claim settlement costs, which generally approximates the mid-point of the estimated range of exposure from model results. Ashland reviews this estimate and related assumptions quarterly and annually updates the results of a non-inflated, non-discounted approximate 50-year model developed with the assistance of HR&A. During the most recent annual update of this estimate, completed during 2013, it was determined that the liability for Hercules asbestos-related claims should be increased by \$46 million. Total reserves for asbestos claims were \$342 million at September 30, 2013 compared to \$320 million at September 30, 2012.

Hercules asbestos-related receivables

For the Hercules asbestos-related obligations, certain coverage-in-place agreements with insurance carriers exist. As a result, any increases in the asbestos reserve have been partially offset by probable insurance recoveries. Ashland has estimated the value of probable insurance recoveries associated with its asbestos reserve based on management's interpretations and estimates surrounding the available or applicable insurance coverage, including an assumption that all solvent insurance carriers remain solvent. As of September 30, 2013, this estimated receivable consists exclusively of domestic insurers, all of which have a credit rating of B+ or higher by A. M. Best.

As of September 30, 2013 and 2012, the receivables from insurers amounted to \$75 million and \$56 million, respectively. During 2013, the model used for purposes of valuing the asbestos reserve and its impact on valuation of future recoveries from insurers was updated. This model update caused a \$19 million increase in the receivable for probable insurance recoveries.

Asbestos litigation cost projection

Projecting future asbestos costs is subject to numerous variables that are extremely difficult to predict. In addition to the significant uncertainties surrounding the number of claims that might be received, other variables include the type and severity of the disease alleged by each claimant, the long latency period associated with asbestos exposure, dismissal rates, costs of medical treatment, the impact of bankruptcies of other companies that are co-defendants in claims, uncertainties surrounding the litigation process from jurisdiction to jurisdiction and from case to case, and the impact of potential changes in legislative or judicial standards. Furthermore, any predictions with respect to these variables are subject to even greater uncertainty as the projection period lengthens. In light of these inherent uncertainties, Ashland believes that the asbestos reserves for Ashland and Hercules represent the best estimate within a range of possible outcomes. As a part of the process to develop these estimates of future asbestos costs, a range of long-term cost models was developed. These models are based on national studies that predict the number of people likely to develop asbestos-related diseases and are heavily influenced by assumptions regarding long-term inflation rates for indemnity payments and legal defense costs, as well as other variables mentioned previously. Ashland has

currently estimated in various models ranging from approximately 40 to 50 year periods that it is reasonably possible that total future litigation defense and claim settlement costs on an inflated and undiscounted basis could range as high as approximately \$740 million for the Ashland asbestos-related litigation and approximately \$640 million for the Hercules asbestos-related litigation (or approximately \$1.4 billion in the aggregate), depending on the combination of assumptions selected in the various models. If actual experience is worse than projected relative to the number of claims filed, the severity of alleged disease associated with those claims or costs incurred to resolve those claims, Ashland may need to increase further the estimates of the costs associated with asbestos claims and these increases could potentially be material over time.

Environmental remediation and asset retirement obligations

Ashland is subject to various federal, state and local environmental laws and regulations that require environmental assessment or remediation efforts (collectively environmental remediation) at multiple locations. At September 30, 2013, such locations included 79 waste treatment or disposal sites where Ashland has been identified as a potentially responsible party under Superfund or similar state laws, 147 current and former operating facilities (including certain operating facilities conveyed to MAP) and about 1,225 service station properties, of which 85 are being actively remediated.

Ashland's reserves for environmental remediation amounted to \$211 million at September 30, 2013 compared to \$228 million at September 30, 2012, of which \$171 million at September 30, 2013 and \$187 million at September 30, 2012 were classified in other noncurrent liabilities on the Consolidated Balance Sheets.

The total reserves for environmental remediation reflect Ashland's estimates of the most likely costs that will be incurred over an extended period to remediate identified conditions for which the costs are reasonably estimable, without regard to any third-party recoveries. Engineering, technical and feasibility studies are used, along with historical experience and other factors, to identify and evaluate remediation alternatives and their related costs in determining the estimated reserves for environmental remediation. Ashland continues to discount certain environmental sites and regularly adjusts its reserves as environmental remediation continues. Ashland has estimated the value of its probable insurance recoveries associated with its environmental reserve based on management's interpretations and estimates surrounding the available or applicable insurance coverage. At September 30, 2013 and 2012, Ashland's recorded receivable for these probable insurance recoveries was \$26 million.

Environmental remediation reserves are subject to numerous inherent uncertainties that affect Ashland's ability to estimate its share of the costs. Such uncertainties involve the nature and extent of contamination at each site, the extent of required cleanup efforts under existing environmental regulations, widely varying costs of alternate cleanup methods, changes in environmental regulations, the potential effect of continuing improvements in remediation technology, and the number and financial strength of other potentially responsible parties at multiparty sites. Although it is not possible to predict with certainty the ultimate costs of environmental remediation, Ashland currently estimates that the upper end of the reasonably possible range of future costs for identified sites could be as high as approximately \$420 million. No individual remediation location is material, as the largest reserve for any site is approximately 12% or less of the remediation reserve.

OUTLOOK

For the first quarter of 2014, Ashland expects volumes to be flat as compared to the prior year's quarter and consistent with normal seasonality. Regionally, Ashland's expectations are mixed, as business results were the strongest within North America and Asia during 2013. Ashland expects growth in North America to remain slow but stable to start the fiscal year. Each business in Asia experienced fourth quarter year-over year volume gains, and Ashland expects continued volume growth in Asia in 2014. The business performance in Europe was weak during 2013, and Ashland continues to be cautious within this uncertain market. The results in Latin America have been, and are expected to continue to be, inconsistent during the next fiscal year.

During November 2013, Ashland announced several strategic actions. First, Ashland completed its strategic alternative review of Water Technologies with the Board of Directors and announced that a formal sale process is currently ongoing for this business. Ashland expects to announce during the first quarter of calendar 2014 that it has entered into separate agreements to sell both Water Technologies and the Elastomers business within Performance Materials. Ashland currently anticipates the primary use of net proceeds from these two asset sales to be a return of capital to shareholders in the form of share repurchases. Second, to align the cost structure to an expected slower growth environment, as well as to continue to enhance Ashland's competitive position and maximize operational efficiencies, the company announced a global restructuring program that is expected to reduce costs by \$150 million to \$200 million once fully implemented during the next 12 to 15 months. Lastly, with respect to Ashland's overall corporate strategy, management and the Board of Directors will continue to review the company's portfolio of businesses in order to best position the company for value creation. The collective intent of these strategic actions is to position Ashland for sustainable sales and earnings growth, with EBITDA margins that rank among the top quartile of specialty chemical companies.

EFFECTS OF INFLATION AND CHANGING PRICES

Ashland's financial statements are prepared on the historical cost method of accounting in accordance with U.S. GAAP and, as a result, do not reflect changes in the purchasing power of the U.S. dollar. Monetary assets (such as cash, cash equivalents and accounts receivable) lose purchasing power as a result of inflation, while monetary liabilities (such as accounts payable and indebtedness) result in a gain, because they can be settled with dollars of diminished purchasing power. As of September 30, 2013, Ashland's monetary assets exceed its monetary liabilities, leaving it currently more exposed to the effects of future inflation. However, given the recent consistent stability of inflation in the United States in the past several years as well as forward economic outlooks, current inflationary pressures seem moderate.

Certain of the industries in which Ashland operates are capital-intensive, and replacement costs for its plant and equipment generally would substantially exceed their historical costs. Accordingly, depreciation and amortization expense would be greater if it were based on current replacement costs. However, because replacement facilities would reflect technological improvements and changes in business strategies, such facilities would be expected to be more productive than existing facilities, mitigating at least part of the increased expense.

Ashland uses the LIFO method to value a portion of its inventories to provide a better matching of revenues with current costs. However, LIFO values such inventories below their replacement costs during inflationary periods.

FORWARD-LOOKING STATEMENTS

This annual report on Form 10-K contains forward-looking statements including, without limitation, statements made under the caption "Management's Discussion and Analysis of Financial Condition and Results of Operation" (MD&A), within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Ashland has identified some of these forward-looking statements with words such as "anticipates," "believes," "expects," "estimates," "is likely," "predicts," "projects," "forecasts," "may," "will," "should" and "intends" and the negative of these words or other comparable terminology. In addition, Ashland may from time to time make forward-looking statements in its Annual Report to Shareholders, quarterly reports and other filings with the Securities and Exchange Commission, news releases and other written and oral communications. These forward-looking statements are based on Ashland's expectations and assumptions, as of the date such statements are made, regarding Ashland's future operating performance and financial condition, the economy and other future events or circumstances. Ashland's expectations and assumptions include, without limitation, those mentioned within the MD&A, internal forecasts and analyses of current and future market conditions and trends, management plans and strategies, operating efficiencies and economic conditions (such as prices, supply and demand, cost of raw materials, and the ability to recover raw material cost increases through price increases), and risks and uncertainties associated with the following: Ashland's substantial indebtedness (including the possibility that such indebtedness and related restrictive covenants may adversely affect Ashland's future cash flows, results of operations, financial condition and its ability to repay debt), the potential sale transactions involving Ashland Water Technologies and the Elastomers business (including the possibility that one or both transactions may not occur or that, if a transaction does occur, Ashland may not realize the anticipated benefits from such transaction), Ashland's ability to generate sufficient cash to finance its stock repurchase plans, severe weather, natural disasters, and legal proceedings and claims (including environmental and asbestos matters). Various risks and uncertainties may cause actual results to differ materially from those stated, projected or implied by any forward-looking statements, including, without limitation, risks and uncertainties affecting Ashland that are contained in "Use of estimates, risks and uncertainties" in Note A of Notes to Consolidated Financial Statements and in Item 1A of this annual report on Form 10-K. Ashland believes its expectations and assumptions are reasonable, but there can be no assurance that the expectations reflected herein will be achieved. Ashland undertakes no obligation to subsequently update any forward-looking statements made in this annual report on Form 10-K or otherwise except as required by securities or other applicable law.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Ashland regularly uses foreign currency derivative instruments to manage its exposure to certain transactions denominated in foreign currencies. All derivative instruments are recognized as either assets or liabilities in the Consolidated Balance Sheets and are measured at fair value. Changes in the fair value of all derivatives are recognized immediately in income unless the derivative qualifies as a hedge of future cash flows. Gains and losses related to a hedge are either recognized in income immediately to offset the gain or loss on the hedged item, or deferred and recorded in the stockholders' equity section of the Consolidated Balance Sheets as a component of accumulated other comprehensive income and subsequently recognized in the Statements of Consolidated Comprehensive Income when the hedged item affects net income. The ineffective portion of the change in fair value of a hedge is recognized in income immediately. Credit risks arise from the possible inability of counterparties to meet the terms of their contracts, but exposure is limited to the replacement value of the contracts. Ashland further minimizes this credit risk through internal monitoring procedures and as of September 30, 2013 does not have significant credit risk on open derivative

contracts. The potential loss from a hypothetical 10% adverse change in foreign currency rates on Ashland's open foreign currency derivative instruments at September 30, 2013 would be a \$22 million impact on Ashland's consolidated financial position, results of operations, cash flows or liquidity. Ashland did not transact or have open any hedging contracts with respect to commodities or any related raw material requirements for the year ended September 30, 2013.

During 2011, Ashland entered into interest rate swap agreements in order to manage the variable interest rate risk associated with term loans A and B that were borrowed in conjunction with the ISP acquisition. As of September 30, 2012, the notional values of the interest rate swaps associated with term loan A and term loan B equaled \$1.4 billion and \$650 million, respectively. These instruments qualified for hedge accounting treatment and were designated as cash flow hedges whereby Ashland recorded these hedges at fair value, with the effective portion of the gain or loss reported as a component of accumulated other comprehensive income (AOCI) and subsequently recognized in the Statements of Consolidated Comprehensive Income when the hedged item affected net income.

The fair value of Ashland's interest rate swap assets and liabilities were calculated using standard pricing models. These models utilized inputs derived from observable market data such as interest rate spot rates and forward rates, and were deemed to be Level 2 measurements within the fair value hierarchy. Counterparties to these interest rate swap agreements were highly rated financial institutions which Ashland believed carry only a minimal risk of nonperformance.

Ashland terminated the interest rate swap agreements in conjunction with the repayment of term loans A and B during 2013, resulting in a charge of \$52 million included in the net interest and other financing expense caption of the Statement of Consolidated Comprehensive Income for 2013. See Note G of Notes to Consolidated Financial Statements for additional information regarding derivative instruments. As of September 30, 2013, Ashland does not have any instrument that qualified for hedge accounting treatment.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS AND FINANCIAL SCHEDULE

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders
of Ashland Inc.

In our opinion, the consolidated financial statements listed in the accompanying index present fairly, in all material respects, the financial position of Ashland Inc. and its subsidiaries at September 30, 2013 and September 30, 2012, and the results of their operations and their cash flows for each of the three years in the period ended September 30, 2013 in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule listed in the accompanying index presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. Also in our opinion, the Company did not maintain, in all material respects, effective internal control over financial reporting as of September 30, 2013, based on criteria established in *Internal Control - Integrated Framework (1992)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) because a material weakness in internal control over financial reporting related to the inappropriate application of lower-of-cost-or-market accounting for Elastomers inventory existed as of that date. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the annual or interim financial statements will not be prevented or detected on a timely basis. The material weakness referred to above is described in Management's Report on Internal Control over Financial Reporting appearing under Item 9A. We considered this material weakness in determining the nature, timing, and extent of audit tests applied in our audit of the 2013 consolidated financial statements and our opinion regarding the effectiveness of the Company's internal control over financial reporting does not affect our opinion on those consolidated financial statements. The Company's management is responsible for these financial statements and financial statement schedule, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in management's report referred to above. Our responsibility is to express opinions on these financial statements, on the financial statement schedule, and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP
Cincinnati, Ohio
November 27, 2013

Ashland Inc. and Consolidated Subsidiaries
Statements of Consolidated Comprehensive Income
Years Ended September 30

(In millions except per share data)	2013	2012	2011
Sales	\$ 7,813	\$ 8,206	\$ 6,502
Cost of sales	5,419	6,025	4,890
Gross profit	2,394	2,181	1,612
Selling, general and administrative expense	1,044	1,800	1,451
Research and development expense	178	137	80
Equity and other income - Notes A and E	69	58	49
Operating income	1,241	302	130
Net interest and other financing expense - Note I	282	317	121
Net (loss) gain on acquisitions and divestitures - Notes B and C	(8)	1	(5)
Other expense	—	—	1
Income (loss) from continuing operations before income taxes	951	(14)	3
Income tax expense (benefit) - Note L	274	(52)	(53)
Income from continuing operations	677	38	56
Income (loss) from discontinued operations (net of income taxes) - Note D	6	(12)	358
Net income	<u>\$ 683</u>	<u>\$ 26</u>	<u>\$ 414</u>

PER SHARE DATA - NOTE A

Basic earnings per share

Income from continuing operations	\$ 8.64	\$ 0.49	\$ 0.72
Income (loss) from discontinued operations	0.07	(0.16)	4.56
Net income	<u>\$ 8.71</u>	<u>\$ 0.33</u>	<u>\$ 5.28</u>

Diluted earnings per share

Income from continuing operations	\$ 8.50	\$ 0.48	\$ 0.70
Income (loss) from discontinued operations	0.07	(0.15)	4.47
Net income	<u>\$ 8.57</u>	<u>\$ 0.33</u>	<u>\$ 5.17</u>

COMPREHENSIVE INCOME (LOSS)

Net income	\$ 683	\$ 26	\$ 414
Other comprehensive income (loss), net of tax			
Unrealized translation gain (loss)	37	(87)	(18)
Pension and postretirement obligation adjustment	(5)	24	33
Net change in interest rate hedges	38	(26)	(12)
Other comprehensive (loss) income	70	(89)	3
Comprehensive income (loss)	<u>\$ 753</u>	<u>\$ (63)</u>	<u>\$ 417</u>

See Notes to Consolidated Financial Statements.

Ashland Inc. and Consolidated Subsidiaries
Consolidated Balance Sheets
At September 30

(In millions)	2013	2012
<u>Assets</u>		
Current assets		
Cash and cash equivalents	\$ 346	\$ 523
Accounts receivable (less allowance for doubtful accounts of \$17 million in 2013 and \$24 million in 2012)	1,471	1,481
Inventories - Note A	899	1,008
Deferred income taxes - Note L	107	116
Other assets	50	81
Total current assets	2,873	3,209
Noncurrent assets		
Property, plant and equipment - Note A		
Cost	4,765	4,478
Accumulated depreciation and amortization	1,923	1,646
Net property, plant and equipment	2,842	2,832
Goodwill - Note H	3,366	3,342
Intangibles - Note H	1,791	1,936
Asbestos insurance receivable (noncurrent portion) - Note N	437	449
Equity and other unconsolidated investments	218	217
Other assets - Note J	561	539
Total noncurrent assets	9,215	9,315
Total assets	\$ 12,088	\$ 12,524
<u>Liabilities and Stockholders' Equity</u>		
Current liabilities		
Short-term debt - Note I	\$ 308	\$ 344
Current portion of long-term debt - Note I	12	115
Trade and other payables	885	877
Accrued expenses and other liabilities	522	577
Total current liabilities	1,727	1,913
Noncurrent liabilities		
Long-term debt (noncurrent portion) - Note I	2,947	3,131
Employee benefit obligations - Note M	1,174	1,839
Asbestos litigation reserve (noncurrent portion) - Note N	735	771
Deferred income taxes - Note L	401	208
Other liabilities - Note J	551	633
Total noncurrent liabilities	5,808	6,582
Stockholders' equity - Notes O and P		
Common stock, par value \$.01 per share, 200 million shares authorized		
Issued 77 million shares in 2013 and 79 million shares in 2012	1	1
Paid-in capital	506	647
Retained earnings	3,758	3,163
Accumulated other comprehensive income	288	218
Total stockholders' equity	4,553	4,029
Total liabilities and stockholders' equity	\$ 12,088	\$ 12,524

See Notes to Consolidated Financial Statements.

Ashland Inc. and Consolidated Subsidiaries
Statements of Consolidated Stockholders' Equity

(In millions)	Common stock	Paid-in capital	Retained earnings	Accumulated other comprehensive income (loss) (a)	Total
Balance at September 30, 2010	\$ 1	\$ 665	\$ 2,837	\$ 304	\$ 3,807
Total comprehensive income			414	3	417
Regular dividends, \$.65 per common share			(51)		(51)
Common shares issued under stock incentive and other plans (b) (c)		33			33
Repurchase of common shares (d)		(71)			(71)
Balance at September 30, 2011	<u>1</u>	<u>627</u>	<u>3,200</u>	<u>307</u>	<u>4,135</u>
Total comprehensive income (loss)			26	(89)	(63)
Regular dividends, \$.80 per common share			(63)		(63)
Common shares issued under stock incentive and other plans (b) (c)		20			20
Balance at September 30, 2012	<u>1</u>	<u>647</u>	<u>3,163</u>	<u>218</u>	<u>4,029</u>
Total comprehensive income			683	70	753
Regular dividends, \$1.13 per common share			(88)		(88)
Common shares issued under stock incentive and other plans (b) (c)		9			9
Repurchase of common shares (d)		(150)			(150)
Balance at September 30, 2013	<u>\$ 1</u>	<u>\$ 506</u>	<u>\$ 3,758</u>	<u>\$ 288</u>	<u>\$ 4,553</u>

- (a) At September 30, 2013 and 2012, the accumulated other comprehensive income of \$288 million for 2013 and \$218 million for 2012 was comprised of unrecognized prior service credits as a result of certain plan amendments of \$80 million for 2013 and \$85 million for 2012, net unrealized translation gains of \$208 million for 2013 and \$171 million for 2012, and net unrealized losses on interest rate hedges of \$38 million for 2012.
- (b) Includes income tax benefits resulting from the exercise of stock options of \$1 million in 2013, \$16 million in 2012 and \$9 million in 2011.
- (c) Common shares issued were 415,351, 729,484 and 484,161 for 2013, 2012 and 2011, respectively.
- (d) Common shares repurchased were 1,737,744 and 1,207,406 for 2013 and 2011, respectively. No shares were repurchased in 2012.

See Notes to Consolidated Financial Statements.

