
UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended December 31, 2017

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 1-4858

INTERNATIONAL FLAVORS & FRAGRANCES INC.

(Exact name of registrant as specified in its charter)

NEW YORK

(State or other jurisdiction of incorporation or organization)

13-1432060

(I.R.S. Employer Identification No.)

521 WEST 57TH STREET, NEW YORK, N.Y.

(Address of principal executive offices)

10019

(Zip Code)

Registrant's telephone number, including area code (212) 765-5500

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, par value 12 1/2¢ per share	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 (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) 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 amendments to this Form 10-K.

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

Large accelerated filer	Accelerated filer	Non-accelerated filer	Smaller reporting company	Emerging growth company
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

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

The aggregate market value of the voting stock held by non-affiliates of the Registrant was \$10,661,701,005 as of June 30, 2017.

As of February 15, 2018, there were 78,927,638 shares of the registrant's common stock, par value 12 1/2¢ per share, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's proxy statement for the 2018 Annual Meeting of Shareholders (the "IFF 2018 Proxy Statement") are incorporated by reference in Part III of this Form 10-K.

INTERNATIONAL FLAVORS & FRAGRANCES INC.
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PART I

When used in this report, the terms “IFF,” “the Company,” “we,” “us” and “our” mean International Flavors & Fragrances Inc., and its subsidiaries.

ITEM 1. BUSINESS.

We are a leading innovator of sensory experiences that move the world. We co-create unique products that consumers taste, smell, or feel in fine fragrances and beauty, detergents and household goods, and food and beverages. Our approximately 7,300 team members globally take advantage of our capabilities in consumer insights, research and product development (“R&D”), creative expertise and customer intimacy to partner with our customers in developing innovative and differentiated offerings for consumer products. We believe that our collaborative approach will generate market share gains for our customers.

Our international presence positions us to serve both our global customers and the increasing number of regional and high-end and middle-market specialty consumer goods producers. We operate thirty-seven manufacturing facilities and sixty-nine creative centers and application laboratories located in thirty-seven different countries. We partner with our customers to develop over 46,000 products that are provided to customers in approximately 162 countries.

We principally compete in the flavors and fragrances market, which is part of a larger market that supplies a wide variety of ingredients and compounds used in consumer products. The broader market includes large multi-national companies and smaller regional and local participants that supply products such as seasonings, texturizers, spices, enzymes, certain food-related commodities, fortified products and cosmetic ingredients. The global market for flavors and fragrances has expanded consistently, primarily as a result of an increase in demand for, and an increase in the variety of, consumer products containing flavors and fragrances. Management estimates that in 2017 the flavors and fragrances market was approximately \$24.8 billion, and forecasted to grow approximately 2-3% by 2021, primarily driven by expected growth in emerging markets.

In 2017, we achieved sales of approximately \$3.4 billion, making us one of the top four companies in the global flavors and fragrances sub-segment of the broader consumer products ingredients and compounds market. We believe that our global presence, diversified business platform, broad product portfolio and global and regional customer base position us to achieve long-term growth as the flavors and fragrances markets expand.

We operate in two business segments, Flavors and Fragrances. In 2017, our Flavors business represented 48% of our sales, while our Fragrances business represented 52% of sales. Our business is geographically diverse, with sales to customers in the four regions set forth below:

<u>Region</u>	<u>% of 2017 Sales</u>
Europe, Africa, Middle East	31%
Greater Asia	27%
North America	27%
Latin America	15%

We are committed to winning in emerging markets. We believe that more significant future growth potential for the flavors and fragrances industry, and for our business, exists in the emerging markets (all markets except North America, Japan, Australia, and Western, Southern and Northern Europe). Over the past five years our currency neutral sales growth rate in emerging markets has outpaced that of developed markets. We expect this long-term trend to continue for the foreseeable future.

We have operated in some of the largest emerging markets for multiple decades. As a result of these established operations, sales in emerging markets represented 48% of 2017 sales and 51% of 2016 sales. As our customers seek to grow their businesses in emerging markets, we provide them the ability to leverage our long-standing international presence and extensive market knowledge to help drive their brands in these markets. To stay competitive in our industry, we must adapt to rapidly shifting consumer preferences and customer demands. We believe our consumer insights and customer relationships help to drive innovation that benefits us and our customers. During 2017, our 25 largest customers accounted for 50% of our sales. Sales to our largest customer across all end-use categories accounted for 11% to 12% of our sales for each of the last three fiscal years. These sales were principally in our Fragrances business.

For financial information about our operating segments and the geographic areas in which we do business, please see Note 13 of our Consolidated Financial Statements included in this Form 10-K.

Vision 2020 Strategy

We continued to execute against the four pillars of our Vision 2020 strategy originally announced in 2015 and refreshed in 2017, which focuses on building differentiation and accelerating growth to create shareholder value:

- (1) **Innovating Firsts** - We seek to strengthen our position by driving differentiation in priority R&D platforms across both businesses. In 2017, we launched three captive fragrance molecules and three new flavor modulators. We achieved continued growth of our sweetness and savory modulation portfolio sales and encapsulated-related sales. We also launched Re-Imagine, a program to accelerate flavor innovation and increase agility to capture unmet opportunities in the changing food and beverage market.
- (2) **Winning Where We Compete** - Our goal is to achieve a #1 or #2 market leadership position in key markets and categories and with specific customers. In 2017, we grew our sales in both our Flavors and Fragrances businesses in North America and the Middle East and Africa, geographic area we targeted for growth. We also created Tastepoint by IFF, designed to leverage our expertise in and to service the middle-market customer in North America, and opened an expanded facility in Cairo, Egypt to support our regional focus on growth in the Middle East and Africa.
- (3) **Becoming Our Customers' Partner of Choice** - Our goal is to attain commercial excellence by providing our customers with in-depth, local consumer understanding, industry-leading innovation, outstanding service and the highest quality products. In 2017, we introduced IFF Taste Design, a combination of artisanal, handcrafted techniques and proprietary technologies that drive consumer preference and market differentiation. In addition, we were rated gold by EcoVadis for sustainability, received an "A" rating and were awarded leadership status for our climate change and an "A-" for water management strategy by CDP.
- (4) **Strengthening and Expanding the Portfolio** - We actively pursue value-creation through partnerships, collaborations, and acquisitions within flavors, fragrances and adjacencies. We prioritize opportunities that provide (i) access to new technologies, (ii) the ability to increase our market share in key markets and with key customers or (iii) access to adjacent products or services that will position us to leverage our expertise in science and technology and our customer base. During 2017, we acquired Fragrance Resources to further improve our market position with regional customers in specialty fine fragrances, and PowderPure to further expand product offerings of clean label flavors solutions. We also became the first sensorial innovator of flavors, fragrances and cosmetic actives to join the MIT Media Lab, a leader in research and technologies that transform the everyday for consumers around the world.

Our Product Offerings

Flavors

Flavors are the key building blocks that impart taste experiences in food and beverage products and, as such, play a significant role in determining consumer preference for the end products in which they are used. As a leading creator of flavor compounds, we help our customers deliver on the promise of delicious and healthy foods and drinks that appeal to consumers. While we are a global leader, our Flavors business is more regional in nature, with different formulas that reflect local taste preferences. We create our flavors in our regional creative centers which allow us to satisfy local taste preferences, while also helping to ensure regulatory compliance and production standards. We develop thousands of different flavors and taste offerings for our customers, most of which are tailor-made. We continually develop new formulas in order to meet changing consumer preferences and customer needs.

Our Flavors compounds are ultimately used by our customers in the following four end-use categories of consumer goods: (1) Savory, for use in soups, sauces, condiments, prepared meals, meat and poultry, potato chips and other savory snacks; (2) Beverages, for use in juice drinks, carbonated beverages, flavored waters and spirits, (3) Sweet, for use in bakery products, candy, chewing gum and cereal and (4) Dairy, for use in all dairy products such as yogurt, ice cream and cheese and other products that have a creamy flavor.