Ashland Inc. and Consolidated Subsidiaries
Statements of Consolidated Cash Flows
Years Ended September 30

(In millions)	2013	2012	2011
Cash flows (used) provided by operating activities from continuing operations			
Net income	\$ 683	\$ 26	\$ 414
(Income) loss from discontinued operations (net of income taxes)	(6)	12	(358)
Adjustments to reconcile income from continuing operations to cash flows from operating activities			
Depreciation and amortization	425	430	299
Debt issuance cost amortization	65	54	26
Purchased in-process research and development impairment	41	13	—
Deferred income taxes	194	(154)	(57)
Equity income from affiliates	(27)	(35)	(17)
Distributions from equity affiliates	12	3	5
Gain from sale of property and equipment	(2)	(1)	(2)
Stock based compensation expense - Note P	30	28	16
Stock contributions to qualified savings plans	—	—	13
Net loss (gain) on acquisitions and divestitures - Notes B and C	8	(3)	5
Inventory fair value adjustment related to ISP acquisition	—	28	16
Actuarial (gain) loss on pension and postretirement plan remeasurement	(498)	493	318
Change in operating assets and liabilities (a)	(134)	(509)	(435)
Total cash flows provided by operating activities from continuing operations	791	385	243
Cash flows (used) provided by investing activities from continuing operations			
Additions to property, plant and equipment	(314)	(298)	(201)
Proceeds from disposal of property, plant and equipment	5	6	14
Purchase of operations - net of cash acquired	—	—	(2,002)
Proceeds from sale of available-for-sale securities	—	10	11
Proceeds (uses) from sale of operations or equity investments	(11)	41	76
Total cash flows used by investing activities from continuing operations	(320)	(241)	(2,102)
Cash flows (used) provided by financing activities from continuing operations			
Proceeds from issuance of long-term debt	2,320	502	2,910
Repayment of long-term debt	(2,613)	(1,023)	(1,513)
(Repayments of)/proceeds from short-term debt, net	(36)	261	12
Repurchase of common stock	(150)	—	(71)
Debt issuance costs	(38)	(10)	(82)
Cash dividends paid	(88)	(63)	(51)
Proceeds from exercise of stock options	1	4	3
Excess tax benefits related to share-based payments	12	12	4
Total cash flows (used) provided by financing activities from continuing operations	(592)	(317)	1,212
Cash (used) provided by continuing operations	(121)	(173)	(647)
Cash (used) provided by discontinued operations			
Operating cash flows	(58)	(31)	2
Investing cash flows	—	(1)	955
Effect of currency exchange rate changes on cash and cash equivalents	2	(9)	10
(Decrease) increase in cash and cash equivalents	(177)	(214)	320
Cash and cash equivalents - beginning of year	523	737	417
Cash and cash equivalents - end of year	<u>\$ 346</u>	<u>\$ 523</u>	<u>\$ 737</u>
Decrease (increase) in operating assets (a)			
Accounts receivable	\$ 12	\$ 20	\$ (40)
Inventories	106	(105)	(133)
Other current and noncurrent assets	(183)	183	246
Increase (decrease) in operating liabilities (a)			
Trade and other payables	(5)	(111)	(65)
Pension contributions	(128)	(170)	(50)
Other current and noncurrent liabilities	64	(326)	(393)
Change in operating assets and liabilities	<u>\$ (134)</u>	<u>\$ (509)</u>	<u>\$ (435)</u>
Supplemental disclosures			
Interest paid	\$ 182	\$ 202	\$ 109
Income taxes paid	69	88	97

(a) Excludes changes resulting from operations acquired or sold.

See Notes to Consolidated Financial Statements.

NOTE A – SIGNIFICANT ACCOUNTING POLICIES

Principles of consolidation and basis of presentation

The accompanying Consolidated Financial Statements have been prepared in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP) and U.S. Securities and Exchange Commission regulations. All material intercompany transactions and balances have been eliminated. Additionally, certain prior period data has been reclassified in the Consolidated Financial Statements and accompanying notes to conform to the current period presentation. The Consolidated Financial Statements include the accounts of Ashland and its majority owned subsidiaries. Investments in joint ventures and 20% to 50% owned affiliates where Ashland has the ability to exert significant influence are accounted for under the equity method.

Ashland is composed of four reportable segments: Ashland Specialty Ingredients (Specialty Ingredients), Ashland Water Technologies (Water Technologies), Ashland Performance Materials (Performance Materials) and Ashland Consumer Markets (Consumer Markets).

Use of estimates, risks and uncertainties

The preparation of Ashland's Consolidated Financial Statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and the disclosures of contingent assets and liabilities. Significant items that are subject to such estimates and assumptions include, but are not limited to, long-lived assets (including goodwill and other intangible assets), employee benefit obligations, income taxes and liabilities and receivables associated with asbestos litigation and environmental remediation. Although management bases its estimates on historical experience and various other assumptions that are believed to be reasonable under the circumstances, actual results could differ significantly from the estimates under different assumptions or conditions.

Ashland's results are affected by domestic and international economic, political, legislative, regulatory and legal actions. Economic conditions, such as recessionary trends, inflation, interest and monetary exchange rates, government fiscal policies and changes in the prices of certain key raw materials, can have a significant effect on operations. While Ashland maintains reserves for anticipated liabilities and carries various levels of insurance, Ashland could be affected by civil, criminal, regulatory or administrative actions, claims or proceedings relating to asbestos, environmental remediation or other matters.

Cash and cash equivalents

Cash and cash equivalents include cash on hand and highly liquid investments maturing within three months after purchase.

Allowance for doubtful accounts

Ashland records an allowance for doubtful accounts as a best estimate of the amount of probable credit losses for accounts receivable. Each month, Ashland reviews this allowance and considers factors such as customer credit, past transaction history with the customer and changes in customer payment terms when determining whether the collection of a receivable is reasonably assured. Past due balances over 90 days and over a specified amount are reviewed individually for collectibility. The allowance for doubtful accounts is adjusted when it becomes probable a receivable will not be recovered.

Inventories

Inventories are carried at the lower of cost or market. Certain chemicals, plastics and lubricants with a replacement cost of \$210 million at September 30, 2013 and \$265 million at September 30, 2012 are valued at cost using the last-in, first-out (LIFO) method. The remaining inventories are valued using the weighted-average cost method or the first-in, first-out method.

During 2013, the Specialty Ingredients business incurred a \$31 million loss on straight guar, \$28 million of which related to a lower of cost or market charge that was recognized within the cost of sales caption on the Statement of Consolidated Comprehensive Income. This charge was due to the identifiable market price of certain guar inventories, which fell below the cost of the product.

The following summarizes Ashland's inventories as of the Consolidated Balance Sheet dates.

(In millions)	2013	2012
Finished products	\$ 610	\$ 675
Raw materials, supplies and work in process	310	376
LIFO carrying values	(21)	(43)
	<u>\$ 899</u>	<u>\$ 1,008</u>

NOTE A – SIGNIFICANT ACCOUNTING POLICIES (continued)**Property, plant and equipment**

The cost of property, plant and equipment is depreciated by the straight-line method over the estimated useful lives of the assets. Buildings are depreciated principally over 25 to 35 years and machinery and equipment principally over 4 to 25 years. Such costs are periodically reviewed for recoverability when impairment indicators are present. Such indicators include, among other factors, operating losses, unused capacity, market value declines and technological obsolescence. Recorded values of asset groups of property, plant and equipment that are not expected to be recovered through undiscounted future net cash flows are written down to current fair value, which generally is determined from estimated discounted future net cash flows (assets held for use) or net realizable value (assets held for sale). The following table summarizes various property, plant and equipment charges included within the Statements of Consolidated Comprehensive Income.

(In millions)	2013	2012	2011
Depreciation (a)	\$ 309	\$ 313	\$ 225
Capitalized interest	1	1	1

(a) Includes \$2 million, \$7 million and \$19 million of asset impairment and accelerated depreciation during 2013, 2012 and 2011, respectively.

The following table describes the various components of property, plant and equipment within the Consolidated Balance Sheet.

(In millions)	2013	2012
Land	\$ 285	\$ 298
Buildings	767	710
Machinery and equipment	3,417	3,222
Construction in progress	296	248
Total property, plant and equipment (gross)	4,765	4,478
Accumulated depreciation and amortization	(1,923)	(1,646)
Total property, plant and equipment (net)	\$ 2,842	\$ 2,832

Goodwill and other intangibles

In accordance with U.S. GAAP, Ashland tests goodwill and other indefinite-lived intangible assets for impairment annually as of July 1 and whenever events or circumstances make it more likely than not that an impairment may have occurred. Ashland reviews goodwill for impairment based on its identified reporting units, which are defined as reportable segments or groupings of businesses one level below the reportable segment level. Ashland tests goodwill for impairment by comparing the carrying value to the estimated fair value of its reporting units, determined using a combination of discounted cash flow models and valuations based on earnings multiples for guideline public companies in each reporting unit's industry peer group. Ashland tests its indefinite-lived intangible assets, principally trademarks and trade names, using a "relief-from-royalty" valuation method compared to the carrying value, while in-process research and development assets are subject to review through the various stages of the feasibility assessment process. Significant assumptions inherent in the valuation methodologies for goodwill and other intangibles are employed and include, but are not limited to, such estimates as future projected business results, growth rates, the weighted-average cost of capital for a market participant, and royalty and discount rates.

Finite-lived intangible assets principally consist of certain trademarks and trade names, intellectual property, customer lists and sales contracts. These intangible assets are amortized on a straight-line basis over their estimated useful lives. The cost of trademarks and trade names is amortized principally over 4 to 25 years, intellectual property over 5 to 20 years, customer relationships over 3 to 24 years and other intangibles over 2 to 50 years. Ashland reviews finite-lived intangible assets for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. Ashland monitors these changes and events on at least a quarterly basis. For further information on goodwill and other intangible assets, see Note H.

Derivative instruments

Ashland regularly uses derivative instruments to manage its exposure to fluctuations in foreign currencies and interest rates. All derivative instruments are recognized as either assets or liabilities on the balance sheet and are measured at fair value. Changes in the fair value of all derivatives are recognized immediately in income unless the derivative qualifies as a hedge of future cash flows. Gains and losses related to a hedge are either recognized in income immediately to offset the gain or loss on the hedged item, or deferred and recorded in the stockholders' equity section of the Consolidated Balance Sheets as a component of accumulated

NOTE A – SIGNIFICANT ACCOUNTING POLICIES (continued)

other comprehensive income and subsequently recognized in the Statements of Consolidated Comprehensive Income when the hedged item affects net income. The ineffective portion of the change in fair value of a hedge is recognized in income immediately. At September 30, 2012, Ashland had interest rate swap contracts that qualified for hedge accounting treatment that were in a liability position of \$62 million. Credit risks can arise from the possible inability of counterparties to meet the terms of their contracts, but exposure is limited to the fair value of the contracts. Ashland further minimizes this credit risk through internal monitoring procedures. During 2013, Ashland terminated the interest rate swap agreements in conjunction with the repayment of term loans A and B. As of September 30, 2013 and 2012, Ashland had not identified any significant credit risk on open derivative contracts. For additional information on derivative instruments, see Note G.

Revenue recognition

Sales generally are recognized when persuasive evidence of an arrangement exists, products are received or services are provided to customers, the sales price is fixed or determinable and collectibility is reasonably assured. For consignment inventory, title and risk of loss are transferred when the products have been consumed or used in the customer's production process. The percentage of Ashland's sales recognized from consignment inventory sales was 5% during 2013, 5% during 2012 and 6% during 2011. Ashland reports all sales net of tax assessed by qualifying governmental authorities.

Expense recognition

Cost of sales include material and production costs, as well as the costs of inbound and outbound freight, purchasing and receiving, inspection, warehousing, internal transfers and all other distribution network costs. Selling, general and administrative expense includes sales and marketing costs, advertising, customer support, environmental remediation, corporate and divisional administrative and other costs. Advertising costs (\$71 million in 2013, \$55 million in 2012 and \$85 million in 2011) and research and development costs (\$178 million in 2013, \$137 million in 2012 and \$80 million in 2011) are expensed as incurred.

Income taxes

Ashland is subject to income taxes in the United States and numerous foreign jurisdictions. Significant judgment in the forecasting of taxable income using historical and projected future operating results is required in determining Ashland's provision for income taxes and the related assets and liabilities. The provision for income taxes includes income taxes paid, currently payable or receivable, and those deferred. Under U.S. GAAP, deferred tax assets and liabilities are determined based on differences between financial reporting and tax basis of assets and liabilities, and are measured using enacted tax rates and laws that are expected to be in effect when the differences reverse. Deferred tax assets are also recognized for the estimated future effects of tax loss carryforwards. The effect on deferred taxes of changes in tax rates is recognized in the period in which the enactment date changes. Valuation allowances are established when necessary on a jurisdictional basis to reduce deferred tax assets to the amounts expected to be realized. In the event that the actual outcome of future tax consequences differs from Ashland's estimates and assumptions due to changes or future events such as tax legislation, geographic mix of earnings, completion of tax audits or earnings repatriation plans, the resulting change to the provision for income taxes could have a material effect on the Statement of Consolidated Comprehensive Income and Consolidated Balance Sheet. For additional information on income taxes, see Note L.

Asbestos-related litigation

Ashland is subject to liabilities from claims alleging personal injury caused by exposure to asbestos. Such claims result from indemnification obligations undertaken in 1990 in connection with the sale of Riley Stoker Corporation (Riley) and the acquisition of Hercules Incorporated (Hercules) in November 2008. Although Riley, a former subsidiary, was neither a producer nor a manufacturer of asbestos, its industrial boilers contained some asbestos-containing components provided by other companies. Hercules, a wholly-owned subsidiary of Ashland, has liabilities from claims alleging personal injury caused by exposure to asbestos. Such claims typically arise from alleged exposure to asbestos fibers from resin encapsulated pipe and tank products sold by one of Hercules' former subsidiaries to a limited industrial market.

Ashland retained Hamilton, Rabinovitz & Associates, Inc. (HR&A) to assist in developing and annually updating independent reserve estimates for future asbestos claims and related costs given various assumptions. The methodology used by HR&A to project future asbestos costs is based largely on Ashland's recent experience, including claim-filing and settlement rates, disease mix, enacted legislation, open claims, and litigation defense. Ashland's claim experience is compared to the results of previously conducted epidemiological studies estimating the number of people likely to develop asbestos-related diseases. Those studies were undertaken in connection with national analyses of the population expected to have been exposed to asbestos. Using that information, HR&A estimates a range of the number of future claims that may be filed, as well as the related costs that may be incurred in resolving those claims. From the range of estimates, Ashland records the amount it believes to be the best estimate of future payments for litigation defense and claim settlement costs. For additional information on asbestos-related litigation, see Note N.

NOTE A – SIGNIFICANT ACCOUNTING POLICIES (continued)

Environmental remediation

Accruals for environmental remediation are recognized when it is probable a liability has been incurred and the amount of that liability can be reasonably estimated. Such costs are charged to expense if they relate to the remediation of conditions caused by past operations or are not expected to mitigate or prevent contamination from future operations. Liabilities are recorded at estimated cost values based on experience, assessments and current technology, without regard to any third-party recoveries and are regularly adjusted as environmental assessments and remediation efforts continue. For additional information on environmental remediation, see Note N.

Pension and other postretirement benefits

The funded status of Ashland's pension and other postretirement benefit plans is recognized in the Consolidated Balance Sheet. The funded status is measured as the difference between the fair value of plan assets and the benefit obligation at September 30, the measurement date. For defined benefit pension plans, the benefit obligation is the projected benefit obligation (PBO) and for the other postretirement benefit plans, the benefit obligation is the accumulated postretirement benefit obligation (APBO). The PBO represents the actuarial present value of benefits expected to be paid upon retirement based on estimated future compensation levels. The APBO represents the actuarial present value of postretirement benefits attributed to employee services already rendered. The measurement of the benefit obligation is based on Ashland's estimates and actuarial valuations. These valuations reflect the terms of the plans and use participant-specific information such as compensation, age and years of service, as well as certain key assumptions that require significant judgment, including, but not limited to, estimates of discount rates, expected return on plan assets, rate of compensation increases, interest rates and mortality rates. The fair value of plan assets represents the current market value of assets held by an irrevocable trust fund for the sole benefit of participants. For additional information regarding plan assumptions and the current financial position of the pension and other postretirement plans, see Note M.

During 2011, Ashland elected to change its method of recognizing actuarial gains and losses for its defined benefit pension plans and other postretirement benefit plans. Previously, Ashland recognized the actuarial gains and losses as a component of stockholders' equity within the Consolidated Balance Sheet on an annual basis and amortized the gains and losses into operating results over the average future service period of active employees within the related plans. Ashland elected to immediately recognize the change in the fair value of plan assets and net actuarial gains and losses annually in the fourth quarter of each fiscal year and whenever a plan is determined to qualify for a remeasurement during a fiscal year. The remaining components of pension and other postretirement benefits expense are recorded on a quarterly basis. While Ashland's historical policy of recognizing pension and other postretirement benefit expense is considered acceptable under U.S. GAAP, Ashland believes that the new policy is preferable as it eliminates the delay in recognizing gains and losses within operating results. This change also improved transparency within Ashland's operating results by immediately recognizing the effects of economic and interest rate trends on plan investments and assumptions in the year these gains and losses are actually incurred. This change in accounting policy has been applied retrospectively, adjusting all periods prior to 2011.

In connection with this change in accounting policy for pension and other postretirement benefits, Ashland also elected to change its method of accounting for certain costs included in inventory. Ashland elected to exclude the amount of its pension and other postretirement benefit costs applicable to inactive participants from inventoriable costs and charge them directly to cost of sales. While Ashland's historical policy of including all pension and other postretirement benefit costs as a component of inventoriable costs was acceptable, Ashland believes that the new policy is preferable, as inventoriable costs only include costs that are directly attributable to current employees. Applying this change in 2011 retrospectively, in connection with the change in accounting for pension and other postretirement benefit costs, did not have a significant impact on previously reported inventory, cost of sales or segment reported results in any of the prior period financial statements.

Foreign currency translation

Operations outside the United States are measured primarily using the local currency as the functional currency. Upon consolidation, the results of operations of the subsidiaries and affiliates whose functional currency is other than the U.S. dollar are translated into U.S. dollars at the average exchange rates for the year while assets and liabilities are translated at year-end exchange rates. Adjustments to translate assets and liabilities into U.S. dollars are recorded in the stockholders' equity section of the Consolidated Balance Sheets as a component of accumulated other comprehensive income and are included in net earnings only upon sale or liquidation of the underlying foreign subsidiary or affiliated company.

Stock incentive plans

Ashland recognizes compensation expense for stock incentive plans awarded to key employees and directors, primarily in the form of stock appreciation rights (SARs), restricted stock, performance shares and other non-vested stock awards, that are generally based upon the grant-date fair value over the appropriate vesting period. Ashland utilizes several industry accepted valuation models to determine the fair value. For further information concerning stock incentive plans, see Note P.

NOTE A – SIGNIFICANT ACCOUNTING POLICIES (continued)**Earnings per share**

The following is the computation of basic and diluted earnings per share (EPS) from continuing operations. Earnings per share are reported under the treasury stock method. Stock options and SARs for each reported year whose grant price was greater than the market price of Ashland Common Stock at the end of each fiscal year were not included in the computation of income from continuing operations per diluted share because the effect of these instruments would be antidilutive. The total number of these shares outstanding was 0.6 million for 2013, 1.0 million for 2012 and 2.3 million for 2011. While certain non-vested stock awards granted prior to January 2010 qualify as participating securities, the effect on earnings per share calculated under the two class method is not significant.

(In millions except per share data)	2013	2012	2011
Numerator			
Numerator for basic and diluted EPS -			
Income from continuing operations	\$ 677	\$ 38	\$ 56
Denominator			
Denominator for basic EPS - Weighted-average			
common shares outstanding	78	78	78
Share based awards convertible to common shares	2	2	2
Denominator for diluted EPS - Adjusted weighted-average shares and assumed conversions	80	80	80
EPS from continuing operations			
Basic	\$ 8.64	\$ 0.49	\$ 0.72
Diluted	8.50	0.48	0.70

New accounting pronouncements

In March 2013, the FASB issued accounting guidance related to a parent's accounting for the cumulative translation adjustment upon derecognition of certain subsidiaries or groups of assets within a foreign entity or of an investment in a foreign entity (ASC 830 Foreign Currency Matters). This guidance requires that the cumulative translation adjustment associated with a qualifying derecognized subsidiary or group of assets be immediately recognized within the income statement by the parent company. This guidance will become effective for Ashland on October 1, 2014. The adoption of this guidance is not expected to have a material impact on the Consolidated Financial Statements.

In February 2013, the FASB issued accounting guidance related to the reporting of amounts reclassified out of accumulated other comprehensive income (ASC 220 Comprehensive Income). This guidance sets forth new disclosure requirements for items reclassified from accumulated other comprehensive income by requiring disclosures for both the changes in accumulated other comprehensive income by component and where the significant items reclassified from accumulated other comprehensive income are classified in the Statements of Consolidated Comprehensive Income. This guidance became effective for Ashland on October 1, 2013 and will require additional disclosure for changes in accumulated other comprehensive income.

In July 2012, the FASB issued accounting guidance related to the testing of indefinite-lived intangibles for impairment (ASC 350 Intangibles - Goodwill and Other). Under this guidance, entities will have the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the fair value of the indefinite-lived intangible asset is less than its carrying value. This guidance became effective for Ashland on October 1, 2012. The adoption of this guidance did not have a material impact on the Consolidated Financial Statements.

In December 2011, the FASB issued accounting guidance related to the offsetting of assets and liabilities on the balance sheet (ASC 210 Balance Sheet). The new guidance requires disclosures to provide information to help reconcile differences in the offsetting requirements under U.S. GAAP. This guidance became effective for Ashland on October 1, 2013. The adoption of this guidance is not expected to have a material impact on the Consolidated Financial Statements.

In September 2011, the FASB issued accounting guidance related to the testing of goodwill for impairment (ASC 350 Intangibles - Goodwill and Other). Under this guidance, entities will have the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying value. This guidance became effective for Ashland on October 1, 2012. The adoption of this guidance did not have a material impact on the Consolidated Financial Statements.

NOTE A – SIGNIFICANT ACCOUNTING POLICIES (continued)

In June 2011, the FASB issued accounting guidance related to the presentation requirements for components of comprehensive income (ASC 220 Comprehensive Income). Under this guidance, entities will be required to report the components of net income and comprehensive income either in one continuous statement, or in two separate, but consecutive, statements. This guidance became effective for Ashland on October 1, 2012, and impacted Ashland's presentation of the components of other comprehensive income.

In May 2011, the FASB issued accounting guidance related to fair value measurements (ASC 820 Fair Value Measurements and Disclosures). The new guidance provides clarification to existing standards, and also provides new required disclosures, primarily related to Level 3 fair value measurements. This guidance became effective for Ashland on January 1, 2012. The adoption of this guidance did not have a material impact on the Consolidated Financial Statements.

NOTE B – ACQUISITIONS

International Specialty Products (ISP)

Background and financing

On August 23, 2011, Ashland completed its acquisition of ISP, a global specialty chemical manufacturer of innovative functional ingredients and technologies, in a transaction valued at \$3.2 billion. ISP reported sales of \$1.9 billion for the twelve months ended September 30, 2011. The purchase price was an all cash transaction, reduced by the amount of ISP's net indebtedness at closing. Ashland has included ISP within the Specialty Ingredients reporting segment, with the exception of ISP's Elastomers business line, a business with \$410 million of sales for the twelve months ended September 30, 2011, which has been included within the Performance Materials reporting segment. The acquisition was recorded by Ashland using the acquisition method of accounting in accordance with applicable U.S. GAAP whereby the total purchase price was allocated to tangible and intangible assets and liabilities acquired based on respective fair values.

On August 23, 2011, in conjunction with the ISP acquisition closing, Ashland entered into a \$3.9 billion senior secured credit facility with a group of lenders (2011 Senior Credit Facility). The 2011 Senior Credit Facility comprised of (i) a \$1.5 billion term loan A facility, (ii) a \$1.4 billion term loan B facility and (iii) a \$1.0 billion revolving credit facility. Proceeds from borrowings under the term loan A facility and the term loan B facility were used, together with cash on hand, to finance the cash consideration paid for the ISP acquisition, as well as to finance the repayment of existing indebtedness of ISP in connection with the acquisition. For additional discussion regarding the subsequent repayment of these debt facilities during 2013, see Note I.

Purchase price allocation

The all-cash purchase price of ISP was \$2,179 million. Ashland incurred \$21 million of transaction costs during 2011 related to the acquisition, which was recorded within the net (loss) gain on acquisitions and divestitures caption within the Statement of Consolidated Comprehensive Income. The following table summarizes the values of the assets acquired and liabilities assumed at the date of acquisition.

NOTE B – ACQUISITIONS (continued)

	At August 23, 2011
Purchase price allocation (in millions)	
Assets:	
Cash	\$ 186
Accounts receivable	286
Inventory	381
Other current assets	50
Intangible assets	1,052
Goodwill	1,288
Property, plant and equipment	1,137
Other noncurrent assets	85
Liabilities:	
Accounts payable	(175)
Accrued expenses	(210)
Debt	(1,196)
Deferred tax - net	(566)
Employee benefit obligations	(72)
Other noncurrent liabilities	(67)
Total purchase price	<u>\$ 2,179</u>

During 2012, final valuation adjustments to the initial September 30, 2011 purchase price allocation for assets and liabilities were made. These adjustments in aggregate were not significant to the Consolidated Balance Sheet and did not affect the Statement of Consolidated Comprehensive Income. As of September 30, 2012, the purchase price allocation for the acquisition was completed. Goodwill is calculated as the excess of the consideration transferred over the net assets recognized and represents the estimated future economic benefits arising from other assets acquired that could not be individually identified and separately recognized.

Intangible assets identified

Ashland has identified in-process research and development (IPR&D) projects within the acquired ISP business that, as of the date of acquisition, had not been established in the marketplace. These projects consist of various enhancements of existing products or new potential applications for products. Ashland used various valuation models based on discounted probability weighted future cash flows on a project-by-project basis in identifying projects as distinct assets, which includes fair value measurements determined using level 3 inputs in the fair value hierarchy, as discussed further in Note G. During 2012, Ashland finalized its strategic assessment and evaluation of these projects. As of September 30, 2011, Ashland recorded the value of these projects as \$135 million. Since Ashland had not been given the opportunity to fully investigate each IPR&D project before the acquisition was completed, the newly appointed management team completed its assessment of each ongoing IPR&D project from ISP during the fourth quarter of 2012. This resulted in an adjustment to the initially recorded value, reducing the fair value assigned to IPR&D projects to \$86 million, with a corresponding increase to goodwill. Additionally, as a part of this assessment Ashland identified several projects that were abandoned during 2012 due to ongoing research and development activities that occurred subsequent to the acquisition of ISP. Ashland's abandonment of these projects based on post-acquisition events resulted in a \$13 million impairment charge during 2012, classified within the research and development expense caption of the Statement of Consolidated Comprehensive Income. The completion of this strategic assessment resulted in 11 projects identified as distinct assets that totaled \$73 million as of September 30, 2012.

Identified IPR&D acquired in a business combination is capitalized and tested for impairment annually and when events and circumstances indicate an impairment may have occurred. As a result, the remaining projects were assessed throughout 2013, with Ashland decreasing the assets by \$41 million for projects abandoned or impaired during the year. As of September 30, 2013, five IPR&D projects remain as assets for \$32 million. These assets will continue to be subjected to future impairment or amortization as the individual projects continue through the various stages of the feasibility assessment process. The future feasibility of these assets will be evaluated on a quarterly basis by Ashland or when a significant event has been deemed to have occurred. For further information on IPR&D assets, see Note H of Notes to Consolidated Financial Statements.

Ashland has also identified approximately \$174 million of certain product trade names, within the Specialty Ingredients business, that have been designated as indefinite-lived assets. Ashland's designation of an indefinite life for these assets took many

NOTE B – ACQUISITIONS (continued)

factors into consideration, including the current market leadership position of the brands as well as their recognition worldwide in the industry. The remaining \$792 million of identified finite-lived intangible assets are being amortized over the estimated useful life in proportion to the economic benefits consumed. Ashland considered the useful lives of the customer relationships and developed technology to be 18 years and 8 to 15 years, respectively. The determination of the useful lives is based upon various industry studies, historical acquisition experience, economic factors, and future cash flows of the combined company. In addition, Ashland reviewed certain technological trends and also considered the relative stability in the current ISP customer base.

The following details the total intangible assets identified as of August 23, 2011.

Intangible asset type (in millions)	Value	Life (years)
Customer relationships - Specialty Ingredients	\$ 266	18
Developed technology - Specialty Ingredients	498	8 - 15
Developed technology - Performance Materials	19	8 - 15
IPR&D - Specialty Ingredients	86	Indefinite
Product trade names - Specialty Ingredients	174	Indefinite
Product trade names - Specialty Ingredients	3	4
Product trade names - Performance Materials	6	4
Total	<u>\$ 1,052</u>	

Impact on operating results

The results of ISP's operations have been included in Ashland's Consolidated Financial Statements since the August 23, 2011 closing date. The following table provides sales and results of operations from the ISP acquired businesses included in Ashland's 2011 results.

ISP results of operations (In millions)	Year ended September 30, 2011 (a)
Sales	\$ 205
Income from continuing operations before income taxes	\$ 5

(a) Amounts for 2011 represent the sales and results of operations for the period August 23, 2011 through September 30, 2011, the period for which ISP was owned during 2011.

The following unaudited pro forma information for 2011 assumes the acquisition of ISP occurred at the beginning of the respective periods presented and excludes certain key items, such as purchase accounting adjustments and charges related to restructuring such as severance, that were deemed necessary to exclude for comparability purposes.

Unaudited pro forma information (In millions, except per share amounts)	Fiscal year ended September 30, 2011
Sales	\$ 8,150
Income from continuing operations	\$ 106
Net income	\$ 464
Basic earnings per share	
Income from continuing operations	\$ 1.35
Net income	\$ 5.91
Diluted earnings per share	
Income from continuing operations	\$ 1.33
Net income	\$ 5.80

NOTE B – ACQUISITIONS (continued)

The unaudited pro forma information presented above is for illustrative purposes only and does not purport to be indicative of the results of future operations of Ashland or the results that would have been attained had the operations been combined during the periods presented.

NOTE C – DIVESTITURES

MAP Transaction

As part of the 2005 transfer of Ashland's 38% interest in the Marathon Ashland Petroleum joint venture and two other small businesses to Marathon Oil Corporation (Marathon) (the MAP Transaction), Ashland agreed to sublease certain gas stations to Marathon for a nominal annual amount. During 2013, the third-party investor group that owned these gas stations initiated a sale process that required Ashland to submit an offer, which the investor group accepted. Ashland acquired the gas stations for a total cost of \$14 million. In accordance with the MAP Transaction, these gas stations were required to be transferred to Marathon. The \$14 million payment to the investor group was recognized by Ashland and recorded within the net (loss) gain on acquisitions and divestitures caption of the Statement of Consolidated Comprehensive Income.

Synlubes business divestiture

In January 2012, Ashland completed the sale of its aviation and refrigerant lubricants business, a polyol/ester-based synlubes (Synlubes) business previously included within the Water Technologies business segment, to Monument Chemical Inc., a Heritage Group Company. Annual sales of the business were approximately \$50 million. Total net assets related to this business totaled \$20 million as of the date of sale and primarily consisted of property, plant and equipment. The transaction resulted in a pretax loss of less than \$1 million recognized during 2012.

PVAc business divestiture

In January 2012, Ashland completed the sale of its polyvinyl acetate homopolymer and copolymer (PVAc) business previously included within the Performance Materials business segment to Celanese Corporation. Annual sales of the business were approximately \$45 million. Total net assets related to this business totaled \$20 million as of the date of sale and primarily consisted of property, plant and equipment. The sale included the transfer of the PVAc business, inventory and related technology, but did not include any real estate or manufacturing facilities. Ashland's PVAc business included two brands, Flexbond™ and Vinac™ emulsions. The transaction resulted in a pretax gain of \$2 million recognized during 2012.

Distribution divestiture

On March 31, 2011, Ashland completed the sale to Nexeo Solutions, LLC (Nexeo) of substantially all of the assets and certain liabilities of its global distribution business, which previously comprised the Ashland Distribution (Distribution) segment. The transaction was an asset sale with total post-closing adjusted cash proceeds received by Ashland of \$972 million, before transaction fees and taxes. Ashland recognized an after-tax gain of \$271 million during 2011. The tax effects on the gain were partially offset by a \$72 million release of tax valuation allowances on a capital loss carry-forward generated from the December 2008 divestiture of Ashland's interest in FiberVisions Holdings LLC. The gain was included within the discontinued operations caption in the Statement of Consolidated Comprehensive Income for 2011. Distribution recorded sales of \$3,419 million during the fiscal year ended September 30, 2010 and employed approximately 2,000 employees across North America and Europe.

Because this transaction signified Ashland's exit from the distribution business, the results of operations and cash flows of Distribution have been classified as discontinued operations for all periods presented. Certain indirect corporate costs included within selling, general and administrative expense that were previously allocated to the Distribution reporting segment that did not qualify for discontinued operations accounting classification were reported as costs within the Unallocated and other section of continuing operations, and equaled \$5 million and \$36 million for 2012 and 2011, respectively.

Ashland has retained and agreed to indemnify Nexeo for certain liabilities of the Distribution business arising prior to the closing of the sale. This includes pension and other postretirement benefits, as well as certain other liabilities, including certain litigation and environmental liabilities relating to the pre-closing period, as described in the definitive agreement. Costs directly related to these liabilities have been included within the discontinued operations caption for 2013, 2012 and 2011. The ongoing effects of the pension and postretirement plans for former Distribution employees are reported within the Unallocated and other section of continuing operations for segment reporting purposes.

As part of this sale, Ashland received transition service fees for ongoing administrative and other services provided to Nexeo. During 2012 and 2011, Ashland recognized transition service fees of \$25 million and \$17 million, respectively, which offset costs within the selling, general and administrative expense caption of the Statements of Consolidated Comprehensive Income. While the transition service agreements varied in duration depending upon the type of service provided, Ashland implemented plans to reduce costs as the transition services were phased out. See Note D for further information on the results of operations of Distribution for all periods presented.

NOTE C – DIVESTITURES (continued)

Casting Solutions joint venture

In July 2010, Ashland and Süd-Chemie AG (Süd-Chemie) signed an agreement for the formation of an expanded 50/50 global joint venture serving the foundry chemical sector. The transaction closed on November 30, 2010 and combined three businesses: (i) Ashland's Casting Solutions business group, (ii) Süd-Chemie's Foundry-Products and Specialty Resins business unit and (iii) Ashland-Südchemie-Kernfest GmbH (ASK), the then existing 50% owned European-based joint venture between Ashland and Süd-Chemie, for which Ashland historically only recognized equity income of the joint venture within its consolidated results. Upon formation of the expanded global joint venture, Ashland used valuation methodologies for certain contributions that primarily consisted of various discounted cash flow models in recording its equity interest at approximately \$120 million. This investment basis was based on the fair value of the net assets of the Casting Solutions business group as well as the carrying value of Ashland's 50% equity interest in ASK.

During the fifth year of the joint venture's operations, Ashland will have the option to sell its shares in the expanded global joint venture to Süd-Chemie under mutually agreed terms. If Ashland does not execute this option by the end of the sixth year of the joint venture's operations, Süd-Chemie will have the option to acquire Ashland's shares under mutually agreed terms. Under both options, if mutually agreed terms cannot be reached, then the fair market value of the shares will be determined through an appraisal process set forth in the agreement.

Upon closing of the transaction, the joint venture distributed a \$21 million net payment to Ashland in accordance with the agreement. From the closing date of the transaction through the end of 2011, Ashland received an additional \$46 million cash payment from the joint venture, representing final distributions resulting from post-closing activities and measurements set forth in the agreement.

Upon deconsolidation of the Casting Solutions business group, Ashland recognized a pretax gain of \$23 million during 2011, attributable to the fair market value of the net assets contributed to the joint venture. For the majority of the valuation of the Casting Solutions assets and liabilities, Ashland utilized the discounted cash flow method; however, the adjusted book value method was also used in some areas of the valuation. The gain was included in the net (loss) gain on acquisitions and divestitures caption in the Statement of Consolidated Comprehensive Income.

In addition, Ashland determined that the formation of the expanded global joint venture did not change Ashland's ability to exercise significant influence over operating and financing policies of the joint venture, which could have required a fair market value assessment of assets and liabilities. Therefore, Ashland accounted for this part of the formation of the expanded global joint venture at historical cost, and no gain or loss was recognized.

Ashland's equity interest in the expanded joint venture qualifies for equity method accounting treatment under U.S. GAAP. As a result, beginning on December 1, 2010, the results of the Performance Materials segment no longer included the sales, cost of sales, selling, general and administrative expense and corresponding taxes related to the Casting Solutions business; however, Ashland includes the financial results of the joint venture within operating income of the Performance Materials segment and in the equity and other income caption of the Statements of Consolidated Comprehensive Income. As part of this transaction, Ashland has agreed to continue to manufacture certain products on behalf of ASK.

NOTE D – DISCONTINUED OPERATIONS

As previously described in Note C, on March 31, 2011, Ashland completed the sale of substantially all of the assets and certain liabilities of Distribution. Ashland determined that this sale qualified as a discontinued operation, in accordance with U.S. GAAP, since Ashland does not have significant continuing involvement in the distribution business. As a result, operating results and cash flows related to Distribution have been reflected as discontinued operations in the Statements of Consolidated Comprehensive Income and Statements of Consolidated Cash Flows. Sales recognized for the six-month period Distribution was still owned by Ashland in 2011 were \$1,868 million. Ashland made subsequent adjustments to the gain on sale of Distribution, primarily relating to the tax effects of the sale, during 2013 and 2012.

On August 28, 2006, Ashland completed the sale of the stock of Ashland Paving And Construction, Inc. (APAC) for \$1.3 billion. The sale qualified as a discontinued operation, and as a result, the previous operating results, assets and liabilities related to APAC have been reflected as discontinued operations in the Consolidated Financial Statements. Ashland has made subsequent adjustments to the gain on the sale of APAC, primarily relating to the tax effects of the sale, during 2013 and 2011.

During 2003, Ashland completed the sale of the net assets of its Electronic Chemicals business and certain related subsidiaries that qualified as a discontinued operation. Ashland has made subsequent adjustments to the sale of Electronic Chemicals, primarily relating to environmental liabilities.

Ashland is subject to liabilities from claims alleging personal injury caused by exposure to asbestos. Such claims result primarily from indemnification obligations undertaken in 1990 in connection with the sale of Riley, a former subsidiary, which

NOTE D – DISCONTINUED OPERATIONS (continued)

qualified as a discontinued operation and from the acquisition during 2009 of Hercules, a wholly-owned subsidiary of Ashland. Adjustments to the recorded litigation reserves and related insurance receivables are recorded within discontinued operations and continue periodically. See Note N for further discussion of Ashland's asbestos-related activity including assumed Hercules obligations.

Due to the ongoing assessment of certain matters associated with previous divestitures, subsequent adjustments to these sales may continue in future periods in the discontinued operations caption in the Statements of Consolidated Comprehensive Income. Components of amounts reflected in the Statements of Consolidated Comprehensive Income related to discontinued operations are presented in the following table for each of the years ended September 30.

(In millions)	2013	2012	2011
(Loss) income from discontinued operations			
Distribution	\$ (9)	\$ (6)	\$ 95
Asbestos-related litigation reserves, expenses and related receivables	(3)	(7)	27
Electronic Chemicals	—	—	2
(Loss) gain on disposal of discontinued operations			
Distribution	—	(1)	354
(Loss) income before income taxes	<u>(12)</u>	<u>(14)</u>	<u>478</u>
Income tax benefit (expense)			
Benefit (expense) related to (loss) income from discontinued operations			
Distribution	3	2	(33)
Asbestos-related litigation reserves and expenses	5	6	(7)
Benefit (expense) related to (loss) gain on disposal of discontinued operations			
Distribution	—	(6)	(83)
APAC	10	—	3
Income (loss) from discontinued operations (net of income taxes)	<u>\$ 6</u>	<u>\$ (12)</u>	<u>\$ 358</u>

NOTE E – UNCONSOLIDATED AFFILIATES

Summarized financial information for companies accounted for on the equity method is presented in the following table, along with a summary of the amounts recorded in Ashland's Consolidated Financial Statements. At September 30, 2013 and 2012, Ashland's retained earnings included \$96 million and \$88 million, respectively, of undistributed earnings from unconsolidated affiliates accounted for on the equity method. The summarized financial information for all companies accounted for on the equity method by Ashland is as of and for the years ended September 30, 2013, 2012 and 2011, respectively.

NOTE E – UNCONSOLIDATED AFFILIATES (continued)

(In millions)	2013	2012	2011
Financial position			
Current assets	\$ 487	\$ 499	
Current liabilities	(182)	(198)	
Working capital	305	301	
Noncurrent assets	334	342	
Noncurrent liabilities	(129)	(134)	
Stockholders' equity	\$ 510	\$ 509	
Results of operations			
Sales	\$ 1,204	\$ 1,385	\$ 1,128
Income from operations	82	101	65
Net income	55	58	40
Amounts recorded by Ashland			
Investments and advances	\$ 218	\$ 217	\$ 193
Equity income	27	35	17
Distributions received	12	3	5

At September 30, 2013, the investment in ASK was \$135 million, which was \$5 million less than Ashland's proportionate share of the joint venture's underlying net assets. This difference primarily relates to the fair value of certain assets contributed to the joint venture upon formation.

NOTE F – RESTRUCTURING ACTIVITIES

Ashland periodically implements corporate restructuring programs related to acquisitions, divestitures or other cost reduction programs in order to enhance profitability through streamlined operations and an improved overall cost structure for each business.

Severance costs

During 2011, Ashland announced steps to reduce stranded costs resulting from the divestiture of Distribution and the contribution of the Casting Solutions business to the new global joint venture with Süd-Chemie. In addition, Ashland continues to take action to integrate ISP into the Specialty Ingredients and Performance Materials businesses, subsequent to its purchase in August 2011. As a first step to address cost reduction opportunities resulting from these transactions, Ashland announced a voluntary severance offer (VSO) in June 2011 to approximately 1,500 regular, full-time, non-union, U.S.-based employees, primarily within various shared resource groups as well as certain positions within the Specialty Ingredients business. As of September 30, 2011, 150 employees were formally approved for the VSO. An involuntary program was also initiated as a further step to capture targeted saving levels from these transactions and other business cost saving initiatives. The VSO and involuntary program resulted in a severance charge of \$34 million during 2011. The involuntary program continued during 2012 and resulted in a net expense of \$17 million being recognized within the selling, general and administrative expense caption. As of September 30, 2013 and 2012, the remaining restructuring reserve for these and other programs totaled \$17 million and \$29 million, respectively.

Facility costs

During 2012, Ashland incurred a \$20 million lease abandonment charge related to its exit from an office facility that was obtained as part of the Hercules acquisition. The costs related to the reserve will be paid over the remaining lease term through May 2016. Also during 2012, in order to maximize operational efficiencies, Ashland abandoned a construction project for a multi-purpose facility. This project abandonment resulted in a \$13 million charge which primarily related to expenses incurred for engineering and construction in progress. Both charges were recognized within the selling, general and administrative expense caption during 2012. As of September 30, 2013 and 2012, the remaining restructuring reserve for these programs totaled \$8 million and \$15 million, respectively.

The following table details at September 30, 2013, 2012 and 2011, the amount of restructuring reserves related to the programs discussed above, and the related activity in these reserves during 2013, 2012 and 2011. The severance reserves are included in accrued expenses and other liabilities in the Consolidated Balance Sheet while facility costs reserve are primarily within other noncurrent liabilities.

NOTE F – RESTRUCTURING ACTIVITIES (continued)

(In millions)	Severance	Facility costs	Total
Balance at September 30, 2010	\$ 26	\$ —	\$ 26
Restructuring reserves	34	—	34
Utilization (cash paid or otherwise settled)	(15)	—	(15)
Balance as of September 30, 2011	45	—	45
Restructuring reserves	27	20	47
Reserve adjustments	(10)	—	(10)
Utilization (cash paid or otherwise settled)	(33)	(5)	(38)
Balance as of September 30, 2012	29	15	44
Reserve adjustments	9	—	9
Utilization (cash paid or otherwise settled)	(21)	(7)	(28)
Balance as of September 30, 2013	<u>\$ 17</u>	<u>\$ 8</u>	<u>\$ 25</u>

NOTE G – FAIR VALUE MEASUREMENTS

As required by U.S. GAAP, Ashland uses applicable guidance for defining fair value, the initial recording and periodic remeasurement of certain assets and liabilities measured at fair value and related disclosures for instruments measured at fair value. Fair value accounting guidance establishes a fair value hierarchy, which prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). An instrument's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the instrument's fair value measurement. The three levels within the fair value hierarchy are described as follows.