We continue to build upon our strengths and to focus on addressing industry trends that will allow us to differentiate ourselves from our competitors and deliver accelerated growth consistent with our Vision 2020 strategy. These trends include:

- *Continued Consumer Demand for Fresh, Clean and Authentic Products.* Consumers in developed markets increasingly want to make food choices that promote a healthy lifestyle and are moving towards products with “all natural” or healthier ingredients. In addition, consumers, non-governmental organizations and governmental agencies are seeking more transparency in product labeling. In response, many of our customers are announcing initiatives to provide “clean label” products (products that do not include any artificial ingredients). As a result of these trends, we believe our Vision 2020 strategy’s focus on innovation, including our modulation technology, delivery systems and our naturals and proprietary ingredients will help our customers address changing consumer demands. In 2017, we acquired PowderPure, a company that used a specialized drying technology to create all-natural flavors by eliminating water while leaving the taste, nutrition and color matrix intact.
- *Expansion of Consumer Food Companies.* The number of participants in the food industry continues to expand, with mid-sized regional companies and companies focused on niche-product categories joining the traditional global companies to drive and accelerate product innovation. As a result, larger food and beverage companies are seeing slower growth than in previous years. We continue to look for innovative and value-creating methods for serving this growing customer base. In 2017, we announced the creation of Tastepoint by IFF, representing the collaboration of Ottens Flavors and David Michael, a program designed to service the middle-market customer in North America by providing the approach of a smaller company, backed by expertise traditionally reserved for companies with a more global reach.

Fragrances

Our Fragrances business derives revenue from two sources, Fragrance Compounds and Ingredients.

We are a global leader in the creation of fragrance compounds that are integral elements in the world’s finest perfumes and best-known consumer products, within fabric care, home care, personal wash, hair care and toiletries. Our Fragrance ingredients business is a vertically integrated operation, originating with the development in our research laboratories of naturals, synthetic and proprietary molecules and innovative delivery systems, progressing to our manufacturing facilities that produce these ingredients in a consistent, high-quality and cost-effective manner and transitioning to our creative centers and application laboratories where our perfumers partner with our customers to create unique fragrance compounds for use in a variety of end-use products. We also produce cosmetic active and functional ingredients for use in cosmetics.

By providing our fragrance development teams with an extensive portfolio of innovative, high-quality and effective ingredients to support their creativity, we are able to provide our customers with a unique identity for their brands. These ingredients or fragrance compounds can then be combined with our innovative delivery systems, including our proprietary encapsulation technology, which consists of individual fragrance droplets coated with a protective polymeric shell to deliver superior fragrance performance throughout a product's lifecycle. These delivery systems are key differentiators in the growth of our consumer fragrance compounds.

Fragrance Compounds. Fragrance Compounds are unique and proprietary combinations of multiple ingredients that are ultimately used by our customers in their consumer goods. Our creative and commercial teams within Fragrance Compounds are organized into two broad categories, Fine Fragrances and Consumer Fragrances.

- (1) *Fine Fragrances* - Fine Fragrances focuses on perfumes and colognes. IFF’s scientists and perfumers collaborate to develop new molecules, new natural extractions, and innovative processes that enliven perfumers’ palettes and help them create unique, inspiring fragrances. We have created some of the industry-leading fine fragrance classics as well as cutting-edge niche fragrances, as evidenced by the number of top sellers.
- (2) *Consumer Fragrances* - Our Consumer Fragrances include five end-use categories of products:
 - i. Fabric Care - laundry detergents, fabric softeners and specialty laundry products;
 - ii. Home Care - household cleaners, dishwashing detergents and air fresheners;
 - iii. Personal Wash, including bar soap and shower gel;
 - iv. Hair Care; and
 - v. Toiletries.

Ingredients. Fragrance Ingredients consists of active and functional ingredients that are used internally and sold to third parties, including customers and competitors, for use in preparation of compounds. While the principal role of our Fragrance

Ingredients facilities is to support our Fragrance Compounds business, we utilize our excess manufacturing capacity to manufacture and sell certain fragrance ingredients to third parties. We believe that this business allows us to leverage our fixed costs while maintaining the security of supply for our perfumers and ultimately our customers. Fragrance Ingredients available for sale to third parties include innovative ingredients that leverage our manufacturing experience as well as a limited amount of cost-competitive, commodity ingredients. As our Fragrance Compounds business grows, we expect that the percentage of capacity allocated to the production of Fragrance Ingredients for sale to third parties may decrease. Fragrance Ingredients also includes our cosmetic active and functional ingredients, which provide biologists and cosmetic chemists with innovative solutions to address cosmetic challenges such as skin aging and hair protection.

With approximately 1,300 separate fragrance and active and functional cosmetic ingredients, plus additional botanicals and delivery systems, we believe we are a leader in the industry with the breadth of our product portfolio.

Consistent with our Vision 2020 strategy, Fragrances continues to build upon our strengths to differentiate ourselves from our competitors, address evolving consumer demands and deliver accelerated growth. Specifically, we intend to focus on:

- (1) *Delivery Systems.* We continue to invest in our delivery system technologies, including expansion of our market-leading encapsulation technology, which we believe will allow us to differentiate our products and those of our customers. Our encapsulation technology extends, controls the release of and increases aromas in a variety of consumer products. We have expanded our portfolio to offer multi-functional delivery systems with cosmetic actives that work to enhance skin penetration, protect the active against interactions with other ingredients, provide long-lasting release, facilitate formulation of challenging ingredients and allow a better-targeted action.
- (2) *Consumer Demand for Natural and Organic Products.* Increased demand for natural ingredients is a primary driver of future growth in Fine Fragrances. We believe that our in-house naturals operations, led by Laboratoire Monique Rémy (“LMR”) in Grasse, France, are industry leading in the processing of quality materials and offer decades of experience understanding natural products and perfecting the process of transforming naturals, such as narcissus, jasmine and blackcurrant bud, into pure absolutes that retain the unique fragrance of their origin. Our objective is to expand our naturals capabilities by offering our clients naturals and proprietary ingredients.
- (3) *Transparency in Labeling.* As consumers worldwide seek to require transparency in labeling, our customers will progressively seek to differentiate their products through proprietary molecules. A major emphasis of our research program is the creation of new proprietary molecules and ingredients.

Research and Product Development Process

Consumer Insights

We believe that the first step to creating a unique scent or taste experience begins with gaining insight into the consumer. By developing a deep understanding of what consumers value and prefer, we are better able to focus our R&D and creative efforts. Our quest to bring innovative, exciting, and winning ideas to our clients begins with insight into the consumer.

Our consumer insight and marketing teams work tirelessly interpreting trends, monitoring product launches, analyzing quantitative market data, and conducting numerous consumer interviews annually. Our sensory experts direct research programs exploring topics such as fragrance performance, the psychophysics of sensory perception (including chemesthetic properties such as warming, cooling, and tingling), the genetic basis for flavor and fragrance preference, and the effects of aromas on mood, performance, health, and well-being.

Based on this information, we develop innovative programs to evaluate potential products that enable us to understand the emotional connections between a prospective product and the consumer. We believe this ability to pinpoint the likelihood of a product’s success translates into stronger brand equity, resulting in increased returns and greater market share gains for our customers as well as IFF.