Level 1 – Observable inputs such as unadjusted quoted prices in active markets for identical assets or liabilities.

Level 2 – Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. These include quoted prices for similar assets or liabilities in active markets and quoted prices for identical or similar assets or liabilities in markets that are not active.

Level 3 – Unobservable inputs for the asset or liability for which there is little, if any, market activity at the measurement date. Unobservable inputs reflect Ashland's own assumptions about what market participants would use to price the asset or liability. The inputs are developed based on the best information available in the circumstances, which might include Ashland's own financial data such as internally developed pricing models, discounted cash flow methodologies, as well as instruments for which the fair value determination requires significant management judgment.

For assets that are measured using quoted prices in active markets (Level 1), the total fair value is the published market price per unit multiplied by the number of units held without consideration of transaction costs. Assets and liabilities that are measured using significant other observable inputs (Level 2) are primarily valued by reference to quoted prices of similar assets or liabilities in active markets, adjusted for any terms specific to that asset or liability. For all other assets and liabilities for which unobservable inputs are used (Level 3), fair value is derived through the use of fair value models, such as a discounted cash flow model or other standard pricing models that Ashland deems reasonable.

The following table summarizes financial asset instruments subject to recurring fair value measurements as of September 30, 2013. For additional information on fair value hierarchy measurements of pension plan asset holdings, see Note M.

NOTE G – FAIR VALUE MEASUREMENTS (continued)

(In millions)	Carrying value	Total fair value	Quoted prices in active markets for identical assets Level 1	Significant other observable inputs Level 2	Significant unobservable inputs Level 3
Assets					
Cash and cash equivalents	\$ 346	\$ 346	\$ 346	\$ —	\$ —
Deferred compensation investments (a)	181	181	50	131	—
Investments of captive insurance company (a)	3	3	3	—	—
Foreign currency derivatives	1	1	—	1	—
Total assets at fair value	<u>\$ 531</u>	<u>\$ 531</u>	<u>\$ 399</u>	<u>\$ 132</u>	<u>\$ —</u>

(a) Included in other noncurrent assets in the Consolidated Balance Sheets.

The following table summarizes financial asset instruments subject to recurring fair value measurements as of September 30, 2012.

(In millions)	Carrying value	Total fair value	Quoted prices in active markets for identical assets Level 1	Significant other observable inputs Level 2	Significant unobservable inputs Level 3
Assets					
Cash and cash equivalents	\$ 523	\$ 523	\$ 523	\$ —	\$ —
Deferred compensation investments (a)	176	176	56	120	—
Investments of captive insurance company (a)	2	2	2	—	—
Foreign currency derivatives	1	1	—	1	—
Total assets at fair value	<u>\$ 702</u>	<u>\$ 702</u>	<u>\$ 581</u>	<u>\$ 121</u>	<u>\$ —</u>

Liabilities

Interest rate swap derivatives (b)	\$ 62	\$ 62	\$ —	\$ 62	\$ —
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(a) Included in other noncurrent assets in the Consolidated Balance Sheets.

(b) Included in accrued expense and other liabilities and other noncurrent liabilities in the Consolidated Balance Sheets. See further discussion below on the interest rate swap liabilities.

Derivative and hedging activities
Currency hedges

Ashland conducts business in a variety of foreign currencies. Accordingly, Ashland regularly uses foreign currency derivative instruments to manage exposure on certain transactions denominated in foreign currencies to curtail potential earnings volatility effects of certain assets and liabilities, including short-term inter-company loans, denominated in currencies other than Ashland's functional currency of an entity. These derivative contracts generally require exchange of one foreign currency for another at a fixed rate at a future date and generally have maturities of less than twelve months. All contracts are marked-to-market with net changes in fair value recorded within the selling, general and administrative expense caption. The impacts of these contracts were largely offset by gains and losses resulting from the impact of changes in exchange rates on transactions denominated in non-functional currencies. The following table summarizes the currency hedge gains and losses recognized during 2013, 2012 and 2011 within the Statements of Consolidated Comprehensive Income.

(In millions)	2013	2012	2011
Foreign currency derivative gains	\$ 1	\$ 7	\$ 5

NOTE G – FAIR VALUE MEASUREMENTS (continued)

The following table summarizes the fair values of the outstanding foreign currency derivatives as of September 30, 2013 and 2012 included in other current assets and trade and other payables of the Consolidated Balance Sheets.

(In millions)	2013	2012
Foreign currency derivative assets	\$ 1	\$ 1
Notional contract values	312	168
Foreign currency derivative liabilities (a)	\$ —	\$ —
Notional contract values	246	35

(a) Fair values of assets or liabilities of \$0 denote values less than \$1 million.

Interest rate hedges

During 2011, Ashland entered into interest rate swap agreements in order to manage the variable interest rate risk associated with term loans A and B that were borrowed in conjunction with the ISP acquisition. Ashland terminated the interest rate swap agreements in conjunction with the repayment of term loans A and B during 2013, resulting in a charge of \$52 million included in the net interest and other financing expense caption of the Statement of Consolidated Comprehensive Income.

As of September 30, 2012, the notional values of the interest rate swaps associated with term loan A and term loan B equaled \$1.4 billion and \$650 million, respectively, while the total fair value of the interest rate swaps equaled a liability position of \$62 million. Of the \$62 million, \$22 million was included in the accrued expenses and other liabilities caption and \$40 million in the other noncurrent liabilities caption of the Consolidated Balance Sheet. These instruments qualified for hedge accounting treatment and were designated as cash flow hedges whereby Ashland recorded these hedges at fair value, with the effective portion of the gain or loss reported as a component of accumulated other comprehensive income (AOCI) and subsequently recognized in the Statements of Consolidated Comprehensive Income when the hedged item affected net income. There was no hedge ineffectiveness with these instruments during 2012.

The fair value of Ashland's interest rate swap assets and liabilities were calculated using standard pricing models. These models utilized inputs derived from observable market data such as interest rate spot rates and forward rates, and were deemed to be Level 2 measurements within the fair value hierarchy. Counterparties to these interest rate swap agreements were highly rated financial institutions which Ashland believes carry only a minimal risk of nonperformance.

The following table summarizes the unrealized loss on interest rate hedges recognized in AOCI during 2013 and 2012, as well as the loss reclassified from AOCI to income during 2013 and 2012, which includes the \$52 million of deferred loss related to the interest rate swaps that was reclassified out of AOCI at the time of the termination during 2013. The losses reclassified to income were recorded in the net interest and other financing expense caption within the Statements of Consolidated Comprehensive Income.

(In millions)	2013	2012
Change in unrealized loss in AOCI	\$ 3	\$ 64
Loss reclassified from AOCI to income	65	22

Other financial instruments

At September 30, 2013 and 2012, Ashland's long-term debt (including current portion) had a carrying value of \$2,959 million and \$3,246 million, respectively, compared to a fair value of \$3,003 million and \$3,405 million, respectively. The fair values of long-term debt are based on quoted market prices or, if market prices are not available, the present values of the underlying cash flows discounted at Ashland's incremental borrowing rates, and are deemed to be Level 2 measurements within the fair value hierarchy.

NOTE H – GOODWILL AND OTHER INTANGIBLES

Goodwill

In accordance with U.S. GAAP, Ashland reviews goodwill and other intangible assets for impairment either annually or when events and circumstances indicate an impairment may have occurred. This annual assessment is performed as of July 1 and consists of Ashland determining each reporting unit's current fair value compared to its current carrying value. Ashland has determined

NOTE H – GOODWILL AND OTHER INTANGIBLES (continued)

that its reporting units for allocation of goodwill include the Specialty Ingredients, Water Technologies and Consumer Markets reportable segments, and the Composites and Adhesives and Elastomers reporting units within the Performance Materials reporting segment.

When externally quoted market prices of Ashland's reporting units are not readily available, Ashland makes various estimates and assumptions in determining the estimated fair values of those units through the use of a combination of discounted cash flow models and valuations based on earnings multiples for guideline public companies in each reporting unit's industry peer group. Discounted cash flow models are highly reliant on various assumptions. Significant assumptions Ashland utilized in these models for the current year included: projected business results and future industry direction, long-term growth factors and weighted-average cost of capital. Ashland uses assumptions that it deems to be reasonable estimates of likely future events and compares the total fair values of each reporting unit to Ashland's market capitalization, and implied control premium, to determine if the fair values are reasonable compared to external market indicators. Subsequent changes in these key assumptions could affect the results of future goodwill impairment reviews. In conjunction with the July 1 annual assessment of goodwill, Ashland's valuation techniques did not indicate any impairment.

Ashland's assessment of an impairment charge on any of these assets currently classified as having indefinite lives, including goodwill, could change in future periods if any or all of the following events were to occur with respect to a particular reporting unit: a significant change in projected business results, a divestiture decision, increase in Ashland's weighted-average cost of capital rates, decrease in growth rates or other assumptions, economic deterioration that is more severe or of a longer duration than anticipated, or another significant economic event.

In connection with the goodwill associated with the ISP acquisition, Ashland determined that a certain amount of the goodwill should be allocated to all reporting units because each reporting unit will benefit from synergies related to the acquisition that will increase these businesses' overall reported profitability. Ashland calculated the increased value that each reporting unit is expected to receive from the estimated synergy savings, which was then multiplied by industry valuation multiples for each specific reporting unit, in determining the appropriate amount of goodwill to allocate for this transaction. This allocation of goodwill to other segments and the calculation methodology used is consistent with Ashland's historical policy on significant acquisitions.

The following is a progression of goodwill by segment for the years ended September 30, 2013 and 2012.

(In millions)	Specialty Ingredients	Water Technologies	Performance Materials (a)	Consumer Markets	Total
Balance at September 30, 2011	\$ 2,092	\$ 676	\$ 357	\$ 166	\$ 3,291
Acquisitions (b)	125	—	(22)	—	103
Divestitures (c)	—	(6)	(5)	—	(11)
Currency translation	(15)	(11)	(15)	—	(41)
Balance at September 30, 2012	<u>2,202</u>	<u>659</u>	<u>315</u>	<u>166</u>	<u>3,342</u>
Currency translation	29	(2)	(4)	1	24
Balance at September 30, 2013	<u><u>\$ 2,231</u></u>	<u><u>\$ 657</u></u>	<u><u>\$ 311</u></u>	<u><u>\$ 167</u></u>	<u><u>\$ 3,366</u></u>

(a) Goodwill consisted of \$10 million as of September 30, 2013 and 2012 for the Elastomers reporting unit as well as \$301 million and \$305 million, respectively, for the Composites and Adhesives reporting unit as of September 30, 2013 and 2012.

(b) The additions activity of \$103 million of goodwill during 2012 was related to the ISP acquisition, which is not deductible for tax purposes. Activity is a result of final post-closing adjustments for the ISP acquisition, primarily related to deferred tax balances and IPR&D assets, as well as the final allocation of goodwill between reporting segments.

(c) The reduction of \$11 million primarily relates to the Synlubes and PVAc business divestitures.

Other intangible assets

Intangible assets principally consist of trademarks and trade names, intellectual property, customer relationships, IPR&D and sale contracts. Intangible assets are amortized on a straight-line basis over their estimated useful lives. The cost of trademarks and trade names is amortized principally over 4 to 25 years, intellectual property over 5 to 20 years, customer relationships over 3 to 24 years and other intangibles over 2 to 50 years.

IPR&D and certain intangible assets within trademarks and trade names have been classified as indefinite-lived and had a balance of \$495 million and \$536 million as of September 30, 2013 and 2012, respectively. The \$41 million decrease in indefinite-lived intangible assets represents impairment charges incurred related to certain IPR&D assets associated with the acquisition of ISP, classified within the research and development expense caption of the Statement of Consolidated Comprehensive Income.

In accordance with U.S. GAAP, Ashland annually reviews indefinite-lived intangible assets for possible impairment or whenever events or changes in circumstances indicate that carrying amounts may not be recoverable. In conjunction with the

NOTE H – GOODWILL AND OTHER INTANGIBLES (continued)

July 1, 2013 annual assessment of indefinite-lived intangible assets, Ashland's models did not indicate any impairment for indefinite-lived intangible assets other than the charges recognized for IPR&D assets, as discussed previously. Intangible assets were comprised of the following as of September 30, 2013 and 2012.

(In millions)	2013			2012		
	Gross carrying amount	Accumulated amortization	Net carrying amount	Gross carrying amount	Accumulated amortization	Net carrying amount
Trademarks and trade names	\$ 535	\$ (46)	\$ 489	\$ 535	\$ (39)	\$ 496
Intellectual property	840	(185)	655	843	(136)	707
Customer relationships	848	(233)	615	833	(173)	660
IPR&D	32	—	32	73	—	73
Total intangible assets	<u>\$ 2,255</u>	<u>\$ (464)</u>	<u>\$ 1,791</u>	<u>\$ 2,284</u>	<u>\$ (348)</u>	<u>\$ 1,936</u>

Amortization expense recognized on intangible assets was \$116 million for 2013, \$117 million for 2012 and \$74 million for 2011, and is primarily included in the selling, general and administrative expense caption of the Statements of Consolidated Comprehensive Income. As of September 30, 2013, all of Ashland's intangible assets that had a carrying value were being amortized except for IPR&D and certain trademarks and trade names that have been determined to have indefinite lives. Estimated amortization expense for future periods is \$114 million in 2014, \$112 million in 2015, \$110 million in 2016, \$110 million in 2017 and \$109 million in 2018.

NOTE I – DEBT

The following table summarizes Ashland's current and long-term debt at September 30, 2013 and 2012.

(In millions)	2013	2012
4.750% notes, due 2022	\$ 1,119	\$ 500
3.875% notes, due 2018	700	—
3.000% notes, due 2016	600	—
6.875% notes, due 2043	376	—
Term loan A, due 2016 (a)	—	1,425
Term loan B, due 2018 (a)	—	1,036
Accounts receivable securitization	270	300
6.50% junior subordinated notes, due 2029	131	129
9.125% notes, due 2017	—	76
Other international loans, interest at a weighted-average rate of 6.9% at September 30, 2013 (5.6% to 11.9%)	44	69
Medium-term notes, due 2013-2019, interest at a weighted-average rate of 8.7% at September 30, 2013 (8.4% to 9.4%)	14	21
8.80% debentures, due 2013	—	20
Other	13	14
Total debt	<u>3,267</u>	<u>3,590</u>
Short-term debt	(308)	(344)
Current portion of long-term debt	(12)	(115)
Long-term debt (less current portion)	<u>\$ 2,947</u>	<u>\$ 3,131</u>

(a) 2011 Senior Credit Facility.

At September 30, 2013, Ashland's total debt had an outstanding principal balance of \$3,423 million and discounts of \$156 million. The scheduled aggregate maturities of debt for the next five fiscal years are as follows: \$50 million in 2014, \$279 million in 2015, \$600 million in 2016, none in 2017 and \$700 million in 2018.

NOTE I – DEBT (continued)

Senior notes and senior credit facilities

3.000% senior notes, 3.875% senior notes, 4.750% senior notes and 6.875% senior notes

During 2013, Ashland completed its issuance of senior unsecured notes (senior notes) with an aggregate principal amount of \$2.3 billion. These senior notes are comprised of 3.000% senior notes due 2016 (\$600 million), 3.875% senior notes due 2018 (\$700 million), 4.750% senior notes due 2022 (\$625 million) and 6.875% senior notes due 2043 (\$375 million). The 2022 notes were issued as additional notes under the existing 2022 notes indenture entered into in August 2012, described further below, and have the same terms as the originally issued 2022 notes. The 2043 notes were issued at a \$1 million premium, while the new 2022 notes were issued at a \$6 million discount. In accordance with U.S. GAAP, the premium and discount are being accreted into the net interest and other financing expense caption of the Statements of Consolidated Comprehensive Income over the terms of the respective notes. Ashland paid \$32 million in fees and expenses with respect to the issuance of the senior notes, which is being amortized proportionately for each tranche of the senior notes.

2013 Senior Credit Facility

During 2013, Ashland entered into a new five-year senior unsecured revolving credit facility in an aggregate amount of \$1.2 billion (the 2013 Senior Credit Facility), which includes a \$250 million letter of credit sublimit and a \$100 million swing line loan sublimit. The 2013 Senior Credit Facility replaced the \$1.0 billion senior secured revolving credit facility under the 2011 Senior Credit Facility. The 2013 Senior Credit Facility is not guaranteed, is unsecured and may be prepaid at any time without premium. Ashland paid \$6 million in fees and expenses with respect to the entry into the 2013 Senior Credit Facility, which is being amortized over the five-year period.

At Ashland's option, loans issued under the 2013 Senior Credit Facility will bear interest at either LIBOR or an alternate base rate, in each case plus the applicable interest rate margin. The loans' interest rates will fluctuate between LIBOR plus 1.50% per annum and LIBOR plus 2.50% per annum (or between the alternate base rate plus 0.50% per annum and the alternate base rate plus 1.50% per annum), based upon Ashland's corporate credit ratings or the consolidated gross leverage ratio (as defined in the 2013 Senior Credit Facility) (whichever yields a lower applicable interest rate margin) at such time. In addition, Ashland was initially required to pay fees of 0.30% per annum on the daily unused amount of the 2013 Senior Credit Facility through and including March 31, 2013, and thereafter the fee rate will fluctuate between 0.25% and 0.50% per annum, based upon Ashland's corporate credit ratings or the consolidated gross leverage ratio.

Total borrowing capacity remaining under the 2013 Senior Credit Facility was \$1,119 million, due to a reduction of \$81 million for letters of credit outstanding at September 30, 2013.

2011 Senior Credit Facility

On August 23, 2011, in conjunction with the ISP acquisition closing, Ashland entered into the 2011 Senior Credit Facility. The 2011 Senior Credit Facility was comprised of (i) a \$1.5 billion term loan A facility, (ii) a \$1.4 billion term loan B facility and (iii) a \$1.0 billion revolving credit facility. Proceeds from borrowings under the term loan A facility and the term loan B facility were used, together with cash on hand, to finance the cash consideration paid for the ISP acquisition, as well as to finance the repayment of existing indebtedness of ISP in connection with the acquisition.

In order to manage the variable interest rate risk associated with term loans A and B, Ashland entered into interest rate swap agreements. As of September 30, 2012, the total notional value of interest rate swaps related to term loans A and B equaled \$1.4 billion and \$650 million, respectively.

During 2012, Ashland prepaid \$350 million of principal on its term loan B facility, using proceeds from its newly issued accounts receivable securitization facility. As a result, Ashland recognized a \$6 million charge for the debt issuance costs associated with the principal prepayment, which is included in the net interest and other financing expense caption in the Statement of Consolidated Comprehensive Income for 2012.

During 2013, Ashland used the net proceeds from its issuance of the senior notes, along with the initial \$85 million borrowing on the 2013 Senior Credit Facility and cash on hand, (i) to pay in full the 2011 Senior Credit Facility, including the \$1.41 billion outstanding principal of the term loan A facility and the \$1.03 billion outstanding principal of the term loan B facility, (ii) to pay \$52 million to terminate the interest rate swaps associated with the term loan A and term loan B facilities, (iii) to pay accrued interest, fees and expenses under the 2011 Senior Credit Facility and (iv) to pay \$38 million in fees and expenses with respect to the issuance of the senior notes and entry into the 2013 Senior Credit Facility. The \$52 million charge to terminate the interest rate swaps is included in the net interest and other financing expense caption of the Statement of Consolidated Comprehensive Income for 2013.

As a result of the repayment and the termination of the 2011 Senior Credit Facility during 2013, Ashland recognized a \$47 million charge for the accelerated amortization of previous debt issuance and other costs, which is included in the net interest and other financing expense caption of the Statement of Consolidated Comprehensive Income.

NOTE I – DEBT (continued)

9.125% senior notes and 4.750% senior notes

In May 2009, Ashland issued \$650 million aggregate principal amount of 9.125% senior unsecured notes due 2017. The notes were issued at 96.577% of the aggregate principal amount to yield 9.75%. In connection with the 2011 Senior Credit Facility and certain prior senior credit facilities (collectively, the former senior credit facilities), these notes were secured on an equal and ratable basis with indebtedness under the former senior credit facilities. These notes were also guaranteed by the same guarantors under the former senior credit facilities. Ashland had the option to redeem outstanding notes at any time on or after June 1, 2013 at certain fixed redemption prices. The notes had a maturity date of June 1, 2017 and ranked equally with other unsecured and unsubordinated senior obligations.

In July 2012, Ashland commenced a tender offer to purchase for cash any and all of the premium \$650 million aggregate principal of the 9.125% senior notes. In conjunction with this tender offer, Ashland issued \$500 million aggregate principal amount of 4.750% senior notes due 2022. The proceeds of the new senior notes, together with available cash, were used to pay the consideration, accrued and unpaid interest and related fees and expenses in connection with Ashland's cash tender offer for the 9.125% senior notes. At the close of the tender offer, \$572 million aggregate principal amount of the 9.125% senior notes was redeemed by Ashland, representing 88% of the 9.125% senior notes. Ashland recognized a \$24 million charge for debt issuance costs and original issue discount related to the portion of the 9.125% senior notes that were redeemed early, as well as a \$67 million charge related to an early redemption premium payment, both of which are included in the net interest and other financing expense caption in the Statement of Consolidated Comprehensive Income for 2012.