Research and Development

We consider our R&D infrastructure to be one of our key competencies and we focus and invest substantial resources in the research and development of new and innovative molecules, compounds, formulas and technologies and the application of these to our customers’ products. We spend approximately 8% of our sales on the research, development and implementation of new molecules, compounds and technologies that help our customers respond to changing consumer preferences. Using the knowledge gained from our Consumer Insights program, we strategically focus our resources around key R&D platforms that address consumer needs or preferences, or anticipate future preferences. By aligning our resources around these platforms, we ensure the proper support and focus for each program so that it can be further developed and eventually accepted for

commercial application. As a result of this investment, we have been granted 341 patents in the United States since 2000, including twenty-seven in 2017, and we have developed many unique molecules and delivery systems for our customers that are used as the foundations of successful flavors and fragrances around the world.

We principally conduct our R&D activities in Union Beach, New Jersey, where we employ scientists and application engineers who collaborate with our five other R&D centers around the world, to support the:

- discovery of new materials;
- development of new technologies, such as delivery systems;
- creation of new compounds; and
- enhancement of existing ingredients and compounds.

As of December 31, 2017, we employed about 1,600 people globally in R&D activities. We spent \$286.0 million, \$254.3 million and \$246.1 million, or approximately 8.4%, 8.2% and 8.1% of sales in 2017, 2016 and 2015, respectively, on R&D activities.

Our ingredients research program discovers molecules found in natural substances and creates new molecules that are subsequently tested for their sensorial value. To broaden our offerings of natural, innovative and unique products, we seek collaborations with research institutions and other companies throughout the world. We have established a number of such collaborations to strengthen our innovation pipeline. We may also consider acquiring companies that could provide access to new technologies, consistent with our Vision 2020 strategy.

The development of new and customized flavor and fragrance compounds is a complex process calling upon the combined knowledge of our scientists, flavorists and perfumers. Scientists from various disciplines work in project teams with flavorists and perfumers to develop flavor and fragrance compounds with consumer preferred performance characteristics. The development of new flavor and fragrance compounds requires (i) an in-depth knowledge of the flavor and fragrance characteristics of the various ingredients we use, (ii) an understanding of how the many ingredients in a consumer product interact and (iii) the creation of controlled release and delivery systems to enhance flavor and fragrance performance. To facilitate this process, we have a scientific advisory board that provides external perspectives and independent feedback on our R&D and sustainability initiatives.

In 2017, we launched Re-Imagine, a multi-tiered program to accelerate innovation and increase agility to capture unmet opportunities in the changing food and beverage market. Based on a combination of future trends analysis, consumer insights, and a modernized cross-category development process, the program guides our research and development efforts to ensure an innovation pipeline that addresses evolving consumer needs and desires.

Creative Application

We also have a network of sixty-nine creative centers and application laboratories around the world where we create or adapt the basic flavors or fragrances that we have developed in the R&D process to commercialize for use in our customers' consumer products. Our global creative teams consist of perfumers, fragrance evaluators and flavorists, as well as marketing, consumer insights and technical application experts, from a wide range of cultures and nationalities. In close partnership with our customers' product development groups, our creative teams create the sensory experiences that our customers are seeking in order to satisfy consumer demands in each of their markets.

Development of new flavors and fragrances is driven by a variety of sources including requests from our customers, who are in need of a specific flavor or fragrance for use in a new or modified consumer product, or as a result of internal initiatives stemming from our Consumer Insights program. Our product development team works in partnership with our scientists and researchers to optimize the consumer appeal of the flavor or fragrance. A collaborative process between our researchers, our product development team and our customers then follows to perfect the flavor or fragrance so that it is ready to be included in the final consumer product.

In addition to creating new flavors and fragrances, our researchers and product development teams advise customers on ways to improve their existing products by adjusting or substituting current ingredients with more readily accessible or less expensive materials or by modifying the current ingredients to produce an enhanced yield. This often results in creating a better value proposition for our customers.

Our flavor and fragrance compound formulas are treated as trade secrets and remain our proprietary asset. Our business is not materially dependent upon any individual patent, trademark or license.

Supply Chain

We strive to provide our customers with consistent quality products on a timely and cost-effective basis by managing all aspects of the supply chain, from raw material sourcing through manufacturing, quality assurance, regulatory compliance and distribution.

Procurement

In connection with the manufacture of compounds, we use natural ingredients and, primarily in our fragrance compounds, synthetic ingredients. We purchase approximately 11,000 different raw materials from about 3,000 domestic and international suppliers and distributors. Approximately half of the materials we purchase are naturals or crop-related items and the other half are synthetics and chemicals. Natural ingredients are derived from flowers, fruits and other botanical products as well as from animal products. They contain varying numbers of organic chemicals that are responsible for the fragrance or flavor of the natural product. Natural products are purchased in processed or semi-processed form. Some are used in compounds in the state in which they are purchased and others are used after further processing. Natural products, together with various chemicals, are also used as raw materials for the manufacture of synthetic ingredients by chemical processes. Our flavor products also include extracts and seasonings derived from various fruits, vegetables, nuts, herbs and spices as well as microbiologically-derived ingredients.

In order to ensure our supply of raw materials, achieve favorable pricing and provide timely transparency regarding inflationary trends to our customers, we continue to be focused on (i) implementing a forward-buy strategy, (ii) entering into supplier relationships to gain access to supplies that we do not have, (iii) implementing indexed pricing, (iv) reducing the complexity of our formulations and (v) evaluating whether it is more profitable to buy or make an ingredient. We are also concentrating on local country sourcing with our own procurement professionals.

Manufacturing and Distribution

We have thirty-seven manufacturing sites around the world that supports more than 46,000 products. Our major manufacturing facilities are located in the United States, the Netherlands, Spain, Great Britain, Indonesia, Turkey, Brazil, Mexico, China, India, and Singapore. Our supply chain initiatives in developing markets are focused on increasing capacity and investments in key technologies. Within our more mature markets, we tend to focus on consolidation and cost optimization as well as implementing new technologies. In addition to our own manufacturing facilities, we develop relationships with third parties, including contract manufacturing organizations that permit us to expand access to the technologies, capabilities and capacity that we need to better serve our customers.

Based on the regional nature of the Flavors business and the concerns regarding the fragile nature of transporting raw materials, we have established smaller manufacturing facilities in our local markets that are focused on local needs. Products within the Fragrances business are typically composed of compounds that are more stable and more transportable around the world. Consequently, we have fewer manufacturing facilities within our Fragrances business, which produce compounds and ingredients for global distribution.

In 2017, we continued to invest in our facilities. Major capital projects included the construction of a second Flavors compounding site in China, breaking ground on a new Flavors and Fragrances plant in India as well as completing the relocation of one of our Fragrance Ingredients plants to a new site in Jiande, China. In addition, we reached an agreement to relocate our other Fragrance Ingredients facility in China from Hangzhou to the Jiande site by 2020.

Sustainability

As a leading global creator of flavors and fragrances for a wide variety of consumer products, sustainability has been an important part of how we do business. Our sustainability strategy is centered on three main aspects: Positive Principles, Regenerative Products and Sensational People.

- *Positive Principles* - We seek to embed the principles of eliminating the concept of waste, using clean renewable energy, and celebrating diversity into our company and culture.
- *Regenerative Products* - We strive to intentionally design our products to continuously support well-being and have a positive contribution to society and the environment in a circular economy.
- *Sensational People* - We seek to engage our employees and stakeholders to make a positive difference in the world.

In 2017, we joined Food Reform for Sustainability and Health (FReSH), a project of the World Business Council For Sustainable Development designed to improve the health of people and the planet by recalibrating the global systems of consumption, transportation, production and agriculture. Our participation in the food loss and waste work stream is aligned

with our strategy that calls for developing regenerative products using circular economy principles. We also partnered with Mars Wrigley Confectionery to enhance the livelihoods of farmers in India while securing our supply chain of high-quality natural mint. In addition, we were named by CDP to the Climate "A" list for the third consecutive year for our leadership in carbon management. CDP also awarded us leadership status for our water management strategy. In addition, we maintained "Gold" status with an EcoVadis score of 72 out of 100 points, placing us in the top 1% of suppliers in the industry segment. The EcoVadis platform promotes increased focus on sustainable performance throughout the supply chain, emphasizing the environment, fair labor and fair business practices.

Governmental Regulation

We develop, produce and market our products in a number of jurisdictions throughout the world and are subject to federal, regional and local legislation and regulations in each of the various countries. Our flavor and many of our fragrance products are intended for the food, beverage and pharmaceutical industries, which are subject to strict quality and regulatory standards. As a result, we are required to meet these strict standards which, in recent years, have become increasingly stringent.

Our products and operations are subject to regulation by governmental agencies in each of the markets in which we operate. These agencies include (1) the Food and Drug Administration and equivalent international agencies that regulate flavors and other ingredients in consumer products, (2) the Environmental Protection Agency and equivalent international agencies that regulate our manufacturing facilities, (3) the Occupational Safety and Health Administration and equivalent international agencies that regulate the working conditions in our manufacturing, research laboratories and creative centers, (4) local and international agencies that regulate trade and customs, (5) the Drug Enforcement Administration and other local or international agencies that regulate controlled chemicals that we use in our operations and (6) the Chemical Registration/Notification authorities that regulate chemicals that we use in, or transport to, the various countries in which we manufacture and/or market our products. We have seen an increase in registration and reporting requirements concerning the use of certain chemicals in a number of countries, such as Registration, Evaluation, Authorisation and Restriction of Chemicals ("REACH") regulations in the European Union.

In addition, we are subject to various rules relating to health, work safety and the environment at the local and international levels in the various countries in which we operate. Our manufacturing facilities throughout the world are subject to environmental standards relating to air emissions, sewage discharges, the use of hazardous materials, waste disposal practices and clean-up of existing environmental contamination. In recent years, there has been a significant increase in the stringency of environmental regulation and enforcement of environmental standards, and the costs of compliance have risen significantly, a trend we expect will continue in the future.

Competition

The flavors and fragrances market is part of a larger market which supplies a variety of ingredients and components that consumer products companies utilize in their products. The broader market includes large multi-national companies or smaller regional and local participants which supply products such as seasonings, texturizers, spices, enzymes, certain food-related commodities, fortified products and cosmetic ingredients.

The market for flavors and fragrances is highly competitive. Based on annual sales, our main competitors consist of (1) the three other large global flavor and fragrance manufacturers, Givaudan, Firmenich and Symrise, (2) mid-sized companies, (3) numerous local and regional manufacturers and (4) consumer product companies who may develop their own flavors or fragrances.

We believe that our ability to compete successfully in the flavors and fragrances sub-market is based on (1) our in-depth understanding of consumers, (2) innovation, arising from the creative skills of our perfumers and flavorists and the technological advances resulting from our research and development activities, (3) our ability to create products which are tailor-made for our customers' needs, (4) developing strong customer intimacy, (5) driving efficiency in all that we do, (6) quality products, and (7) our broad-based regulatory capabilities.

Large multi-national customers and, increasingly, mid-sized customers, may limit the number of their suppliers by placing some on "core lists," giving them priority for development and production of their new or modified products.

To compete more successfully in this environment, we must make continued investments in customer relationships and tailor our research and development efforts to anticipate customers' needs, provide effective service and secure and maintain inclusion on certain "core lists."

Employee Relations

At December 31, 2017, we had approximately 7,300 employees worldwide, of whom approximately 1,800 are employed in the United States. We believe that relations with our employees are good.

Availability of Reports

We make available free of charge on or through the Investor Relations link on our website, www.iff.com, all materials that we file electronically with the Securities and Exchange Commission (“SEC”), including our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports, filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after electronically filing such materials with, or furnishing them to, the SEC. During the period covered by this Form 10-K, we made all such materials available through our website as soon as reasonably practicable after filing such materials with the SEC.

You may also read and copy any materials filed by us with the SEC at the SEC’s Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549, and you may obtain information on the operation of the Public Reference Room by calling the SEC in the United States at 1-800-SEC-0330. In addition, the SEC maintains an Internet website, www.sec.gov that contains reports, proxy and information statements and other information that we file electronically with the SEC.

A copy of our Corporate Governance Guidelines, Code of Business Conduct and Ethics, and the charters of the Audit Committee, Compensation Committee and Nominating and Governance Committee of the Board of Directors are posted on the Investor Relations section of our website, www.iff.com.

Our principal executive offices are located at 521 West 57th Street, New York, New York 10019 (212-765-5500).

Executive Officers of Registrant

The current executive officers of the Company, as of February 27, 2018, are listed below.

Name	Age	Position
Andreas Fibig	56	Chairman of the Board and Chief Executive Officer
Richard A. O’Leary	57	Executive Vice President and Chief Financial Officer
Nicolas Mirzayantz	55	Group President, Fragrances
Matthias Haeni	52	Group President, Flavors
Gregory Yep	53	Executive Vice President, Chief Global Scientific & Sustainability Officer
Susana Suarez-Gonzalez	48	Executive Vice President, Chief Human Resources Officer
Anne Chwat	58	Executive Vice President, General Counsel and Corporate Secretary
Francisco Fortanet	49	Executive Vice President, Operations

Andreas Fibig has served as our Chairman since December 2014 and Chief Executive Officer since September 2014. Mr. Fibig has been a member of our Board of Directors since 2011. From 2008 to 2014, Mr. Fibig served as President and Chairman of the Board of Management of Bayer HealthCare Pharmaceuticals, the pharmaceutical division of Bayer AG. Prior to this position, Mr. Fibig held a number of positions of increasing responsibility at Pfizer Inc., a research-based pharmaceutical company, including as Senior Vice President in the US Pharmaceutical Operations group from 2007 through 2008 and as President, Latin America, Africa and Middle East from 2006 through 2007.

Richard A. O’Leary has served as our Executive Vice President and Chief Financial Officer since October 2016. Mr. O’Leary originally joined our Company in July 2007. Mr. O’Leary was our Senior Vice President, Controller and Chief Accounting Officer from July 2015 until his appointment as Chief Financial Officer, and served as our Vice President and Controller from May 2009 to November 2014. Mr. O’Leary served as our Interim Chief Financial Officer from November 2014 to July 2015 and from July 2008 to May 2009. Mr. O’Leary was Vice President, Corporate Development from July 2007 to May 2009. Prior to joining our Company, Mr. O’Leary served in various positions at International Paper Co., a paper and packaging company, which he originally joined in 1986, including, as Chief Financial Officer of International Paper Company (Brazil) from June 2004 to June 2007. Prior to International Paper, Mr. O’Leary was with Arthur Young & Co.

Nicolas Mirzayantz has served as our Group President, Fragrances since January 2007, and originally joined our Company in 1988. Prior to his appointment as Group President, Fragrances, he served as a member of our Temporary Office of the Chief Executive Officer from October 1, 2009 until February 2010, our Senior Vice President, Fine Fragrance and Beauty Care and Regional Manager North America, from March 2005 to December 2006, our Senior Vice President, Fine Fragrance and Beauty Care from October 2004 to February 2005, and our Vice President Global Fragrance Business Development from February 2002 to September 2004.

Matthias Haeni has served as our Group President, Flavors since April 2014. Mr. Haeni joined us in 2007 in the role of Regional General Manager, Flavors Greater Asia. In 2010, Mr. Haeni transferred to Hilversum, The Netherlands where he served as Regional General Manager for Flavors Europe, Africa, and the Middle East (EAME).