In June 2013, Ashland redeemed the remaining \$78 million outstanding principal of the 9.125% senior notes. Ashland recognized a \$3 million charge for debt issuance costs and the original issue discount related to the 9.125% senior notes, as well as a \$4 million charge related to an early redemption premium payment, both of which are included in the net interest and other financing expense caption in the Statement of Consolidated Comprehensive Income for 2013.

Accounts receivable securitization

On August 31, 2012, Ashland entered into a \$350 million accounts receivable securitization facility pursuant to (i) a Sale Agreement, among Ashland and certain of its direct and indirect subsidiaries (each an Originator and collectively, the Originators) and CVG Capital III LLC, a wholly-owned "bankruptcy remote" special purpose subsidiary of the Originators (CVG) and (ii) a Transfer and Administration Agreement, among CVG, each Originator, Ashland, as Master Servicer, certain Conduit Investors, Uncommitted Investors, Letter of Credit Issuers, Managing Agents, Administrators and Committed Investors, and The Bank of Nova Scotia, as agent for various secured parties (the Agent).

Under the Sale Agreement, each Originator will transfer, on an ongoing basis, substantially all of its accounts receivable, certain related assets and the right to the collections on those accounts receivable to CVG. Under the terms of the Transfer and Administration Agreement, CVG may, from time to time, obtain up to \$350 million (in the form of cash or letters of credit for the benefit of Ashland and its subsidiaries) from the Conduit Investors, the Uncommitted Investors and/or the Committed Investors through the sale of an undivided interest in such accounts receivable, related assets and collections. The Transfer and Administration Agreement has a term of three years, but is extendable at the discretion of the Investors. Ashland accounts for the securitization facility as secured borrowings, and the receivables sold pursuant to the facility are included in the Consolidated Balance Sheets as accounts receivable. Fundings under the Transfer and Administration Agreement will be repaid as accounts receivable are collected, with new fundings being advanced (through daily reinvestments) as new accounts receivable are originated by the Originators and transferred to CVG, with settlement generally occurring monthly. Ashland continues to classify any borrowings under this facility as a short-term debt instrument within the Consolidated Balance Sheets. Once sold to CVG, the accounts receivable, related assets and rights to collection described above are separate and distinct from each Originator's own assets and are not available to its creditors should such Originator become insolvent. Substantially all of CVG's assets have been pledged to the Agent in support of its obligations under the Transfer and Administration Agreement.

At September 30, 2013 and 2012, the outstanding amount of accounts receivable transferred by Ashland to CVG was \$549 million and \$616 million, respectively. Ashland had drawn \$270 million and \$300 million, respectively, under the facility as of September 30, 2013 and 2012 in available funding from qualifying receivables. Funds drawn at the inception of the accounts receivable securitization facility were used to prepay \$350 million of principal on Ashland's term loan B facility in 2012. The weighted-average interest rate for this instrument was 1.0% for 2013 and the period issued during 2012.

Other debt

At September 30, 2013 and 2012, Ashland held other debt totaling \$202 million and \$253 million, respectively, comprised primarily of medium-term notes due 2013 – 2019, the 6.60% and 6.50% notes due 2027 and 2029 assumed in the Hercules acquisition and other short-term international loans.

NOTE I – DEBT (continued)**Net interest and other financing expense (income)**

(In millions)	2013	2012	2011
Interest expense (a)	\$ 273	\$ 251	\$ 131
Interest income	(4)	(8)	(16)
Other financing costs (b)	13	74	6
	<u>\$ 282</u>	<u>\$ 317</u>	<u>\$ 121</u>

(a) Includes the \$52 million charge to terminate the interest rate swaps associated with the term loan A and term loan B facilities during 2013.

(b) Includes a \$4 million and \$67 million redemption premium payment for 2013 and 2012, respectively, related to the \$78 million and \$572 million principal 9.125% senior notes redeemed during 2013 and 2012, respectively.

The following table details the debt issuance cost and original issue discount amortization included in interest expense during 2013, 2012 and 2011.

(In millions)	2013 (a)	2012 (b)	2011 (c)
Normal amortization	\$ 15	\$ 24	\$ 14
Accelerated amortization	50	30	12
Total	<u>\$ 65</u>	<u>\$ 54</u>	<u>\$ 26</u>

(a) Accelerated amortization of \$47 million and \$3 million resulted from the repayment of the 2011 Senior Credit Facility and the early paydown of Ashland's remaining 9.125% senior notes, respectively.

(b) Accelerated amortization of \$24 million and \$6 million resulted from the early redemption of 88% of Ashland's 9.125% senior notes and the early paydown of \$350 million in term loan B principal associated with the 2011 Senior Credit Facility, respectively.

(c) Accelerated amortization of \$12 million resulted from the termination of the term loan A (associated with a former senior credit facility entered into by Ashland in 2010) and a former accounts receivable securitization facility in March 2011.

Covenants related to current debt agreements

The 2013 Senior Credit Facility contains usual and customary representations, warranties and affirmative and negative covenants, including financial covenants for leverage and fixed charge coverage ratios, limitations on liens, additional indebtedness, certain negative pledges, investments, payment of dividends, mergers, sale of assets and restricted payments and other customary limitations. As of September 30, 2013, Ashland is in compliance with all debt agreement covenant restrictions.

Financial covenants

The maximum consolidated leverage ratio permitted under the 2013 Senior Credit Facility during its entire duration is 3.25. The 2013 Senior Credit Facility defines the consolidated leverage ratio as the ratio of consolidated indebtedness minus cash and cash equivalents to consolidated EBITDA (Covenant Adjusted EBITDA) for any measurement period. In general, the 2013 Senior Credit Facility defines Covenant Adjusted EBITDA as net income plus consolidated interest charges, taxes, depreciation and amortization expense, fees and expenses related to capital market transactions, restructuring and integration charges, noncash stock and equity compensation expense, and any other nonrecurring expenses or losses that do not represent a cash item in such period or any future period; less any noncash gains or other items increasing net income. The computation of Covenant Adjusted EBITDA differs from the calculation of EBITDA and Adjusted EBITDA, which have been reconciled previously on page M-8. In general, consolidated indebtedness includes debt plus all purchase money indebtedness, banker's acceptances and bank guaranties, deferred purchase price of property or services, attributable indebtedness and guaranties.

The minimum required consolidated interest coverage ratio under the 2013 Senior Credit Facility during its entire duration is 3.00. The 2013 Senior Credit Facility defines the consolidated interest coverage ratio as the ratio of Covenant Adjusted EBITDA to consolidated interest charges for any measurement period.

At September 30, 2013, Ashland's calculation of the consolidated leverage ratio was 2.7, which is below the maximum consolidated leverage ratio permitted under the new senior unsecured revolving credit facility of 3.25. At September 30, 2013, Ashland's calculation of the interest coverage ratio was 7.1, which exceeds the minimum required consolidated ratio of 3.00.

NOTE I – DEBT (continued)**Corporate credit ratings**

During 2013, Ashland's corporate credit ratings remained unchanged at BB by Standard & Poor's and Ba1 by Moody's Investor Services. At September 30, 2013, Standard & Poor's and Moody's Investor Services both rated Ashland's outlook as stable.

NOTE J – OTHER NONCURRENT ASSETS AND LIABILITIES

The following table provides the components of other noncurrent assets in the Consolidated Balance Sheets as of September 30.

(In millions)	2013	2012
Deferred compensation investments	\$ 181	\$ 176
Debt issuance costs	60	80
Tax receivables	26	31
Defined benefit plan assets	48	45
Land use rights	40	37
Environmental insurance receivables	26	26
Note receivables	25	24
Life insurance policies	21	21
Customer incentive	17	13
Debt defeasance assets	16	16
Other	101	70
	<u>\$ 561</u>	<u>\$ 539</u>

The following table provides the components of other noncurrent liabilities in the Consolidated Balance Sheets as of September 30.

(In millions)	2013	2012
Environmental remediation reserves	\$ 171	\$ 187
Accrued tax liabilities (including sales and franchise)	123	138
Deferred compensation	75	80
Insurance reserves related to workers compensation and general liability	73	75
Interest rate swap liabilities	—	40
Other	109	113
	<u>\$ 551</u>	<u>\$ 633</u>

NOTE K – LEASES

Ashland and its subsidiaries are lessees of office buildings, retail outlets, transportation equipment, warehouses and storage facilities, other equipment, facilities and properties under leasing agreements that expire at various dates. Capitalized lease obligations are not significant and are included in long-term debt while capital lease assets are included in property, plant and equipment. Future minimum rental payments at September 30, 2013 were \$43 million in 2014, \$39 million in 2015, \$33 million in 2016, \$20 million in 2017, \$14 million in 2018 and \$68 million in 2019 and later years. Rental expense under operating leases for continuing operations was as follows:

NOTE K – LEASES (continued)

(In millions)	2013	2012	2011
Minimum rentals (including rentals under short-term leases) (a)	\$ 70	\$ 108	\$ 68
Contingent rentals	6	7	6
Sublease rental income	(2)	(9)	(7)
	<u>\$ 74</u>	<u>\$ 106</u>	<u>\$ 67</u>

(a) Expense for 2012 includes a lease abandonment charge of \$20 million related to the closure of a corporate facility. Future payments related to this lease will occur over the remaining lease term through May 2016, and are included in the future minimum rental payments.

NOTE L – INCOME TAXES

A summary of the provision for income taxes related to continuing operations follows.

(In millions)	2013	2012	2011
Current			
Federal	\$ 8	\$ 47	\$ (59)
State	(6)	(1)	4
Foreign	78	56	57
	<u>80</u>	<u>102</u>	<u>2</u>
Deferred	194	(154)	(55)
Income tax expense (benefit)	<u>\$ 274</u>	<u>\$ (52)</u>	<u>\$ (53)</u>

Deferred income taxes are provided for income and expense items recognized in different years for tax and financial reporting purposes. Ashland has not recorded deferred income taxes on the undistributed earnings of certain foreign subsidiaries and foreign corporate joint ventures. As of September 30, 2013, management intends to indefinitely reinvest such earnings, which amounted to \$464 million. It is not practicable to estimate the amount of U.S. tax that might be payable if these earnings were ever to be remitted.

Foreign net operating loss carryforwards primarily relate to certain European and Asian Pacific operations and generally may be carried forward. U.S. state net operating loss carryforwards relate to operational losses within certain states and generally may be carried forward. Temporary differences that give rise to significant deferred tax assets and liabilities as of September 30 are presented in the following table.

NOTE L – INCOME TAXES (continued)

(In millions)	2013	2012
Deferred tax assets		
Foreign net operating loss carryforwards (a)	\$ 108	\$ 109
Employee benefit obligations	408	691
Environmental, self-insurance and litigation reserves (net of receivables)	187	185
State net operating/capital loss carryforwards (b)	77	73
Compensation accruals	84	88
Credit carryforwards (c)	131	81
Uncollectible accounts receivable	5	8
Federal net operating/capital loss carryforwards (d)	1	13
Other items (e)	63	87
Valuation allowances (f)	(166)	(175)
Total deferred tax assets	<u>898</u>	<u>1,160</u>
Deferred tax liabilities		
Goodwill and other intangibles (g)	537	570
Property, plant and equipment	489	520
Unremitted earnings	188	182
Total deferred tax liabilities	<u>1,214</u>	<u>1,272</u>
Net deferred tax liability	<u>\$ (316)</u>	<u>\$ (112)</u>

- (a) Gross foreign net operating loss carryforwards include offset for related uncertain tax positions and will expire in future years as follows: \$5 million in 2014, \$17 million in 2015 and the remaining balance in other future years. The 2012 amount has been revised from \$762 million to \$109 million to reflect that an entity was liquidated in 2012. See Schedule II for additional information related to the 2012 adjustment.
- (b) Gross state net operating/capital loss carryforwards include offset for related uncertain tax positions and will expire in future years as follows: \$29 million in 2014, \$19 million in 2015 and the remaining balance in other future years.
- (c) Includes offset for related uncertain tax positions and consists primarily of foreign tax credits of \$84 million expiring over 2017 to 2023, alternative minimum tax credits of \$16 million with no expiration and research and development credits of \$28 million expiring over 2021 to 2033.
- (d) Excludes \$43 million gross federal net operating loss carryforward generated in 2013 that will expire in future years beyond 2015. Realization of tax benefits associated with the federal net operating loss carry-forwards is anticipated to result from the exercise of employee stock-based awards. These tax benefits, which will be recorded in stockholders' equity, are appropriately not recognized until the underlying exercise of employee stock-based awards occurs.
- (e) Includes offset for impact of related uncertain tax positions.
- (f) Valuation allowances primarily relate to the realization of recorded tax benefits on certain state and foreign net operating loss carryforwards as well as capital losses. The 2012 amount has been revised from \$828 million to \$175 million to reflect that an entity was formally liquidated in 2012. See Schedule II for additional information related to the 2012 revision.
- (g) The total gross amount of goodwill as of September 30, 2013 expected to be deductible for tax purposes is \$75 million.

The U.S. and foreign components of income from continuing operations before income taxes and a reconciliation of the statutory federal income tax with the provision for income taxes follow. The foreign components of income from continuing operations disclosed in the following table exclude any allocations of certain corporate expenses incurred in the U.S.

NOTE L – INCOME TAXES (continued)

(In millions)	2013	2012	2011
Income (loss) from continuing operations before income taxes			
United States	\$ 366	\$ (535)	\$ (230)
Foreign	585	521	233
	<u>\$ 951</u>	<u>\$ (14)</u>	<u>\$ 3</u>
Income taxes computed at U.S. statutory rate (35%)	\$ 333	\$ (5)	\$ 1
Increase (decrease) in amount computed resulting from			
Net gain on divestitures (a)	—	3	8
Uncertain tax positions	20	(1)	3
Valuation allowance (release) (b)	(12)	41	(92)
Claim for research and development credits (c)	(17)	(2)	(9)
State taxes (d)	27	(9)	(6)
Net impact of foreign results (e)	(77)	(74)	38
Other items	—	(5)	4
Income tax expense (benefit)	<u>\$ 274</u>	<u>\$ (52)</u>	<u>\$ (53)</u>

(a) 2012 tax adjustments associated with the PVAc/Synlubes divestitures; 2011 tax adjustments associated with the Süd-Chemie joint venture.

(b) Related to state deferred tax asset valuation allowances/(releases).

(c) 2013 includes a benefit related to credits signed into law on a retroactive basis.

(d) 2013 includes a \$7 million expense recorded for deferred tax adjustments, primarily attributable to state rate changes.

(e) 2013 includes a \$17 million benefit recorded for a rate change in a foreign jurisdiction; 2011 includes a \$60 million unfavorable charge for the repatriation of foreign earnings to the U.S.

Income tax expense for 2013 included \$185 million of tax expense recorded on the \$498 million pension and other postretirement benefit plan remeasurement gain, a \$33 million tax benefit related to charges totaling \$99 million from an interest rate swap agreement termination and accelerated amortization of debt issuance and other costs, a zero benefit recorded on the MAP Transaction charge of \$14 million and a net benefit of \$16 million primarily attributable to a foreign income tax rate change.

Income tax benefit for 2012 included a \$186 million benefit recorded on the \$493 million pension and other postretirement benefit plan remeasurement loss, a \$34 million benefit recorded on \$97 million of charges incurred for early payment of certain debt instruments, tax benefits of \$43 million associated with other key item charges of \$141 million which are detailed in the Adjusted EBITDA table on page M-8, tax expense of \$41 million to establish state valuation allowances and a tax benefit of \$15 million for deferred tax adjustments related to ongoing international restructuring efforts. The state valuation allowance of \$41 million was established primarily as a result of the \$493 million pension and postretirement charge, which moved Ashland into a cumulative three year pretax loss position in certain state tax jurisdictions. The \$15 million international restructuring amount will not be a recurring benefit in future years.

Income tax benefit for 2011 included a tax benefit of \$92 million for valuation allowance releases primarily related to state deferred tax assets and tax expense of \$60 million related to the repatriation of foreign earnings to the United States. In addition, 2011 income tax expense included a benefit of \$9 million for research and development credits, of which \$4 million related to credits signed into law on a retroactive basis, and tax expense of \$8 million associated with unfavorable tax adjustments related to the Süd-Chemie joint venture.

Unrecognized tax benefits

U.S. GAAP prescribes a recognition threshold and measurement attribute for the accounting and financial statement disclosure of tax positions taken or expected to be taken in a tax return. The evaluation of a tax position is a two-step process. The first step requires Ashland to determine whether it is more likely than not that a tax position will be sustained upon examination based on the technical merits of the position. The second step requires Ashland to recognize in the financial statements each tax position that meets the more likely than not criteria, measured at the amount of benefit that has a greater than 50% likelihood of being realized. Ashland had \$133 million and \$124 million of unrecognized tax benefits, of which \$16 million and \$26 million relate to discontinued operations, at September 30, 2013 and 2012, respectively. As of September 30, 2013, the total amount of unrecognized tax benefits that, if recognized, would affect the tax rate for continuing and discontinued operations was \$76 million. The remaining unrecognized tax benefits relate to tax positions for which ultimate deductibility is highly certain but for which there is uncertainty as to the timing of such deductibility. Recognition of these tax benefits would not have an impact on the effective tax rate. Ashland includes the full amount of unrecognized tax benefits in other noncurrent liabilities in the Consolidated Balance Sheets.

NOTE L – INCOME TAXES (continued)

Ashland recognizes interest and penalties related to uncertain tax positions as a component of income tax expense in the Statements of Consolidated Comprehensive Income. Such interest and penalties totaled a benefit of \$5 million in 2013 and expense of \$2 million and \$2 million in 2012 and 2011, respectively. Ashland had \$28 million and \$34 million in interest and penalties related to unrecognized tax benefits accrued as of September 30, 2013 and 2012, respectively.

During the year ended September 30, 2013 and 2012, respectively, changes in unrecognized tax benefits were as follows.

(In millions)	
Balance at September 30, 2011	\$ 160
Increases related to positions taken on items from prior years	17
Decreases related to positions taken on items from prior years	(41)
Increases related to positions taken in the current year	8
Lapse of statute of limitations	(4)
Settlement of uncertain tax positions with tax authorities	(16)
Balance at September 30, 2012	124
Increases related to positions taken on items from prior years	22
Decreases related to positions taken on items from prior years	(4)
Increases related to positions taken in the current year	14
Lapse of statute of limitations	(21)
Settlement of uncertain tax positions with tax authorities	(2)
Balance at September 30, 2013	\$ 133

From a combination of statute expirations and audit settlements in the next twelve months, Ashland expects a decrease in the amount of accrual for uncertain tax positions of up to \$10 million for continuing operations and \$2 million for discontinued operations. For the remaining balance as of September 30, 2013, it is reasonably possible that there could be material changes to the amount of uncertain tax positions due to activities of the taxing authorities, settlement of audit issues, reassessment of existing uncertain tax positions, or the expiration of applicable statute of limitations; however, Ashland is not able to estimate the impact of these items at this time.

Ashland or one of its subsidiaries files income tax returns in the U.S. federal jurisdiction and various state and foreign jurisdictions. Foreign taxing jurisdictions significant to Ashland include Australia, Canada, Spain, Switzerland, Brazil, China, Germany and the Netherlands. Ashland is subject to U.S. federal income tax examinations by tax authorities for periods after September 30, 2006 and U.S. state income tax examinations by tax authorities for periods after September 30, 2005. With respect to countries outside of the United States, with certain exceptions, Ashland's foreign subsidiaries are subject to income tax audits for years after 2002.

NOTE M – EMPLOYEE BENEFIT PLANS**Pension plans**

Ashland and its subsidiaries sponsor contributory and noncontributory qualified defined benefit pension plans that cover certain employees in the United States and in a number of other countries. In addition, Ashland has non-qualified unfunded pension plans which provide supplemental defined benefits to those employees whose benefits under the qualified pension plans are limited by the Employee Retirement Income Security Act of 1974 and the Internal Revenue Code. Ashland funds the costs of the non-qualified plans as the benefits are paid. Pension obligations for applicable employees of non-U.S. consolidated subsidiaries are provided for in accordance with local practices and regulations of the respective countries. Benefits for those eligible for Ashland's legacy U.S. pension plans generally are based on employees' years of service and compensation during the years immediately preceding their retirement. The participants in these plans are employees with at least ten years of service as of July 1, 2003.

On July 1, 2003, all new employees and the pension benefits of employees under the legacy U.S. pension plan with less than ten years of service were converted to cash balance accounts. Employees with existing pension credits received an initial account balance equal to the present value of their accrued benefits in Ashland's legacy U.S. pension plan on that date. Effective January 1, 2011, all cash balance accounts were vested and frozen, with the plan closed to new participants. Employees with accrued balances in their accounts at December 31, 2010 will not receive additional accruals, but they will continue to receive interest on their accounts.

NOTE M – EMPLOYEE BENEFIT PLANS (continued)

Pension plans acquired

Benefits for the Hercules U.S. pension plans, that were assumed via acquisition during 2009, generally are based on employees' years of service and compensation during the years immediately preceding their retirement. In conjunction with the purchase of Hercules, Ashland assumed \$207 million of net liabilities associated with qualified and non-qualified defined benefit pension plans, which had a projected benefit obligation of \$1,521 million. On January 1, 2005, the plan was closed for new participants. In September 2010, Ashland amended the plan, effective January 1, 2011, for qualified earnings, which was modified to include annual base pay plus previous year incentive pay. In addition, the early retirement discount age to receive a 100% pension increased from age 60 to age 62 and other discount factors beginning at age 55 also increased.

Effective September 30, 2009, Ashland's U.S. qualified plan was merged into the Hercules U.S. qualified plan and renamed the Ashland Hercules Pension Plan. The plan assumed all assets and liabilities of the former Ashland Plan; however, the benefits of the applicable employees under the Ashland Plan and Hercules Plan remained unchanged from those in place prior to the merger of the plans until January 1, 2011.