Gregory Yep has served as our Executive Vice President, Chief Global Scientific & Sustainability Officer since June 2016. Prior to joining our Company, Dr. Yep was Senior Vice President of Research, Development & Applications with The Kerry Group from January 2015 to June 2016, where he was responsible for creating strategy and implementation of technical platforms in the taste and nutrition, food and beverage and the biotechnology industry. Previously, he was Senior Vice President of R&D at PepsiCo from June 2009 to December 2015 and was Global Vice President, Application Technologies at Givaudan Flavors and Fragrances from December 2005 to June 2009. Earlier in his career, Dr. Yep was at McCormick & Company, where he held executive roles of increasing responsibility in food science. Dr. Yep holds a bachelor's degree in biology and chemistry from the University of Pennsylvania, and master's degree and Ph.D. in organic chemistry from Johns Hopkins University.

Susana Suarez-Gonzalez has served as our Executive Vice President, Chief Human Resources Officer since November 2016. Prior to joining our Company, Ms. Gonzalez was Senior Vice President Global Operations & Centers Expertise, Human Resources of Fluor Corporation from 2014 to 2016, and was responsible for the global execution of HR services as well as all corporate HR functions, encompassing global benefits, compensation, talent development, recruiting and human resources information systems. Ms. Gonzalez began her career at Fluor in 1991, and during her 25 years with the company, she held various leadership positions across several business groups and functions including construction, marketing, sales, project engineering and human resources.

Anne Chwat has served as our Executive Vice President, General Counsel and Corporate Secretary since August 2015 and as our Senior Vice President, General Counsel and Corporate Secretary from April 2011 to August 2015. Prior to joining us, Ms. Chwat served as Executive Vice President and General Counsel of Burger King Holdings, Inc., a fast food hamburger restaurant company, from September 2004 to April 2011. From September 2000 to September 2004, Ms. Chwat served in various positions at BMG Music (now Sony Music Entertainment), including as Senior Vice President, General Counsel and Chief Ethics and Compliance Officer.

Francisco Fortanet has served as Executive Vice President, Operations since August 2015 and as Senior Vice President, Operations from February 27, 2012 to August 2015. Mr. Fortanet joined our Company in 1995, and has served as our Vice President, Global Manufacturing Compounding from January 2007 to February 2012, our Vice President, Global Manufacturing from January 2006 to January 2007, our Regional Director of North America Operations from December 2003 to January 2005, the Project Manager of a Special Project in IFF Ireland from May 2003 to December 2003 and as our Plant Manager in Hazlet, New Jersey from October 1999 to May 2003.

ITEM 1A. RISK FACTORS.

We routinely encounter and address risks in conducting our business. Some of these risks may cause our future results to be different - sometimes materially different - than we presently anticipate. Below are material risks we have identified that could adversely affect our business. How we react to material future developments, as well as how our competitors and customers react to those developments, could also affect our future results.

Our business is highly competitive, and if we are unable to compete effectively our sales and results of operations will suffer.

The market for flavors and fragrances is highly competitive. We face vigorous competition from companies throughout the world, including multi-national and specialized flavor, fragrance and cosmetic ingredients companies, as well as consumer product companies who may develop their own flavors, fragrances or cosmetic ingredients. In the flavors industry, we also face increasing competition from ingredient suppliers that have expanded their portfolios to include flavor offerings. Some of our competitors specialize in one or more of our product sub-segments, while others participate in many of our product sub-segments. In addition, some of our global competitors may have greater resources than we do or may have proprietary products that could permit them to respond to changing business and economic conditions more effectively than we can.

Consolidation of our competitors may exacerbate these risks. With our entry into cosmetic ingredients, we may face greater competition-related risks in this market than with our core historic flavor and fragrances businesses.

Competition in our business is based on innovation, product quality, regulatory compliance, pricing, quality of customer service, the support provided by marketing and application groups, and understanding of consumers. It is difficult for us to predict the timing, scale and success of our competitors' actions in these areas. In particular, the discovery and development of new flavors and fragrance compounds and ingredients, protection of the Company's intellectual property and development and retention of key employees are critical to our ability to effectively compete in our business. Increased competition by existing or future competitors, including aggressive price competition, could result in the potential loss of substantial sales or create the need for us to reduce prices or increase spending, and this could have an adverse impact on sales and profitability.

If we are unable to provide our customers with innovative, cost-effective products that allow them to achieve their own profitability expectations, our sales and results of operations will suffer.

During 2017, our 25 largest customers accounted for 50% of our sales, and the largest customer across all end-use categories accounted for 11% to 12% of our sales for each of the last three fiscal years. Loss of or a reduction in sales to our largest customer or any of our other large customers for an extended period of time could adversely affect our business or financial results.

Large multi-national customers, and increasingly, middle-market customers are unilaterally limiting the number of their suppliers or rationalizing the number of products that they offer to increase their margins and profitability. As part of these initiatives, these customers are creating "core lists" of suppliers and giving these "core lists" suppliers priority for new or modified products. Recently, these customers are making inclusion on their "core lists" contingent upon a supplier providing more favorable commercial terms which may adversely affect our margins. These and other profitability initiatives being pursued by our customers reduce the market opportunity for which we compete and subject the volume and pricing of the remaining suppliers to downward pressure. To be successful in this competitive environment, we must continue to make investments in customer relationships and tailor product research and development in order to anticipate customers' needs, deliver products that contribute to our customers' profitability, provide effective customer service and offer competitive cost-in-use solutions to secure and maintain inclusion on certain "core lists" and our share of our customers' purchases. If we are unable to do so, it could adversely impact our future results of operations.

We may not successfully develop and introduce new products that meet our customers' needs, which may adversely affect our results of operations.

Our ability to differentiate ourselves and deliver growth in line with our Vision 2020 strategy largely depends on our ability to successfully develop and introduce new products and product improvements that meet our customers' needs, and ultimately appeal to consumers. Innovation is a key element of our ability to develop and introduce new products. We cannot be certain that we will be successful in achieving our innovation goals, such as the development of new molecules, new and expanded delivery systems and other technologies. We currently spend approximately 8% of our sales on research and development; however, such investments may only generate future revenues to the extent that we are able to develop products that meet our customers' specifications, are at an acceptable cost and achieve acceptance by the targeted consumer market. Furthermore, there may be significant lag times from the time we incur R&D costs to the time that these R&D costs may result in increased revenue. Consequently, even when we "win" a project, our ability to generate revenues as a result of these investments is subject to numerous customer, economic and other risks that are outside of our control, including delays by our customers in the launch of a new product, the level of promotional support for the launch, poor performance of our third-party vendors, anticipated sales by our customers not being realized or changes in market preferences or demands, or disruptive innovations by competitors.

A disruption in our manufacturing operations or our supply chain could adversely affect our business and financial results.

As a company engaged in research and development, manufacturing and distribution on a global scale, we and our suppliers are subject to the risks inherent in such activities, including industrial accidents, environmental events, strikes and other labor disputes, disruptions in supply chain or information systems, disruption or loss of key research or manufacturing sites, product quality control, safety, licensing requirements and other regulatory issues, as well as natural disasters, international conflicts, terrorist acts and other external factors over which we have no control. While we operate research and development and manufacturing facilities throughout the world, many of these facilities are extremely specialized and certain of our facilities or certain suppliers are the sole source of a specific ingredient or product. If our research and development activities or the manufacturing of ingredients or products were disrupted, the cost of relocating or replacing these activities or reformulating these ingredients or products may be substantial, which could result in production or development delays or otherwise have an adverse effect on our margins, operating results and future growth.

A disruption in our supply chain, including the inability to obtain ingredients and raw materials from third parties, could adversely affect our business and financial results.

In connection with our manufacture of our fragrance and flavor compounds, we often rely on third party suppliers for ingredients and raw materials that are integral to our manufacture of such compounds. Our purchases of raw materials are subject to fluctuations in market price and availability caused by weather, growing and harvesting conditions, market conditions, governmental actions and other factors beyond our control. In addition, our ingredient suppliers, similar to us, are subject to the risks inherent in manufacturing and distribution on a global scale, including industrial accidents, environmental events, strikes and other labor disputes, disruptions in supply chain or information systems, disruption or loss of key research or manufacturing sites, product quality control, safety and environmental compliance issues, licensing requirements and other regulatory issues, as well as natural disasters, international conflicts, terrorist acts and other external factors over which they have no control. These suppliers also could become insolvent or experience other financial distress. For example, a fire at the manufacturing facility of BASF Group ("BASF"), one of our suppliers, in 2017 caused them to declare a force majeure and has resulted in a disruption of the availability of certain ingredients used in some of our fragrance and flavor compounds. If our suppliers are unable to supply us with sufficient ingredients and raw materials to meet our needs, we would need to seek alternative sources of such materials or pursue our own production of such ingredients or direct acquisition of such raw materials. However, for certain of our raw ingredients and raw materials we rely on a limited number of suppliers where there are not readily available alternatives. If we are unable to obtain or manufacture alternative sources of such ingredients or raw materials at a similar cost, we would seek to (i) reformulate our compounds and/or (2) increase pricing to reflect the higher supply cost. However, if we are not able to successfully implement any of these alternatives, we could experience disruptions in production, increased cost of sales and a corresponding decrease in gross margin or reduced sales if our competitors were able to more successfully adjust to such market disruption. Such fluctuations and decrease in gross margin could have a material adverse effect on our business, results of operations and financial condition.

We may not be able to successfully identify and complete sufficient acquisitions to meet our Vision 2020 strategy, and even if we are able to do so, we may not realize the anticipated benefits of these acquisitions.

As part of our Vision 2020 strategy, we intend to add between \$500 million and \$1.0 billion of sales growth through acquisitions within the flavors and fragrances industries and adjacencies. Since 2015, we have completed five acquisitions which align with this strategic objective, most recently acquiring Fragrance Resources, a privately-held fragrance company, and PowderPure, a producer capable of providing clean label flavor solutions, in 2017.

Identifying suitable acquisition candidates can be difficult, time-consuming and costly, and we may not be able to identify suitable candidates or complete acquisitions in a timely manner, on a cost-effective basis or at all.

Even if we complete an acquisition, we may not realize the anticipated benefits of such acquisition. Our recent acquisitions have required, and any similar future transactions may also require, significant efforts and expenditures, including with respect to integrating the acquired business with our historical business. We may encounter unexpected difficulties, or incur unexpected costs, in connection with acquisition activities and integration efforts, which include:

- diversion of management attention from managing our historical core business;
- potential disruption of our historical core business or of the acquired business;
- the strain on, and need to continue to expand our existing operational, technical, financial and administrative infrastructure;

- challenges related to the lack of experience in operating in the geographical or product markets of the acquired business;
- challenges in controlling additional costs and expenses in connection with and as a result of the acquisition;
- difficulties in assimilating employees and corporate cultures or in integrating systems and controls;
- difficulties in anticipating and responding to actions that may be taken by competitors;
- difficulties in realizing the anticipated benefits of the transaction;
- potential loss of key employees, key customers, suppliers or other partners of the acquired business; and
- the assumption of and exposure to unknown or contingent liabilities of acquired businesses.

If any of our acquisitions do not perform as anticipated for any of the reasons noted above or otherwise, there could be a negative impact on our results of operations and financial condition.

The interruption or failure of key information technology systems or a loss of data, malicious attack or other breach of security of our information technology systems, may have a material adverse effect on our ability to conduct our business, subject us to increased operating costs, damage our reputation and expose us to litigation.

We rely on information technology systems, including some managed by third-party providers, to conduct business and support our business processes, including product formulas, product development, sales, order processing, production, distribution, internal communications and communications with third parties throughout the world, processing transactions, summarizing and reporting results of operations, complying with regulatory, tax or legal requirements, and collecting and storing customer, supplier, employee and other stakeholder information. These systems may be susceptible to disruptions or outages due to fire, floods, power loss, telecommunications failures, natural disasters, cyber-attacks, failed upgrades or other similar events, or due to the poor performance of third-party providers. An effective response to disruptions will require effort and diligence on the part of our employees and third-party providers to avoid any adverse impact to our business. In addition, our systems and proprietary data stored electronically may be vulnerable to computer viruses, cybercrime, computer hacking and similar information security breaches, which in turn could result in the unauthorized release or misuse of confidential or proprietary information about our business (including, but not limited to, the trade secrets upon which we rely to protect our proprietary fragrance and flavor formulations), employees, or customers, and disrupt our operations. Depending on their nature and scope, these threats could potentially lead to improper use of our systems and networks, manipulation and destruction of data or product non-compliance. The occurrence of any of these events could disrupt our business and have a material adverse effect on our sales, subject us to increased operating costs, damage our reputation and expose us to litigation or regulatory proceedings.

If we are unable to successfully market to our expanding and decentralized Flavors customer base, our operating results and future growth may be adversely affected.

The industries in which our Flavors customers operate are expanding and becoming increasingly decentralized. Our historical customer base was primarily comprised of large food and beverage companies, which have faced, in recent years, growing competition from mid-size regional companies and companies focused on niche-product categories driving and accelerating product innovation. In connection with Vision 2020, we identified serving these clients as a key element of our business strategy and invested in this strategy through the acquisition of Ottens Flavors and David Michael. In 2017, we announced the creation of Tastepoint by IFF, designed to service the middle-market customer in North America which is focused on servicing customers with the “can-do” approach of a smaller company backed by expertise traditionally reserved for companies with a more of a global reach. However, if we are unable to successfully implement this strategy or gain market share with this growing customer base, our future growth could be adversely affected.

Increasing awareness of health and wellness are driving changes in the consumer products industry, and if we are unable to react in a timely and cost-effective manner, our results of operations and future growth may be adversely affected.

We must continually anticipate and react, in a timely and cost-effective manner, to changes in consumer preferences and demands, including changes in demand driven by increasing awareness of health and wellness and demands for transparency with respect to product ingredients. Consumers, especially in developed economies such as the United States and Western Europe, are shifting away from products containing artificial ingredients to all natural, healthier alternatives. In addition, there has been a growing demand by consumers, non-governmental organizations and, to a lesser extent, governmental agencies to provide more transparency in product labeling and our customers have been taking steps to address this demand, including by voluntarily providing product-specific ingredients disclosure. These two trends could affect the

types and volumes of our flavors and fragrances that our customers include in their product offerings. If we are unable to react to or anticipate these trends in a timely and cost-effective manner, our results of operations and future growth may be adversely affected.

We may not succeed in establishing and maintaining collaborations, joint ventures or partnerships, and such arrangements may not lead to development or commercialization of products, which may limit our ability to execute our Vision 2020 strategy and adversely affect our future growth.

From time to time and in line with our Vision 2020 strategy, we may evaluate and enter into collaborations, joint ventures or partnerships to enhance our research and development efforts. Our ability to generate revenues from such collaborations will depend on our partners' abilities and efforts to successfully perform the functions assigned to them in these arrangements. The process of establishing and maintaining collaborative relationships is difficult, time-consuming to negotiate, document and implement. We may not be successful in our efforts to establish and implement collaborations or other alternative arrangements should we choose to enter into such arrangements, and the terms of the arrangements may not be favorable to us. Additionally, collaborations may not lead to development or commercialization of products in the most efficient manner, or at all. If we are unable to establish and maintain collaborative relationships on acceptable terms or to successfully transition terminated collaborative agreements, it could limit our ability to execute our Vision 2020 strategy and adversely affect our future growth.

We have made investments in and continue to expand our business into emerging markets, which exposes us to certain risks.