In August 2011, in conjunction with the acquisition of ISP, Ashland assumed \$25 million of net liabilities associated with qualified and non-qualified defined benefit pension plans, which had a projected benefit obligation of \$57 million.

Other postretirement benefit plans

Ashland and its subsidiaries sponsor health care and life insurance plans for eligible employees in the U.S. and Canada who retire or are disabled. Ashland's retiree life insurance plans are noncontributory, while Ashland shares the costs of providing health care coverage with its retired employees through premiums, deductibles and coinsurance provisions. Ashland funds its share of the costs of the postretirement benefit plans as the benefits are paid. Employees hired after June 30, 2003 will have access to any retiree health care coverage that may be provided, but will have no Ashland company funds available to help pay for such coverage.

In May 2010, Ashland implemented changes, effective January 1, 2011, eliminating post-65 benefit coverage for those eligible participants retiring on or after January 1, 2016. In September 2011, Ashland adopted a plan amendment to change the current post-65 Ashland Medical plan to Medicare Advantage plan. As a result, the employer cost cap was reset and reduced Ashland's accrued obligations under the plan by \$57 million. This change was effective January 1, 2012, at which time Ashland no longer applies for the Medicare Part D subsidy. In September 2012, Ashland further reduced the employer subsidy for the post-65 Ashland Medicare Advantage Plan to account for the impact of certain changes to the prescription drug program adopted as part of the September 2011 plan amendment. This reduced Ashland's accrued obligations under the plan by \$48 million. The total reductions of \$105 million are being amortized to income over future periods.

Since January 1, 2004, Ashland's plans have limited their annual per capita costs to an amount equivalent to base year per capita costs, plus annual increases of up to 1.5% per year for costs incurred. As a result, health care cost trend rates have no significant effect on the amounts reported for the health care plans. Premiums for retiree health care coverage are equivalent to the excess of the estimated per capita costs over the amounts borne by Ashland.

Other postretirement benefit plans acquired

In August 2011, in conjunction with the purchase of ISP, Ashland assumed \$11 million of liabilities associated with postretirement plans.

In November 2008, in conjunction with the purchase of Hercules, Ashland assumed \$109 million of liabilities associated with postretirement plans. The assumed postretirement health care plans include a limit on Ashland's share of costs for recent and future retirees. The assumed pre-65 health care cost trend rate as of September 30, 2013 was 7.30% and continues to be reduced to 4.50% in 2028 and thereafter. The assumptions used to project the liability anticipate future cost-sharing changes to the written plans that are consistent with the increase in health care cost. U.S. employees from Hercules hired after December 31, 2002 will have access to any retiree health care coverage that may be provided, but will have no Ashland company funds available to help pay for such coverage.

Change in accounting policy

Ashland elected during 2011 to change its method of recognizing actuarial gains and losses for its defined benefit pension and postretirement benefit plans. This accounting change was applied retrospectively, adjusting all periods prior to 2011. For further information on this change, see the "pension and other postretirement benefits" section in Note A.

Components of net periodic benefit costs (income)

The following table summarizes the components of pension and other postretirement benefit costs for both continued and discontinued operations and the assumptions used to determine net periodic benefit costs (income) for the plans.

NOTE M – EMPLOYEE BENEFIT PLANS (continued)

(In millions)	Pension benefits			Other postretirement benefits		
	2013	2012	2011	2013	2012	2011
Net periodic benefit costs (income)						
Service cost	\$ 43	\$ 36	\$ 39	\$ 2	\$ 2	\$ 3
Interest cost	175	198	201	7	12	16
Curtailment (a)	—	(1)	(20)	—	—	(24)
Expected return on plan assets	(238)	(226)	(226)	—	—	—
Amortization of prior service credit (b)	(2)	(2)	(2)	(21)	(14)	(10)
Actuarial (gain) loss	(472)	482	275	(26)	11	8
	<u>\$ (494)</u>	<u>\$ 487</u>	<u>\$ 267</u>	<u>\$ (38)</u>	<u>\$ 11</u>	<u>\$ (7)</u>
Weighted-average plan assumptions (c)						
Discount rate	3.70%	4.76%	5.01%	3.23%	4.39%	4.68%
Rate of compensation increase	3.66%	3.69%	3.66%	—	—	—
Expected long-term rate of return on plan assets	7.26%	7.67%	7.68%	—	—	—

- (a) The Distribution divestiture during 2011 resulted in a pension and other postretirement curtailment gain of \$44 million, which was recognized as part of the \$271 million gain on sale of Distribution, recorded within the discontinued operations caption of the Statement of Consolidated Comprehensive Income.
- (b) During 2011 and 2012, changes to the post-65 Ashland Medical plan resulted in negative plan amendments that are being amortized within the other postretirement benefits caption.
- (c) The plan assumptions discussed are a blended weighted-average rate for Ashland's U.S. and non-U.S. plans. The U.S. pension plan represented approximately 82% of the projected benefit obligation at September 30, 2013. Other postretirement benefit plans consist of U.S. and Canada, with the U.S. plan representing approximately 93% of the accumulated postretirement benefit obligation at September 30, 2013. Non-U.S. plans use assumptions generally consistent with those of U.S. plans.

The following table shows other changes in prior service credit recognized in accumulated other comprehensive income.

(In millions)	Pension		Postretirement	
	2013	2012	2013	2012
Prior service credit	\$ (14)	\$ —	\$ 1	\$ (48)
Amortization of prior service credit	2	2	21	14
Total	<u>\$ (12)</u>	<u>\$ 2</u>	<u>\$ 22</u>	<u>\$ (34)</u>
Total recognized in net periodic benefit cost (income) and accumulated other comprehensive income	\$ (506)	\$ 489	\$ (16)	\$ (23)

The following table shows the amount of prior service credit in accumulated other comprehensive income at September 30, 2013 that is expected to be recognized as a component of net periodic benefit cost (income) during the next fiscal year.

(In millions)	Pension benefits	Other postretirement benefits
Prior service credit	\$ (3)	\$ (21)

At September 30, 2013 and 2012, the amounts recognized in accumulated other comprehensive income are shown in the following table.

(In millions)	Pension		Postretirement	
	2013	2012	2013	2012
Prior service credit	\$ (20)	\$ (8)	\$ (93)	\$ (115)

NOTE M – EMPLOYEE BENEFIT PLANS (continued)
Obligations and funded status

Actuarial valuations are performed for the pension and other postretirement benefit plans to determine Ashland's obligation for each plan. In accordance with U.S. GAAP, Ashland recognizes the unfunded status of the plans as a liability in the Consolidated Balance Sheets. Summaries of the change in benefit obligations, plan assets, funded status of the plans, amounts recognized in the balance sheet, and assumptions used to determine the benefit obligations for 2013 and 2012 follow.

(In millions)	Pension plans		Other postretirement benefit plans	
	2013	2012	2013	2012
Change in benefit obligations				
Benefit obligations at October 1	\$ 4,877	\$ 4,242	\$ 255	\$ 302
Service cost	43	36	2	2
Interest cost	175	198	7	12
Participant contributions	2	2	13	15
Benefits paid	(241)	(238)	(34)	(41)
Actuarial (gain) loss	(549)	613	(26)	11
Plan amendment	(14)	—	—	(48)
Foreign currency exchange rate changes	15	(6)	—	1
Other	(1)	31	—	—
Medicare Part D Act	—	—	—	1
Curtailment gain	—	(1)	—	—
Benefit obligations at September 30	<u>\$ 4,307</u>	<u>\$ 4,877</u>	<u>\$ 217</u>	<u>\$ 255</u>
Change in plan assets				
Value of plan assets at October 1	\$ 3,320	\$ 3,012	\$ —	\$ —
Actual return on plan assets	161	357	—	—
Employer contributions	128	170	21	26
Participant contributions	2	2	13	15
Benefits paid	(241)	(238)	(34)	(41)
Foreign currency exchange rate changes	12	(4)	—	—
Other	(1)	21	—	—
Value of plan assets at September 30	<u>\$ 3,381</u>	<u>\$ 3,320</u>	<u>\$ —</u>	<u>\$ —</u>
Unfunded status of the plans	<u>\$ (926)</u>	<u>\$ (1,557)</u>	<u>\$ (217)</u>	<u>\$ (255)</u>
Amounts recognized in the balance sheet				
Noncurrent benefit assets	\$ 48	\$ 45	\$ —	\$ —
Current benefit liabilities	(16)	(17)	(19)	(20)
Noncurrent benefit liabilities	(958)	(1,585)	(198)	(235)
Net amount recognized	<u>\$ (926)</u>	<u>\$ (1,557)</u>	<u>\$ (217)</u>	<u>\$ (255)</u>
Weighted-average plan assumptions				
Discount rate	4.68%	3.70%	4.28%	3.23%
Rate of compensation increase	3.59%	3.66%	—	—

The accumulated benefit obligation for all pension plans was \$4,199 million at September 30, 2013 and \$4,707 million at September 30, 2012. Information for pension plans with an accumulated benefit obligation in excess of plan assets follows:

NOTE M – EMPLOYEE BENEFIT PLANS (continued)

(In millions)	2013			2012		
	Qualified plans (a)	Non-qualified plans	Total	Qualified plans (a)	Non-qualified plans	Total
Projected benefit obligation	\$ 3,612	\$ 171	\$ 3,783	\$ 4,185	\$ 190	\$ 4,375
Accumulated benefit obligation	3,530	163	3,693	4,074	179	4,253
Fair value of plan assets	2,809	—	2,809	2,777	—	2,777

(a) Includes qualified U.S. and non-U.S. pension plans.

Plan assets

The expected long-term rate of return on U.S. pension plan assets was 8.00% and 8.25%, respectively, for 2013 and 2012. The basis for determining the expected long-term rate of return is a combination of future return assumptions for various asset classes in Ashland's investment portfolio, historical analysis of previous returns, market indices and a projection of inflation.

The following table summarizes the various investment categories that the pension plan assets are invested in and the applicable fair value hierarchy that the financial instruments are classified within these investment categories as of September 30, 2013. For additional information and a detailed description of each level within the fair value hierarchy, see Note G.

(In millions)	Total fair value	Quoted prices	Significant	Significant
		in active markets for identical assets Level 1	other observable inputs Level 2	unobservable inputs Level 3
Cash and cash equivalents	\$ 352	\$ 352	\$ —	\$ —
U.S. government securities	89	12	77	—
Other government securities	148	—	148	—
Corporate debt instruments	1,222	634	588	—
Corporate stocks	324	209	115	—
Insurance contracts	18	—	18	—
Private equity and hedge funds	1,190	—	—	1,190
Other investments	38	—	—	38
Total assets at fair value	\$ 3,381	\$ 1,207	\$ 946	\$ 1,228

The following table summarizes the various investment categories that the pension plan assets are invested in and the applicable fair value hierarchy that the financial instruments are classified within these investment categories as of September 30, 2012.

(In millions)	Total fair value	Quoted prices	Significant	Significant
		in active markets for identical assets Level 1	other observable inputs Level 2	unobservable inputs Level 3
Cash and cash equivalents	\$ 152	\$ 152	\$ —	\$ —
U.S. government securities	189	150	39	—
Other government securities	157	21	136	—
Corporate debt instruments	1,284	807	477	—
Corporate stocks	383	174	209	—
Insurance contracts	9	—	9	—
Private equity and hedge funds	1,101	—	—	1,101
Other investments	45	—	—	45
Total assets at fair value	\$ 3,320	\$ 1,304	\$ 870	\$ 1,146

NOTE M – EMPLOYEE BENEFIT PLANS (continued)

Ashland's pension plans hold Level 3 investments primarily within hedge funds and private equity funds. The fair value of Ashland's ownership interest in these investments is based on the current market value of underlying investments, which are generally traded in active markets. The following table provides a reconciliation of the beginning and ending balances for these Level 3 assets.

(In millions)	Total Level 3 assets	Private equity and hedge funds	Other investments
Balance as of September 30, 2011	\$ 1,115	\$ 1,067	\$ 48
Purchases	144	144	—
Sales	(173)	(173)	—
Actual return on plan assets			
Relating to assets held at September 30, 2012	61	64	(3)
Relating to assets sold during 2012	(1)	(1)	—
Balance as of September 30, 2012	<u>1,146</u>	<u>1,101</u>	<u>45</u>
Purchases	207	207	—
Sales	(230)	(230)	—
Actual return on plan assets			
Relating to assets held at September 30, 2013	101	108	(7)
Relating to assets sold during 2013	4	4	—
Balance as of September 30, 2013	<u>\$ 1,228</u>	<u>\$ 1,190</u>	<u>\$ 38</u>

In developing an investment strategy for its defined benefit plans, Ashland has considered the following factors: the nature of the plans' liabilities, the allocation of liabilities between active, deferred and retired members, the funded status of the plans, the applicable investment horizon, the respective size of the plans and historical and expected capital market returns. Ashland's U.S. pension plan assets are managed by outside investment managers, which are monitored against investment return benchmarks and Ashland's established investment strategy. Investment managers are selected based on an analysis of, among other things, their investment process, historical investment results, frequency of management turnover, cost structure and assets under management. Assets are periodically reallocated between investment managers to maintain an appropriate asset mix and diversification of investments and to optimize returns.

The current target asset allocation for the U.S. plan is 40% fixed securities and 60% equity securities. Fixed income securities primarily include long duration high grade corporate debt obligations. Risk assets include both traditional equity as well as a mix of non-traditional assets such as hedge funds and private equity. Investment managers may employ a limited use of derivatives to gain efficient exposure to markets.

Ashland's investment strategy and management practices relative to plan assets of non-U.S. plans generally are consistent with those for U.S. plans, except in those countries where investment of plan assets is dictated by applicable regulations. The weighted-average asset allocations for Ashland's U.S. and non-U.S. plans at September 30, 2013 and 2012 by asset category follow.

(In millions)	Target	Actual at September 30	
		2013	2012
Plan assets allocation			
Equity securities	40 - 80%	50%	51%
Debt securities	20 - 45%	48%	47%
Other	0 - 20%	2%	2%
		<u>100%</u>	<u>100%</u>

Cash flows

Fiscal 2013 U.S. pension plan contributions reflect the impact of the Moving Ahead for Progress in the 21st Century Act (MAP-21) enacted in July 2012. During fiscal 2013 and 2012, Ashland contributed \$24 million and \$28 million, respectively, to its non-U.S. pension plans and \$104 million and \$142 million, respectively, to its U.S. pension plans. MAP-21 provides temporary relief for employers who sponsor defined benefit pension plans related to funding contributions under the Employee Retirement Income Security Act of 1974. Specifically, MAP-21 allows for the use of a 25-year average interest rate within an upper and lower

NOTE M – EMPLOYEE BENEFIT PLANS (continued)

range for purposes of determining minimum funding obligations instead of an average interest rate for the two most recent years, as was previously required. Reflecting the impact of this law, Ashland expects to contribute approximately \$20 million to its U.S. pension plans and approximately \$25 million to its non-U.S. pension plans during 2014.

The following benefit payments, which reflect future service expectations, are projected to be paid in each of the next five years and in aggregate for five years thereafter.

(In millions)	Pension benefits	Other postretirement benefits
2014	\$ 235	\$ 19
2015	241	19
2016	245	19
2017	254	19
2018	257	19
2019 - 2023	1,364	80

Other plans

Ashland sponsors savings plans to assist eligible employees in providing for retirement or other future needs. Under such plans, company contributions amounted to \$43 million in 2013, \$38 million in 2012 and \$25 million in 2011. Ashland also sponsors various other benefit plans, some of which are required by different countries. The total noncurrent liabilities associated with these plans were \$13 million and \$12 million as of September 30, 2013 and 2012, respectively.

NOTE N – LITIGATION, CLAIMS AND CONTINGENCIES**Asbestos litigation**

Ashland and Hercules, a wholly-owned subsidiary of Ashland that was acquired in 2009, have liabilities from claims alleging personal injury caused by exposure to asbestos. To assist in developing and annually updating independent reserve estimates for future asbestos claims and related costs given various assumptions, Ashland retained Hamilton, Rabinovitz & Associates, Inc. (HR&A). The methodology used by HR&A to project future asbestos costs is based largely on recent experience, including claim-filing and settlement rates, disease mix, enacted legislation, open claims and litigation defense. The claim experience of Ashland and Hercules are separately compared to the results of previously conducted third party epidemiological studies estimating the number of people likely to develop asbestos-related diseases. Those studies were undertaken in connection with national analyses of the population expected to have been exposed to asbestos. Using that information, HR&A estimates a range of the number of future claims that may be filed, as well as the related costs that may be incurred in resolving those claims. Changes in asbestos-related liabilities and receivables are recorded on an after-tax basis within the discontinued operations caption in the Statements of Consolidated Comprehensive Income.

Ashland asbestos-related litigation

The claims alleging personal injury caused by exposure to asbestos asserted against Ashland result primarily from indemnification obligations undertaken in 1990 in connection with the sale of Riley, a former subsidiary. The amount and timing of settlements and number of open claims can fluctuate significantly from period to period. A summary of Ashland asbestos claims activity, excluding Hercules claims, follows.

(In thousands)	2013	2012	2011
Open claims - beginning of year	66	72	83
New claims filed	2	2	2
Claims settled	(1)	(1)	(1)
Claims dismissed	(2)	(7)	(12)
Open claims - end of year	<u>65</u>	<u>66</u>	<u>72</u>

NOTE N – LITIGATION, CLAIMS AND CONTINGENCIES (continued)*Ashland asbestos-related liability*

From the range of estimates, Ashland records the amount it believes to be the best estimate of future payments for litigation defense and claim settlement costs, which generally approximates the mid-point of the estimated range of exposure from model results. Ashland reviews this estimate and related assumptions quarterly and annually updates the results of a non-inflated, non-discounted approximate 50-year model developed with the assistance of HR&A.

During the most recent update, completed during 2013, it was determined that the liability for Ashland asbestos claims should be decreased by \$28 million. Total reserves for asbestos claims were \$463 million at September 30, 2013 compared to \$522 million at September 30, 2012.

A progression of activity in the asbestos reserve is presented in the following table.

(In millions)	2013	2012	2011
Asbestos reserve - beginning of year	\$ 522	\$ 543	\$ 537
Reserve adjustment	(28)	11	41
Amounts paid	(31)	(32)	(35)
Asbestos reserve - end of year	<u>\$ 463</u>	<u>\$ 522</u>	<u>\$ 543</u>

Ashland asbestos-related receivables

Ashland has insurance coverage for most of the litigation defense and claim settlement costs incurred in connection with its asbestos claims, and coverage-in-place agreements exist with the insurance companies that provide most of the coverage currently being accessed. As a result, any increases in the asbestos reserve have been largely offset by probable insurance recoveries. The amounts not recoverable generally are due from insurers that are insolvent, rather than as a result of uninsured claims or the exhaustion of Ashland's insurance coverage.

For the Ashland asbestos-related obligations, Ashland has estimated the value of probable insurance recoveries associated with its asbestos reserve based on management's interpretations and estimates surrounding the available or applicable insurance coverage, including an assumption that all solvent insurance carriers remain solvent. Approximately 65% of the estimated receivables from insurance companies are expected to be due from domestic insurers, all of which have a credit rating of B+ or higher by A. M. Best, as of September 30, 2013. The remainder of the insurance receivable is due from London insurance companies, which generally have lower credit quality ratings, and from Underwriters at Lloyd's, whose insurance policy obligations have been transferred to a subsidiary of Berkshire Hathaway. Ashland discounts this portion of the receivable based upon the projected timing of the receipt of cash from those insurers unless likely settlement amounts can be determined.

During 2012, Ashland received \$7 million in cash after reaching a settlement with certain insolvent London market insurance companies. The cash received from this settlement during the current period was recognized as an after-tax gain of \$6 million within discontinued operations of the Statement of Consolidated Comprehensive Income since Ashland's policy is to not record asbestos receivables for any carriers that are insolvent until cash is received.

In October 2012, Ashland initiated arbitration proceedings against Underwriters at Lloyd's and certain Chartis (AIG member) companies seeking to enforce these insurers' contractual obligations to provide indemnity for asbestos liabilities and defense costs under existing coverage-in-place agreements. In addition, Ashland has initiated a lawsuit in Kentucky state court against certain Berkshire Hathaway entities (National Indemnity Company and Resolute Management Inc.) on grounds that these Berkshire entities have wrongfully interfered with Underwriters' and Chartis' performance of their respective contractual obligations to provide asbestos coverage by directing the insurers to reduce and delay certain claim payments. While Ashland anticipates its position will be supported by the proceedings, an adverse resolution of these proceedings could have a significant effect on the timing of loss reimbursement and the amount of Ashland's recorded insurance receivables from these insurers.

At September 30, 2013, Ashland's receivable for recoveries of litigation defense and claim settlement costs from insurers amounted to \$408 million (excluding the Hercules receivable for asbestos claims), of which \$88 million relates to costs previously paid. Receivables from insurers amounted to \$423 million at September 30, 2012. During 2013, the model used for purposes of valuing the asbestos reserve described above, and its impact on valuation of future recoveries from insurers, was updated. This model update resulted in a \$3 million decrease in the receivable for probable insurance recoveries.

NOTE N – LITIGATION, CLAIMS AND CONTINGENCIES (continued)

A progression of activity in the Ashland insurance receivable is presented in the following table.