As part of our growth strategy, we have increased our presence in emerging markets by expanding our manufacturing presence, sales organization and product offerings in these markets, and we expect to continue to expand our business in these markets. In addition to the currency and international operation risks described below, our operations in these markets may be subject to a variety of other risks. Emerging markets typically have a consumer base with limited or fluctuating disposable income and customer demand in these markets may fluctuate accordingly. As a result, decrease in customer demand in emerging markets may have an adverse effect on our ability to execute our growth strategy. In addition, emerging markets may have weak legal systems which may affect our ability to enforce our intellectual property and contractual rights, exchange controls, unstable governments and privatization or other government actions that may affect taxes, subsidies and incentive programs and the flow of goods and currency. In conducting our business, we move products from one country to another and may provide services in one country from a subsidiary located in another country. Accordingly, we are vulnerable to abrupt changes in trade, customs and tax regimes in these markets that may have significant negative impacts on our financial condition and operating results.

The impact of currency fluctuation or devaluation in the international markets in which we operate may negatively affect our results of operations.

We have significant operations outside the United States, the results of which are reported in the local currency and then translated into United States dollars at applicable exchange rates for inclusion in our consolidated financial statements. The exchange rates between these currencies and the United States dollar have fluctuated and will continue to do so in the future. Changes in exchange rates between these local currencies and the United States dollar will affect the recorded levels of sales, profitability, assets and/or liabilities. Additionally, volatility in currency exchange rates may adversely impact our financial condition, cash flows or liquidity. Although we employ a variety of techniques to mitigate the impact of exchange rate fluctuations, including sourcing strategies and a limited number of foreign currency hedging activities, we cannot guarantee that such hedging and risk management strategies will be effective, and our results of operations could be adversely affected.

Our international operations are subject to regulatory, political and other risks that could materially and adversely affect our revenues, cash flows or financial position.

We operate on a global basis, with manufacturing and sales facilities in the United States, Europe, Africa, the Middle East, Latin America, and Greater Asia. During 2017, 75% of our net sales were to customers outside the United States and we intend to continue expansion of our international operations. As a result, our business is increasingly exposed to risks inherent in international operations. These risks, which can vary substantially by location, include the following:

- governmental laws, regulations and policies adopted to manage national economic and macroeconomic conditions, such as increases in taxes, austerity measures that may impact consumer spending, monetary policies that may impact inflation rates, currency fluctuations and sustainability of resources;

- changes in environmental, health and safety regulations, such as the continued implementation of the European Union's REACH regulations and similar regulations that are being evaluated and adopted in other markets, and the burdens and costs of our compliance with such regulations;
- the imposition of or changes in tariffs, quotas, trade barriers, other trade protection measures and import or export licensing requirements, by the United States or other Countries, which could adversely affect our cost or ability to import raw materials or export our flavors or fragrances to surrounding markets;
- risks and costs arising from language and cultural differences;
- changes in the laws and policies that govern foreign investment in the countries in which we operate, including the risk of expropriation or nationalization, and the costs and ability to repatriate the profit that we generate in these countries;
- risks and costs associated with political and economic instability, bribery and corruption, and social and ethnic unrest in the countries in which we operate;
- difficulty in recruiting and retaining trained local personnel;
- natural disasters, pandemics or international conflicts, including terrorist acts, or national and regional labor strikes in the countries in which we operate, which could interrupt our operations or endanger our personnel; or
- the risks of operating in developing or emerging markets in which there are significant uncertainties regarding the interpretation, application and enforceability of laws and regulations and the enforceability of contract rights and intellectual property rights.

The occurrence of any one or more of these factors could increase our costs and adversely affect our results of operations.

Economic uncertainty may adversely affect demand for consumer products using flavors and fragrances and this may have a negative impact on our operating results and future growth.

Our flavors and fragrance compounds and ingredients are components of a wide assortment of global consumer products throughout the world. Historically, demand for consumer products using flavors and fragrances was stimulated and broadened by changing social habits and consumer needs, population growth, an expanding global middle-class and general economic growth, especially in emerging markets. The global economy has experienced significant recessionary pressures and declines in consumer confidence and economic growth. While some segments of the global economy appear to be recovering, the ongoing global recessionary economic environment in Europe has, and may in the near future, increase unemployment and underemployment, decrease salaries and wage rates, increase inflation or result in other market-wide cost pressures that will adversely affect demand for consumer products in both developed and emerging markets. In addition, growth rates in the emerging markets have moderated from previous levels. Reduced consumer spending may cause changes in our customer orders including reduced demand for our flavors and fragrances, or order cancellations.

The timing of placing of orders and the amounts of these orders are generally at our customers' discretion. Customers may cancel, reduce or postpone orders with us on relatively short notice. Significant cancellations, reductions or delays in orders by customers could affect our quarterly results.

It is currently anticipated that these challenging economic uncertainty will continue to affect certain of our markets during 2018 which could adversely affect our sales, profitability and overall operating results.

Our success depends on attracting and retaining talented people within our business. Significant shortfalls in recruitment or retention could adversely affect our ability to compete and achieve our strategic goals.

Attracting, developing, and retaining talented employees, including our perfumers and flavorists, is essential to the successful delivery of our products and success in the marketplace. Furthermore, as we continue to focus on innovation, our need for scientists and other professionals will increase. Competition for all these types of employees can be intense. The ability to attract and retain talented employees is critical in the development of new products and technologies which is an integral component of our growth strategy. However, we may not be able to attract and retain such employees in the future. If we experience significant shortfalls in recruitment or retention, our ability to effectively compete with our competitors and to grow our business could be adversely affected.

Failure to comply with environmental protection laws may cause us to close, relocate or operate one or more of our plants at reduced production levels, which could adversely affect our operating results and future growth.

Our business operations and properties are subject to extensive and increasingly stringent federal, state, local and foreign laws and regulations pertaining to protection of the environment, including air emissions, sewage discharges, the use of hazardous materials, waste disposal practices and clean-up of existing environmental contamination. Failure to comply with these laws and regulations or any future changes to them may result in significant consequences to us, including the need to close or relocate one or more of our production facilities, administrative, civil and criminal penalties, liability for damages and negative publicity. If we are unable to meet production requirements, we can lose customer orders, which can adversely affect our future growth or we may be required to make incremental capital investments to ensure supply. For example, in 2015 Chinese authorities notified us of compliance issues pertaining to the emission of odors from several of our plants in China and, consequently, we invested approximately \$6.5 million in odor-abatement equipment at these facilities and have located a site for construction of a second flavors manufacturing facility in China, with an estimated cost of \$45 million. We have also recently completed negotiations with the Chinese government concerning the relocation of a second Fragrance facility in China. Idling of facilities or production modifications has caused or may cause customers to seek alternate suppliers due to concerns regarding supply interruptions and these customers may not return or may order at reduced levels even once issues are remediated. If these non-compliance issues reoccur in China or occur in any other jurisdiction, we may lose business and may be required to incur capital spending above previous expectations, close a plant, or operate a plant at significantly reduced production levels on a permanent basis, and our operating results and cash flows from operations may be adversely affected.

Our ongoing optimization of our manufacturing facilities may not be as effective as we anticipate, and we may fail to realize the expected cost savings and increased efficiencies.