(In millions)	2013	2012	2011
Insurance receivable - beginning of year	\$ 423	\$ 431	\$ 421
Receivable adjustment	(3)	19	42
Amounts collected	(12)	(27)	(32)
Insurance receivable - end of year	<u>\$ 408</u>	<u>\$ 423</u>	<u>\$ 431</u>

Hercules asbestos-related litigation

Hercules, a wholly-owned subsidiary of Ashland acquired during 2009, has liabilities from claims alleging personal injury caused by exposure to asbestos. Such claims typically arise from alleged exposure to asbestos fibers from resin encapsulated pipe and tank products which were sold by one of Hercules' former subsidiaries to a limited industrial market. The amount and timing of settlements and number of open claims can fluctuate significantly from period to period. A summary of Hercules' asbestos claims activity follows.

(In thousands)	2013	2012	2011
Open claims - beginning of year	21	21	20
New claims filed	1	1	2
Claims dismissed	(1)	(1)	(1)
Open claims - end of year	<u>21</u>	<u>21</u>	<u>21</u>

Hercules asbestos-related liability

From the range of estimates, Ashland records the amount it believes to be the best estimate of future payments for litigation defense and claim settlement costs, which generally approximates the mid-point of the estimated range of exposure from model results. Ashland reviews this estimate and related assumptions quarterly and annually updates the results of a non-inflated, non-discounted approximate 50-year model developed with the assistance of HR&A. During the most recent annual update of this estimate, completed during 2013, it was determined that the liability for Hercules asbestos-related claims should be increased by \$46 million. Total reserves for asbestos claims were \$342 million at September 30, 2013 compared to \$320 million at September 30, 2012.

A progression of activity in the asbestos reserve is presented in the following table.

(In millions)	2013	2012	2011
Asbestos reserve - beginning of year	\$ 320	\$ 311	\$ 375
Reserve adjustments	46	30	(48)
Amounts paid	(24)	(21)	(16)
Asbestos reserve - end of year	<u>\$ 342</u>	<u>\$ 320</u>	<u>\$ 311</u>

Hercules asbestos-related receivables

For the Hercules asbestos-related obligations, certain coverage-in-place agreements with insurance carriers exist. As a result, any increases in the asbestos reserve have been partially offset by probable insurance recoveries. Ashland has estimated the value of probable insurance recoveries associated with its asbestos reserve based on management's interpretations and estimates surrounding the available or applicable insurance coverage, including an assumption that all solvent insurance carriers remain solvent. As of September 30, 2013, this estimated receivable consists exclusively of domestic insurers, all of which have a credit rating of B+ or higher by A. M. Best.

As of September 30, 2013 and 2012, the receivables from insurers amounted to \$75 million and \$56 million, respectively. During 2013, the model used for purposes of valuing the asbestos reserve and its impact on valuation of future recoveries from insurers was updated. This model update caused a \$19 million increase in the receivable for probable insurance recoveries.

NOTE N – LITIGATION, CLAIMS AND CONTINGENCIES (continued)

A progression of activity in the Hercules insurance receivable is presented in the following table.

(In millions)	2013	2012	2011
Insurance receivable - beginning of year	\$ 56	\$ 48	\$ 68
Receivable adjustment	19	9	(20)
Amounts collected	—	(1)	—
Insurance receivable - end of year	<u>\$ 75</u>	<u>\$ 56</u>	<u>\$ 48</u>

Asbestos litigation cost projection

Projecting future asbestos costs is subject to numerous variables that are extremely difficult to predict. In addition to the significant uncertainties surrounding the number of claims that might be received, other variables include the type and severity of the disease alleged by each claimant, the long latency period associated with asbestos exposure, dismissal rates, costs of medical treatment, the impact of bankruptcies of other companies that are co-defendants in claims, uncertainties surrounding the litigation process from jurisdiction to jurisdiction and from case to case, and the impact of potential changes in legislative or judicial standards. Furthermore, any predictions with respect to these variables are subject to even greater uncertainty as the projection period lengthens. In light of these inherent uncertainties, Ashland believes that the asbestos reserves for Ashland and Hercules represent the best estimate within a range of possible outcomes. As a part of the process to develop these estimates of future asbestos costs, a range of long-term cost models was developed. These models are based on national studies that predict the number of people likely to develop asbestos-related diseases and are heavily influenced by assumptions regarding long-term inflation rates for indemnity payments and legal defense costs, as well as other variables mentioned previously. Ashland has currently estimated in various models ranging from approximately 40 to 50 year periods that it is reasonably possible that total future litigation defense and claim settlement costs on an inflated and undiscounted basis could range as high as approximately \$740 million for the Ashland asbestos-related litigation and approximately \$640 million for the Hercules asbestos-related litigation (or approximately \$1.4 billion in the aggregate), depending on the combination of assumptions selected in the various models. If actual experience is worse than projected relative to the number of claims filed, the severity of alleged disease associated with those claims or costs incurred to resolve those claims, Ashland may need to increase further the estimates of the costs associated with asbestos claims and these increases could potentially be material over time.

Environmental remediation and asset retirement obligations

Ashland is subject to various federal, state and local environmental laws and regulations that require environmental assessment or remediation efforts (collectively environmental remediation) at multiple locations. At September 30, 2013, such locations included 79 waste treatment or disposal sites where Ashland has been identified as a potentially responsible party under Superfund or similar state laws, 147 current and former operating facilities (including certain operating facilities conveyed to MAP) and about 1,225 service station properties, of which 85 are being actively remediated.

Ashland's reserves for environmental remediation amounted to \$211 million at September 30, 2013 compared to \$228 million at September 30, 2012, of which \$171 million at September 30, 2013 and \$187 million at September 30, 2012 were classified in other noncurrent liabilities on the Consolidated Balance Sheets.

The following table provides a reconciliation of the changes in the environmental remediation reserves during 2013.

(In millions)	2013	2012
Environmental remediation reserve - beginning of year	\$ 228	\$ 246
Disbursements, net of cost recoveries	(50)	(44)
Revised obligation estimates and accretion	31	27
Foreign currency translation	2	(1)
Environmental remediation reserve - end of year	<u>\$ 211</u>	<u>\$ 228</u>

The total reserves for environmental remediation reflect Ashland's estimates of the most likely costs that will be incurred over an extended period to remediate identified conditions for which the costs are reasonably estimable, without regard to any third-party recoveries. Engineering, technical and feasibility studies are used, along with historical experience and other factors, to identify and evaluate remediation alternatives and their related costs in determining the estimated reserves for environmental remediation. Ashland continues to discount certain environmental sites and regularly adjusts its reserves as environmental remediation continues. Ashland has estimated the value of its probable insurance recoveries associated with its environmental

NOTE N – LITIGATION, CLAIMS AND CONTINGENCIES (continued)

reserve based on management's interpretations and estimates surrounding the available or applicable insurance coverage. At September 30, 2013 and 2012, Ashland's recorded receivable for these probable insurance recoveries was \$26 million.

Components of environmental remediation expense included within the selling, general and administrative expense caption of the Statements of Consolidated Comprehensive Income are presented in the following table for the years ended September 30, 2013, 2012 and 2011.

(In millions)	2013	2012	2011
Environmental expense	\$ 28	\$ 23	\$ 42
Accretion	3	4	4
Legal expense	2	2	3
Total expense	33	29	49
Insurance receivable	(4)	(6)	(13)
Total expense, net of receivable activity (a)	\$ 29	\$ 23	\$ 36

(a) Net expense of \$6 million, \$8 million and \$6 million for the fiscal years ended September 30, 2013, 2012 and 2011, respectively, relates to divested businesses which qualified for treatment as discontinued operations and for which the environmental liabilities were retained by Ashland. These amounts are classified within the income (loss) from discontinued operations caption of the Statements of Consolidated Comprehensive Income.

Environmental remediation reserves are subject to numerous inherent uncertainties that affect Ashland's ability to estimate its share of the costs. Such uncertainties involve the nature and extent of contamination at each site, the extent of required cleanup efforts under existing environmental regulations, widely varying costs of alternate cleanup methods, changes in environmental regulations, the potential effect of continuing improvements in remediation technology, and the number and financial strength of other potentially responsible parties at multiparty sites. Although it is not possible to predict with certainty the ultimate costs of environmental remediation, Ashland currently estimates that the upper end of the reasonably possible range of future costs for identified sites could be as high as approximately \$420 million. No individual remediation location is material, as the largest reserve for any site is approximately 12% or less of the remediation reserve.

Insurance settlement

In March 2011, prior to the acquisition of ISP in August 2011, a disruption in the supply of a key raw material for this business occurred at a supplier. For a period of time while the raw material was not available from this supplier, an alternative source was used, but at a higher cost. During 2013, Ashland finalized its settlement with the insurers and received full payment in the amount of \$31 million. The insurance settlement resulted in net gains of \$22 million being recognized within the cost of sales caption of the Statement of Consolidated Comprehensive Income during 2013.

Settled claim

During 2013, Ashland settled and collected a claim related to sales commissions and receivables within the Specialty Ingredients business segment. To recognize the settlement, Ashland recorded \$13 million of income within the equity and other income caption on the Statement of Consolidated Comprehensive Income during 2013.

Other legal proceedings and claims

In addition to the matters described above, there are other various claims, lawsuits and administrative proceedings pending or threatened against Ashland and its current and former subsidiaries. Such actions are with respect to commercial matters, product liability, toxic tort liability, and other environmental matters, which seek remedies or damages, some of which are for substantial amounts. While Ashland cannot predict with certainty the outcome of such actions, it believes that adequate reserves have been recorded and losses already recognized with respect to such actions were immaterial as of September 30, 2013 and 2012. There is a reasonable possibility that a loss exceeding amounts already recognized may be incurred related to these actions; however, Ashland believes that such potential losses were immaterial as of September 30, 2013 and 2012. For more information on these claims, see the Legal Proceedings section of Form 10-K (Part I, Item 3).

NOTE O – STOCKHOLDERS' EQUITY ITEMS*Stock repurchase program*

During 2013, the Board of Directors of Ashland authorized a \$600 million common stock repurchase program. This new authorization replaced Ashland's previous \$400 million share repurchase authorization. Under the new program, Ashland's

NOTE O - STOCKHOLDERS' EQUITY ITEMS (continued)

common shares may be repurchased in open market transactions, privately negotiated transactions or pursuant to one or more accelerated stock repurchase programs or Rule 10b5-1 plans. This new repurchase program will expire on December 31, 2014.

As part of the \$600 million common stock repurchase program, Ashland announced and completed an accelerated share repurchase agreement (ASR Agreement) with Citibank, N.A. (Citibank) during 2013. Under the ASR Agreement, Ashland paid an initial purchase price of \$150 million to Citibank and received an initial delivery of approximately 1.3 million shares of its common stock. The ASR Agreement had a variable maturity, at Citibank's option, with a maximum pricing period termination date of August 21, 2013. In June 2013, Citibank exercised its early termination option under the ASR Agreement and the pricing period was closed. The settlement price, which represents the weighted average price of Ashland's common stock over the pricing period less a discount, was \$86.32 per share. Based on this settlement price, the final number of shares repurchased by Ashland that were to be delivered by Citibank under the ASR Agreement was 1.7 million shares. Ashland received the additional 0.4 million shares from Citibank in June 2013 to settle the difference between the initial share delivery and the total number of shares repurchased.

In March 2011, the Board of Directors of Ashland approved the \$400 million stock repurchase program previously mentioned. Under the program that began on April 1, 2011, Ashland purchased common shares through a \$200 million 10b5-1 automatic trading plan. Effective May 31, 2011, as a result of the announcement of the pending ISP acquisition, Ashland terminated the 10b5-1 automatic trading program. Ashland still had the ability to make discretionary purchases of Ashland Common Stock on the open market, pursuant to the Board's original \$400 million share repurchase authorization. Purchases under the plan amounted to \$71 million, or 1.2 million shares, during 2011. Ashland did not repurchase any shares during 2012 under this program.

Stockholder dividends

In May 2013, the Board of Directors of Ashland announced a quarterly cash dividend increase to 34 cents per share, \$1.36 per share on an annual basis, to eligible shareholders of record. This amount was paid for quarterly dividends in June and September 2013 and was an increase from the quarterly cash dividend of 22.5 cents per share paid during the first and second quarters of fiscal 2013.

In May 2012, the Board of Directors of Ashland announced a quarterly cash dividend increase to 22.5 cents per share, 90 cents per share on an annual basis, to eligible shareholders of record. This amount was paid for quarterly dividends in June and September 2012 and was an increase from the quarterly cash dividend of 17.5 cents per share paid during the first and second quarters of fiscal 2012.

In May 2011, the Board of Directors of Ashland announced a quarterly cash dividend increase to 17.5 cents per share, 70 cents per share on an annual basis, to eligible shareholders of record. This amount was paid for quarterly dividends in June and September 2011 and was an increase from the quarterly cash dividend of 15 cents per share paid during the first and second quarters of fiscal 2011.

Shares reserved for issuance

At September 30, 2013, 8.9 million common shares are reserved for issuance under stock incentive and deferred compensation plans.

Accumulated other comprehensive income

Components of other comprehensive income recorded in the Statements of Consolidated Comprehensive Income are presented in the following table, before tax and net of tax effects.

NOTE O - STOCKHOLDERS' EQUITY ITEMS (continued)

(In millions)	Before tax	Tax (expense) benefit	Net of tax
Year ended September 30, 2013			
Other comprehensive income (loss)			
Unrealized translation gain	\$ 45	\$ (8)	\$ 37
Pension and postretirement obligation adjustment	(10)	5	(5)
Net change in interest rate hedges	62	(24)	38
Total other comprehensive income (loss)	<u>\$ 97</u>	<u>\$ (27)</u>	<u>\$ 70</u>
Year ended September 30, 2012			
Other comprehensive income (loss)			
Unrealized translation loss	\$ (99)	\$ 12	\$ (87)
Pension and postretirement obligation adjustment	32	(8)	24
Net change in interest rate hedges	(42)	16	(26)
Total other comprehensive (loss) income	<u>\$ (109)</u>	<u>\$ 20</u>	<u>\$ (89)</u>
Year ended September 30, 2011			
Other comprehensive income (loss)			
Unrealized translation loss	\$ (19)	\$ 1	\$ (18)
Pension and postretirement obligation adjustment	50	(17)	33
Net change in interest rate hedges	(20)	8	(12)
Total other comprehensive income (loss)	<u>\$ 11</u>	<u>\$ (8)</u>	<u>\$ 3</u>

NOTE P – STOCK INCENTIVE PLANS

Ashland has stock incentive plans under which key employees or directors are granted SARs, performance share awards or nonvested stock awards. Each program is typically a long-term incentive plan designed to link employee compensation with increased shareholder value over time or reward superior performance and encourage continued employment with Ashland. Compensation expense is recognized for the grant date fair value of stock-based awards over the applicable vesting period. The components of Ashland's pretax stock-based awards (net of forfeitures), which is included in the selling, general and administrative expense caption of the Statements of Consolidated Comprehensive Income, and associated income tax benefits are as follows:

(In millions)	2013	2012	2011
SARs	\$ 17	\$ 13	\$ 10
Nonvested stock awards	4	5	4
Performance share awards	9	10	2
	<u>\$ 30</u>	<u>\$ 28</u>	<u>\$ 16</u>
Income tax benefit	<u>\$ 11</u>	<u>\$ 11</u>	<u>\$ 6</u>

Stock Appreciation Rights (SARs)

SARs are granted to employees or directors at a price equal to the fair market value of the stock on the date of grant and typically become exercisable over periods of one to three years. Unexercised SARs expire ten years and one month after the date of grant. Ashland estimates the fair value of SARs granted using the Black-Scholes option-pricing model. This model requires several assumptions, which Ashland has developed and updates based on historical trends and current market observations. The accuracy of these assumptions is critical to the estimate of fair value for these equity instruments. The following table illustrates the weighted-average of key assumptions used within the Black-Scholes option-pricing model. The risk-free interest rate

NOTE P – STOCK INCENTIVE PLANS (continued)

assumption was based on the U.S. Treasury yield curve in effect at the time of the grant for the expected term of the instrument. The dividend yield reflects the assumption that the current dividend payout will continue with no anticipated increases. The volatility assumption was calculated by utilizing an unbiased standard deviation of Ashland's Common Stock closing price for the past five years. The expected life is based on historical data and is not necessarily indicative of exercise patterns that may occur.

(In millions except per share data)	2013	2012	2011
Weighted-average fair value per share of SARs granted	\$ 29.93	\$ 23.96	\$ 22.25
Assumptions (weighted-average)			
Risk-free interest rate	0.7%	1.0%	1.5%
Expected dividend yield	1.3%	1.3%	1.2%
Expected volatility	55.0%	55.0%	53.4%
Expected life (in years)	5	5	5

A progression of activity and various other information relative to SARs and previously issued and vested stock options is presented in the following table.

	2013		2012		2011	
	Number of common shares	Weighted- average exercise price per share	Number of common shares	Weighted- average exercise price per share	Number of common shares	Weighted- average exercise price per share
(In thousands except per share data)						
Outstanding - beginning of year	2,908	\$ 45.94	3,546	\$ 39.52	3,714	\$ 36.11
Granted	888	70.41	700	55.75	596	51.86
Exercised	(1,037)	39.95	(1,273)	33.30	(698)	31.02
Forfeitures and expirations	(101)	61.96	(65)	48.64	(66)	48.62
Outstanding - end of year (a)	<u>2,658</u>	55.84	<u>2,908</u>	45.94	<u>3,546</u>	39.52
Exercisable - end of year	<u>1,390</u>	47.46	<u>1,832</u>	41.97	<u>2,410</u>	40.22

(a) Exercise prices per share for SARs outstanding at September 30, 2013 ranged from \$9.49 to \$19.81 for 174,000 shares, from \$21.43 to \$38.47 for 209,000 shares, from \$42.58 to \$55.73 for 1,189,000 shares, and from \$64.92 to \$87.86 for 1,086,000 shares. The weighted-average remaining contractual life of outstanding SARs and stock options was 7.0 years and exercisable SARs and stock options was 5.4 years.

The total intrinsic value of SARs exercised was \$45 million in 2013, \$45 million in 2012 and \$4 million in 2011. The actual tax benefit realized from the exercised SARs was \$1 million in 2013, \$16 million in 2012 and \$9 million in 2011. The total grant date fair value of SARs that vested during 2013, 2012 and 2011 was \$13 million, \$10 million and \$8 million, respectively. As of September 30, 2013, there was \$20 million of total unrecognized compensation costs related to SARs. That cost is expected to be recognized over a weighted-average period of 1.9 years. As of September 30, 2013, the aggregate intrinsic value of outstanding SARs was \$97 million and exercisable SARs was \$63 million.

Nonvested stock awards

Nonvested stock awards are granted to employees or directors at a price equal to the fair market value of the stock on the date of grant and generally vest over a one-to-five-year period. However, such shares are subject to forfeiture upon termination of service before the vesting period ends. Nonvested stock awards entitle employees or directors to vote the shares. Cash dividends are paid on nonvested stock awards granted prior to January 2010, while dividends on subsequent nonvested stock awards granted are in the form of additional shares of nonvested stock awards, which are subject to vesting and forfeiture provisions. Since January 2010, these instruments have been designated as non-participating securities.

NOTE P – STOCK INCENTIVE PLANS (continued)

A progression of activity and various other information relative to nonvested stock awards is presented in the following table.

	2013		2012		2011	
	Number of common shares	Weighted-average grant date fair value	Number of common shares	Weighted-average grant date fair value	Number of common shares	Weighted-average grant date fair value
(In thousands except per share data)						
Nonvested - beginning of year	333	\$ 33.80	368	\$ 33.05	354	\$ 30.98
Granted	22	84.12	35	65.94	66	52.00
Vested	(205)	22.50	(56)	45.83	(48)	42.14
Forfeitures	(10)	51.01	(14)	48.62	(4)	45.82
Nonvested - end of year	<u>140</u>	<u>56.97</u>	<u>333</u>	<u>33.80</u>	<u>368</u>	<u>33.05</u>

The total fair value of nonvested stock awards that vested during 2013, 2012 and 2011 was \$5 million, \$4 million and \$3 million, respectively. As of September 30, 2013, there was \$4 million of total unrecognized compensation costs related to nonvested stock awards. That cost is expected to be recognized over a weighted-average period of 2.3 years.

Performance shares

Ashland sponsors a long-term incentive plan that awards performance shares/units to certain key employees that are tied to Ashland's overall financial performance relative to the financial performance of selected industry peer groups and/or internal targets. Awards are granted annually, with each award covering a three-year performance cycle. Each performance share/unit is convertible to one share of Ashland Common Stock. These plans are recorded as a component of stockholders' equity in the Consolidated Balance Sheets. Performance measures used to determine the actual number of performance shares issuable upon vesting include an equal weighting of Ashland's total shareholder return (TSR) performance and Ashland's return on investment (ROI) performance as compared to the performance peer groups and/or internal targets over the three-year performance cycle. TSR relative to peers is considered a market condition while ROI is considered a performance condition under applicable U.S. GAAP. Nonvested performance shares/units do not entitle employees to vote the shares or to receive any dividends thereon.

The following table shows the performance shares/units granted for all plans that award Ashland Common Stock.

(In thousands)	Performance period	Target shares granted (a)	Weighted-average fair value per share
Fiscal Year 2013	October 1, 2012 - September 30, 2015	134	\$ 73.50
Fiscal Year 2012	October 1, 2011 - September 30, 2014	199	\$ 63.26
Fiscal Year 2011	October 1, 2010 - September 30, 2013	158	\$ 59.93

(a) At the end of the performance period, the actual number of shares issued can range from zero to 200% of the target shares granted, which is assumed to be 100%.

The fair value of the ROI portion of the performance share awards is equal to the fair market value of Ashland's Common Stock on the date of the grant discounted for the dividends forgone during the vesting period of the three-year performance cycle. Compensation cost is recognized over the requisite service period if it is probable that the performance condition will be satisfied. The fair value of the TSR portion of the performance share awards is calculated using a Monte Carlo simulation valuation model using key assumptions included in the following table. Compensation cost is recognized over the requisite service period regardless of whether the market condition is satisfied.

	2013	2012	2011
Risk-free interest rate	0.2% - 0.3%	0.1% - 0.4%	0.3% - 0.8%
Expected dividend yield	1.3%	1.2%	1.0%
Expected life (in years)	3	3	3
Expected volatility	37.6%	56.3%	65.0%

NOTE P – STOCK INCENTIVE PLANS (continued)

The following table shows changes in nonvested performance shares/units for all plans that award Ashland Common Stock.

	2013		2012		2011	
	Shares	Weighted-average grant date fair value	Shares	Weighted-average grant date fair value	Shares	Weighted-average grant date fair value
(In thousands except per share data)						
Nonvested - beginning of year	480	\$ 54.39	577	\$ 30.92	536	\$ 25.97
Granted (a)	152	69.74	325	41.09	158	59.93
Vested (a)	(175)	39.55	(309)	6.69	(16)	50.78
Forfeitures	(24)	67.06	(113)	26.84	(101)	46.85
Nonvested - end of year	<u>433</u>	<u>65.05</u>	<u>480</u>	<u>54.39</u>	<u>577</u>	<u>30.92</u>

(a) The current year includes 18 additional shares from the fiscal 2010 through 2012 plan since a portion of that plan's payout was in excess of the initial 100% target.

As of September 30, 2013, there was \$8 million of total unrecognized compensation costs related to nonvested performance share awards. That cost is expected to be recognized over a weighted-average period of approximately 1.6 years.

NOTE Q – SEGMENT INFORMATION

Ashland's businesses are managed along four reportable segments: Specialty Ingredients, Water Technologies, Performance Materials and Consumer Markets.

Specialty Ingredients offers industry-leading products, technologies and resources for solving formulation and product-performance challenges in key markets including personal and home care, pharmaceutical, food and beverage, coatings, construction, energy and other industries. Using natural, synthetic and semisynthetic polymers derived from plant and seed extract, cellulose ethers and vinyl pyrrolidones, Specialty Ingredients offers comprehensive and innovative solutions for today's demanding consumer and industrial applications.

Water Technologies is a leading supplier of specialty chemicals and services to the pulp, paper, mining, food and beverage, power generation, refining, chemical processing, general manufacturing and municipal markets. It offers chemical and equipment technologies and services designed to help customers improve operational efficiencies, enhance product quality, protect plant assets and minimize environmental impact.

Performance Materials is a global leader helping customers create stronger, lighter, more resistant substitutes for traditional materials through higher performing, cost-efficient resin and adhesive technologies that improve the manufacturing, fabrication and design process. Applied industries include manufacturing, building and construction, packaging and converting. In addition, the Elastomers line of business provides high-quality styrene butadiene rubber primarily to the tire market. Performance Materials also provides metal casting consumables and design services for effective foundry management through its 50% ownership in the ASK Chemicals GmbH joint venture.

Consumer Markets delivers premium-branded automotive, commercial and industrial lubricants, automotive chemicals and car-care products. It operates and franchises approximately 900 Valvoline Instant Oil ChangeSM centers in the United States. It markets ValvolineTM lubricants and automotive chemicals; MaxLifeTM lubricants for cars with higher mileage engines; NextGenTM motor oil, created with 50-percent recycled oil; SynPowerTM synthetic motor oil; Eagle OneTM and Car BriteTM automotive appearance products; and ZerexTM antifreeze.

Unallocated and Other generally includes items such as components of pension and other postretirement benefit plan expenses (excluding service costs, which are allocated to the business segments), certain significant company-wide restructuring activities and legacy costs or adjustments that relate to divested businesses that are no longer operated by Ashland.

International data

Information about Ashland's domestic and international operations follows. Ashland has no material operations in any individual international country and no single customer represented more than 10% of sales in 2013, 2012 or 2011.

NOTE Q – SEGMENT INFORMATION (continued)

(In millions)	Sales from external customers			Net assets (liabilities)		Property, plant and equipment - net	
	2013	2012	2011	2013	2012	2013	2012
United States	\$ 3,792	\$ 4,106	\$ 3,316	\$ 276	\$ (476)	\$ 1,857	\$ 1,854
International	4,021	4,100	3,186	4,277	4,505	985	978
	<u>\$ 7,813</u>	<u>\$ 8,206</u>	<u>\$ 6,502</u>	<u>\$ 4,553</u>	<u>\$ 4,029</u>	<u>\$ 2,842</u>	<u>\$ 2,832</u>

Segment results

The following tables present various financial information for each segment for the years ended September 30, 2013, 2012 and 2011 and as of September 30, 2013, 2012 and 2011. Results of Ashland's business segments are presented based on its management structure and internal accounting practices. The structure and practices are specific to Ashland; therefore, the financial results of Ashland's business segments are not necessarily comparable with similar information for other comparable companies. Ashland allocates all costs to its business segments except for certain significant company-wide restructuring activities, such as the current restructuring plans described in Note F, and other costs or adjustments that relate to former businesses that Ashland no longer operates. Ashland refines its expense allocation methodologies to the reportable segments from time to time as internal accounting practices are improved, more refined information becomes available and businesses change. Revisions to Ashland's methodologies that are deemed insignificant are applied on a prospective basis.

Change in expense allocation for pension and other postretirement benefit plans

During 2011, Ashland elected to change its method of recognizing actuarial gains and losses for its defined benefit pension plans and other postretirement benefit plans. Previously, Ashland recognized the actuarial gains and losses as a component of stockholders' equity within the Consolidated Balance Sheet on an annual basis and amortized the gains and losses into operating results over the average future service period of active employees within the related plans. Ashland elected to immediately recognize the change in the fair value of plan assets and net actuarial gains and losses annually in the fourth quarter of each fiscal year and whenever a plan is determined to qualify for a remeasurement during a fiscal year. The remaining components of pension and other postretirement benefits expense are recorded on a quarterly basis. While Ashland's historical policy of recognizing pension and other postretirement benefit expense is considered acceptable under U.S. GAAP, Ashland believes that the new policy is preferable as it eliminates the delay in recognizing gains and losses within operating results. This change also improved transparency within Ashland's operating results by immediately recognizing the effects of economic and interest rate trends on plan investments and assumptions in the year these gains and losses are actually incurred. This change in accounting policy has been applied retrospectively, adjusting all periods prior to 2011.

In addition, as a further attempt to properly match actual operational expenses each business segment is incurring, Ashland changed its expense allocation for pension and other postretirement benefit plans during 2011. Previously, Ashland allocated all components of pension and other postretirement benefit plan expenses to each business segment on a ratable basis. Ashland now allocates only the service cost component of these plans to the business segment that incurred this expense. All other pension and other postretirement benefit plan expense components are recorded within the Unallocated and other reporting segment. Ashland believes the revised expense allocation more appropriately matches the cost incurred for active employees to the respective business segment. The prior year financial information disclosed in the following tables for each business segment reflects the retrospective application of this expense allocation change.

NOTE Q – SEGMENT INFORMATION (continued)

Ashland Inc. and Consolidated Subsidiaries

Segment Information

Years Ended September 30

(In millions)	2013	2012	2011
Sales			
Specialty Ingredients	\$ 2,616	\$ 2,878	\$ 1,256
Water Technologies	1,722	1,734	1,902
Performance Materials	1,479	1,560	1,373
Consumer Markets	1,996	2,034	1,971
	<u>\$ 7,813</u>	<u>\$ 8,206</u>	<u>\$ 6,502</u>
Equity income (expense)			
Specialty Ingredients	\$ 4	\$ 9	\$ 1
Water Technologies	1	1	1
Performance Materials	10	13	5
Consumer Markets	13	12	10
Unallocated and other	(1)	—	—
	<u>27</u>	<u>35</u>	<u>17</u>
Other income (expense)			
Specialty Ingredients	13	(4)	1
Water Technologies	5	4	3
Performance Materials	7	5	5
Consumer Markets	11	10	10
Unallocated and other	6	8	13
	<u>42</u>	<u>23</u>	<u>32</u>
	<u>\$ 69</u>	<u>\$ 58</u>	<u>\$ 49</u>
Operating income (loss)			
Specialty Ingredients	\$ 281	\$ 457	\$ 171
Water Technologies	80	72	93
Performance Materials	68	99	37
Consumer Markets	295	236	213
Unallocated and other	517	(562)	(384)
	<u>\$ 1,241</u>	<u>\$ 302</u>	<u>\$ 130</u>
Assets			
Specialty Ingredients	\$ 6,247	\$ 6,451	\$ 6,433
Water Technologies	1,861	1,865	1,942
Performance Materials	1,266	1,349	1,417
Consumer Markets	1,051	1,017	986
Unallocated and other	1,663	1,842	2,188
	<u>\$ 12,088</u>	<u>\$ 12,524</u>	<u>\$ 12,966</u>

NOTE Q – SEGMENT INFORMATION (continued)

Ashland Inc. and Consolidated Subsidiaries

Segment Information (continued)

Years Ended September 30

(In millions)	2013	2012	2011
Investment in equity affiliates			
Specialty Ingredients	\$ 12	\$ 11	\$ 3
Water Technologies	5	5	5
Performance Materials	157	156	150
Consumer Markets	40	41	31
Unallocated and other	4	4	4
	<u>\$ 218</u>	<u>\$ 217</u>	<u>\$ 193</u>
Operating income not affecting cash during the year			
Depreciation and amortization			
Specialty Ingredients	\$ 263	\$ 265	\$ 113
Water Technologies	73	75	85
Performance Materials	54	52	59
Consumer Markets	35	36	38
Unallocated and other	—	2	4
	<u>425</u>	<u>430</u>	<u>299</u>
Other items			
Specialty Ingredients	52	52	21
Water Technologies	7	7	7
Performance Materials	6	5	4
Consumer Markets	6	5	7
Unallocated and other (a)	(498)	493	324
	<u>(427)</u>	<u>562</u>	<u>363</u>
	<u>\$ (2)</u>	<u>\$ 992</u>	<u>\$ 662</u>
Property, plant and equipment - net			
Specialty Ingredients	\$ 1,590	\$ 1,608	\$ 1,683
Water Technologies	356	348	351
Performance Materials	406	413	425
Consumer Markets	270	262	256
Unallocated and other	220	201	199
	<u>\$ 2,842</u>	<u>\$ 2,832</u>	<u>\$ 2,914</u>
Additions to property, plant and equipment			
Specialty Ingredients	\$ 145	\$ 125	\$ 74
Water Technologies	50	56	49
Performance Materials	42	54	32
Consumer Markets	41	40	34
Unallocated and other	36	23	12
	<u>\$ 314</u>	<u>\$ 298</u>	<u>\$ 201</u>

- (a) Includes actuarial gain on pension and other postretirement benefit plan remeasurement of \$498 million in 2013 and actuarial loss on pension and other postretirement benefit plan remeasurement of \$493 million and \$318 million in 2012 and 2011, respectively. While these adjustments did not impact funding in the period recorded, they may ultimately impact the required funding of our defined benefit plans in future years.

QUARTERLY FINANCIAL INFORMATION (UNAUDITED)

The following table presents quarterly financial information and per share data relative to Ashland's Common Stock.

Quarters ended	December 31		March 31		June 30		September 30	
	As Corrected		As Corrected					
(In millions except per share data)	2012	2011 (c)	2013	2012 (c)	2013	2012	2013 (a)	2012 (b)
Sales	\$ 1,869	\$ 1,930	\$ 1,974	\$ 2,079	\$ 2,059	\$ 2,141	\$ 1,911	\$ 2,056
Cost of sales	1,332	1,429	1,406	1,483	1,479	1,514	1,202	1,598
Gross profit as a percentage of sales	28.7%	26.0%	28.8%	28.7%	28.2%	29.3%	37.1%	22.3%
Operating income (loss)	176	123	205	200	210	263	650	(284)
Income (loss) from continuing operations	102	45	55	105	117	160	404	(272)
Net income (loss)	101	46	53	103	124	151	405	(274)
Basic earnings per share								
Continuing operations	\$ 1.29	\$ 0.58	\$ 0.70	\$ 1.34	\$ 1.49	\$ 2.04	\$ 5.21	\$ (3.47)
Net income (loss)	1.28	0.59	0.67	1.31	1.58	1.93	5.23	(3.49)
Diluted earnings per share								
Continuing operations	\$ 1.27	\$ 0.57	\$ 0.68	\$ 1.32	\$ 1.47	\$ 2.00	\$ 5.13	\$ (3.47)
Net income (loss)	1.26	0.58	0.66	1.29	1.55	1.90	5.15	(3.49)
Regular cash dividends per share	\$ 0.225	\$ 0.175	\$ 0.225	\$ 0.175	\$ 0.340	\$ 0.225	\$ 0.340	\$ 0.225
Market price per common share								
High	\$ 80.84	\$ 58.51	\$ 86.96	\$ 66.25	\$ 91.11	\$ 69.99	\$ 94.65	\$ 78.27
Low	67.16	41.11	72.11	56.83	72.87	58.54	82.79	65.15

- (a) Fourth quarter results for 2013 include an increase in operating income of \$498 million related to the actuarial gain on pension and postretirement benefit plans (\$151 million in cost of sales and \$347 million in selling, general and administrative expenses), a decrease of \$37 million related to the impairment on IPR&D assets associated with the ISP acquisition and a decrease of \$14 million related to restructuring and integration. Net loss on acquisitions and divestitures in the fourth quarter included a \$14 million charge related to the MAP settlement charge, and income tax expense for the fourth quarter included a tax benefit of \$18 million for a deferred tax adjustment related to a foreign country rate change and tax expense of \$2 million for ISP restructuring charges.
- (b) Fourth quarter results for 2012 include decreases in operating income of \$493 million related to the actuarial loss on pension and postretirement benefit plans (\$139 million in cost of sales and \$354 million in selling, general and administrative expenses), \$97 million of accelerated amortization of deferred debt issuance costs and prepayment premiums associated with the early payoff of approximately 88% of the 9.125% senior notes, as well as the prepayment of \$350 million of principal on Ashland's term loan B facility. Income tax expense for the fourth quarter included a tax benefit of \$15 million for deferred tax adjustments related to ongoing international restructuring efforts, as well as expense of \$41 million to establish a state valuation allowance.
- (c) The following table discloses financial information for the quarter ended December 31, 2011 and for the quarter ended March 31, 2012 that has been corrected due to inventory valuation errors in these two quarters in the Elastomers line of business within the Performance Materials segment. Ashland determined that the impact of the inventory valuation errors in these quarters, when considered from both a quantitative and a qualitative perspective, are immaterial. The impact of inventory valuation errors in the Elastomers line of business on subsequent quarters in 2012 and 2013 were significantly less quantitatively, determined to be immaterial and corrected through out-of-period adjustments recorded in 2013. For additional information, see Item 9A. "Controls and Procedures" and Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations, Results of Operations-Business Segment Review-Performance Materials-Out-of-Period Adjustments."

(In millions except per share data)	Quarter ended December 31, 2011			Quarter ended March 31, 2012		
	As Previously Reported	Adjustment	As Corrected	As Previously Reported	Adjustment	As Corrected
Sales	\$ 1,930	\$ —	\$ 1,930	\$ 2,079	\$ —	\$ 2,079
Cost of sales	1,408	21	1,429	1,504	(21)	1,483
Gross profit as a percentage of sales	27.0%	(1.0)%	26.0%	27.7%	1.0%	28.7%
Operating income (loss)	144	(21)	123	179	21	200
Income (loss) from continuing operations	60	(15)	45	90	15	105
Net income (loss)	61	(15)	46	88	15	103
Basic earnings per share						
Continuing operations	\$ 0.77	\$ (0.19)	\$ 0.58	\$ 1.15	\$ 0.19	\$ 1.34
Net income (loss)	0.78	(0.19)	0.59	1.12	0.19	1.31
Diluted earnings per shares						
Continuing operations	\$ 0.76	\$ (0.19)	\$ 0.57	\$ 1.13	\$ 0.19	\$ 1.32
Net income (loss)	0.77	(0.19)	0.58	1.10	0.19	1.29

Schedule II - Valuation and Qualifying Accounts

(In millions)	Balance at beginning of year	Provisions charged to earnings	Reserves utilized	Acquisition and other changes	Balance at end of year
Year ended September 30, 2013					
Reserves deducted from asset accounts					
Accounts receivable	\$ 24	\$ (1)	\$ (6)	\$ —	\$ 17
Inventories	32	42	(11)	—	63
Tax valuation allowance	175	(6)	(2)	(1)	166
Year ended September 30, 2012					
Reserves deducted from asset accounts					
Accounts receivable	\$ 30	\$ 1	\$ (6)	\$ (1)	\$ 24
Inventories	34	1	(2)	(1)	32
Tax valuation allowance (a)	718	37	—	(580)	175
Year ended September 30, 2011					
Reserves deducted from asset accounts					
Accounts receivable	\$ 21	\$ 12	\$ (8)	\$ 5	\$ 30
Inventories	19	2	(6)	19	34
Tax valuation allowance	870	(156)	—	4	718

- (a) During 2013, Ashland identified that amounts previously reported for the year ended September 30, 2012 in Note L to Consolidated Financial Statements in the 2012 Form 10-K Filing involving the presentation of foreign net operating losses and offsetting valuation allowances were related to a legal entity liquidated in 2012. The amounts were properly recorded on a net basis in the Consolidated Balance Sheet but were improperly recorded on a gross basis in both Note L and Schedule II. Schedule II and Note L have been revised to reflect the corrected amounts. Ashland does not believe that the revisions to the disclosures, the change in the acquisition and other changes column from \$73 million to \$(580) million and the reduction in the balance as of September 30, 2012 from \$828 million to \$175 million are material in total to the 2012 Consolidated Financial Statements.

Ashland Inc. and Consolidated Subsidiaries
Five-Year Selected Financial Information (a)
Years Ended September 30

(In millions except per share data)	2013	2012	2011	2010	2009
Summary of operations					
Sales	\$ 7,813	\$ 8,206	\$ 6,502	\$ 5,741	\$ 5,220
Cost of sales	<u>5,419</u>	<u>6,025</u>	<u>4,890</u>	<u>4,124</u>	<u>3,850</u>
Gross profit	2,394	2,181	1,612	1,617	1,370
Selling, general and administrative expense	1,044	1,800	1,451	1,338	1,406
Research and development expense	178	137	80	78	89
Equity and other income	<u>69</u>	<u>58</u>	<u>49</u>	<u>48</u>	<u>34</u>
Operating income (loss)	1,241	302	130	249	(91)
Net interest and other financing expense	282	317	121	197	205
Net (loss) gain on acquisitions and divestitures	(8)	1	(5)	21	59
Other expense (income)	<u>—</u>	<u>—</u>	<u>1</u>	<u>(2)</u>	<u>86</u>
Income (loss) from continuing operations before income taxes	951	(14)	3	75	(323)
Income tax expense (benefit)	<u>274</u>	<u>(52)</u>	<u>(53)</u>	<u>(13)</u>	<u>(83)</u>
Income (loss) from continuing operations	677	38	56	88	(240)
Income (loss) from discontinued operations	<u>6</u>	<u>(12)</u>	<u>358</u>	<u>53</u>	<u>(21)</u>
Net income (loss)	<u>\$ 683</u>	<u>\$ 26</u>	<u>\$ 414</u>	<u>\$ 141</u>	<u>\$ (261)</u>
Balance sheet information (as of September 30)					
Current assets	\$ 2,873	\$ 3,209	\$ 3,387	\$ 2,833	\$ 2,478
Current liabilities	<u>1,727</u>	<u>1,913</u>	<u>1,739</u>	<u>1,687</u>	<u>1,577</u>
Working capital	<u>\$ 1,146</u>	<u>\$ 1,296</u>	<u>\$ 1,648</u>	<u>\$ 1,146</u>	<u>\$ 901</u>
Total assets	\$ 12,088	\$ 12,524	\$ 12,966	\$ 9,530	\$ 9,610
Short-term debt	\$ 308	\$ 344	\$ 83	\$ 71	\$ 23
Long-term debt (including current portion)	2,959	3,246	3,749	1,153	1,590
Stockholders' equity	4,553	4,029	4,135	3,807	3,601
Cash flow information					
Cash flows from operating activities from continuing operations	\$ 791	\$ 385	\$ 243	\$ 551	\$ 735
Additions to property, plant and equipment	314	298	201	192	165
Cash dividends	88	63	51	35	22
Common stock information					
Basic earnings per share					
Income (loss) from continuing operations	\$ 8.64	\$ 0.49	\$ 0.72	\$ 1.14	\$ (3.31)
Net income (loss)	8.71	0.33	5.28	1.82	(3.60)
Diluted earnings per share					
Income (loss) from continuing operations	8.50	0.48	0.70	1.11	(3.31)
Net income (loss)	8.57	0.33	5.17	1.78	(3.60)
Dividends					
Regular cash dividends per share	1.13	0.80	0.65	0.45	0.30

- (a) During the periods presented, Ashland experienced significant changes to its businesses affecting the comparability of financial information between years. These changes include, but are not limited to, significant acquisitions and divestitures as well as a change in method of recognizing actuarial gain and loss remeasurements for defined benefit pension plans and other postretirement benefit plans. For a complete discussion of Ashland's acquisitions and divestitures during the years ended September 30, 2013, 2012 and 2011, see Note B and Note C to Consolidated Financial Statements, and see Note A to Consolidated Financial Statements for further information regarding Ashland's change in method of recognizing actuarial gains and losses for defined benefit pension plans and other postretirement benefit plans. For further information of activity during the years ended September 30, 2010 and 2009, see the applicable Notes to Consolidated Financial Statements in the Form 10-K Filings from prior years.