As part of our strategy, we seek to enhance our manufacturing efficiency and align our geographic manufacturing footprint with our expectations of future growth and technology needs. Many of our facilities are located in close proximity to our customers in order to minimize both our customers' and our own costs. However, we may not have sufficient demand to utilize all of our production capacity and may be required to ship excess products to other regions in which we operate, which will increase our costs and decrease our margins. To operate more efficiently and control costs, from time to time, we also execute rationalization activities, which include manufacturing facility consolidations. For example, we are in the midst of relocating our Flavors facility in Hangzhou, China, constructing a new facility in Indonesia and expect to begin relocating a Fragrance facility in China. We also recently broke ground on a new Flavors and Fragrances facility in India. The spending associated with these projects may result in capital spending above previous expectations. Our ability to realize anticipated cost savings, synergies and revenue enhancements from these activities may be affected by a number of factors and may pose significant risks, including:

- the risk that we may be unable to integrate successfully the relocated manufacturing operations;
- the risk that we may be unable to effectively reduce overhead, coordinate management and integrate and retain employees of the relocated manufacturing operations;
- the risk that we may face difficulties in implementing and maintaining consistent standards, controls, procedures, policies and information systems;
- potential strains on our personnel, systems and resources and diversion of attention from other priorities; and
- unforeseen or contingent liabilities of the relocated manufacturing operations.

Furthermore, our rationalization and consolidation actions may not be as effective as we anticipate, and we may fail to realize the cost savings we expect from these actions. Actual charges, costs and adjustments due to these activities may vary materially from our estimates, and these activities may require cash and non-cash integration and implementation costs or charges in excess of budgeted amounts, which could offset any such savings and other synergies and therefore could have an adverse effect on our margins.

Volatility and increases in the price of raw materials, energy and transportation could harm our profits.

We use many different raw materials for our business, including essential oils, extracts and concentrates derived from fruits, vegetables, flowers, woods and other botanicals, animal products, raw fruits, organic chemicals and petroleum-based chemicals. Historically, we have experienced a considerable amount of price volatility in natural products that represent approximately half of our raw material purchases, and we expect this volatility to continue in the near future. For example, during and in 2017 we experienced increases in the prices of certain naturals, including citrus and vanilla. Availability and pricing of these natural products can be impacted by crop size and quality, weather, alternative land use, and other factors which we cannot control.

If we are unable to increase the prices to our customers of our fragrance or flavor products to offset raw material and other input cost increases, or if we are unable to achieve cost savings to offset such cost increases, we could fail to meet our cost expectations and our profits and operating results could be adversely affected. Increases in prices of our products to customers may lead to declines in volume, and we may not be able to accurately predict the volume impact of price increases, which could adversely affect our financial condition and results of operations.

Similarly, commodities and energy prices are subject to significant volatility caused by market fluctuations, supply and demand, currency fluctuations, production and transportation disruptions, and other world events. As we source many of our raw materials globally to help ensure quality control, if the cost of energy, shipping or transportation increases and we are unable to pass along these costs to our customers, our profit margins would be adversely affected. Furthermore, increasing our prices to our customers could result in long-term sales declines or loss of market share if our customers find alternative suppliers or choose to reformulate their consumer products to use fewer ingredients, which could have an adverse long-term impact on our results of operations.

To mitigate our sourcing risk, we maintain strategic stock levels for critical items. However, if we do not accurately estimate the amount of raw materials that will be used for the geographic region in which we will need these materials, our margins could be adversely affected.

If we are unable to maintain the integrity of our raw materials, supply chain and finished goods, or fail to comply with applicable regulations, it may result in regulatory non-compliance, litigation costs, customer loss and harm to our reputation, all of which may adversely impact sales and our results of operations.

The development, manufacture and sale of our products are subject to various regulatory requirements in each of the countries in which our products are developed, manufactured and sold. In addition, we are subject to product safety and compliance requirements established by the industry or similar oversight bodies. We use a variety of strategies, methodologies and tools to (i) identify current product standards, (ii) assess relative risks in our supply chain that can impact product integrity, (iii) monitor internal and external performance and (iv) test raw materials and finished goods to minimize the likelihood of product or process non-compliance.

Gaps in our operational processes or those of our suppliers could adversely affect the quality of our finished products, subject us to a recall and result in a regulatory non-compliance event. For instance, we may be required to recall certain of our products should they be mislabeled, contaminated or damaged, and certain of our raw materials could be blocked from entering a country if they are subject to import alerts. Product non-compliance events could subject us to customer claims, recalls, penalties, litigation costs and settlements, remediation costs or loss of sales. As our flavors and fragrance compounds and ingredients are used in many products intended for human use or consumption, these consequences would be exacerbated if we or our customer did not identify the defect before the product reaches the consumer and there was a resulting impact at the consumer level. Such a result could lead to potentially large scale adverse publicity, negative effects on consumer's health, recalls and potential consumer litigation. In addition, if we do not have adequate insurance or contractual indemnification from suppliers or other third parties, or if insurance or indemnification is not available, the liability relating to product or possible third-party claims arising from defective products could adversely affect our business, financial condition or results of operations. Furthermore, adverse publicity about our products, or our customers' products that contain our ingredients, including concerns about product safety or similar issues, whether real or perceived, could harm our reputation and result in an immediate adverse effect on our sales and customer relationships, as well as require us to utilize significant resources to rebuild our reputation.

Our performance may be adversely impacted if we are not successful in managing our inventory and/or working capital balances.

We evaluate our inventory balances of materials based on shelf life, expected sourcing levels, known uses and anticipated demand based on forecasted customer order activity and changes in our product/sales mix. Efficient inventory management is a key component of our business success, financial returns and profitability. To be successful, we must maintain sufficient inventory levels and an appropriate product/sales mix to meet our customers' demands, without allowing those levels to increase to such an extent that the costs associated with storing and holding other inventory adversely impact our financial results. If our buying decisions do not accurately predict sourcing levels, customer trends or our expectations about customer needs are inaccurate, we may have to take unanticipated markdowns or impairment charges to dispose of the excess or obsolete inventory, which can adversely impact our financial results. Additionally, we believe excess inventory levels of raw materials with a short shelf life in our manufacturing facilities subjects us to the risk of increased inventory shrinkage. If we are not successful in managing our inventory balances and shrinkage, our results of and cash flows from operations may be negatively affected.

We sell certain accounts receivable on a non-recourse basis to unrelated financial institutions under “factoring” agreements that are sponsored, solely and individually, by certain customers. The cost of participating in these programs was immaterial to our results in all periods. Should we choose not to participate, or if these programs were no longer available, it could reduce our cash flows from operations in the period in which the arrangement ends.

We could be adversely affected by violations of the U.S. Foreign Corrupt Practices Act or similar U.S. or foreign anti-bribery and anti-corruption laws and regulations in the jurisdictions in which we operate.

The global nature of our business, the significance of our international revenue and our focus on emerging markets create various domestic and local regulatory challenges and subject us to risks associated with our international operations. The U.S. Foreign Corrupt Practices Act, or FCPA, and similar anti-bribery and anti-corruption laws and regulations in other countries generally prohibit companies and their intermediaries from making improper payments to foreign officials for the purpose of obtaining or keeping business or for other commercial advantage. In addition, U.S. public companies are required to maintain records that accurately and fairly represent their transactions and have an adequate system of internal accounting controls. Under the FCPA, U.S. companies may be held liable for the corrupt actions taken by directors, officers, employees, agents, or other strategic or local partners or representatives. As such, if we or our intermediaries fail to comply with the requirements of the FCPA or similar legislation, governmental authorities in the United States and elsewhere could seek to impose substantial civil and/or criminal fines and penalties which could have a material adverse effect on our business, reputation, operating results and financial condition.

We operate or may pursue opportunities in some jurisdictions, such as China, India, Brazil and Africa, which pose potentially elevated risks of fraud or corruption or increased risk of internal control issues. In certain jurisdictions, compliance with anti-bribery laws may conflict with local customs and practices. From time to time, we have conducted and will conduct internal investigations of the relevant facts and circumstances, control testing and compliance reviews, and take remedial actions, when appropriate, to help ensure that we are in compliance with applicable corruption and similar laws and regulations. Detecting, investigating and resolving actual or alleged violations of the FCPA or similar laws is expensive and could consume significant time and attention of our senior management. We could be subject to inquiries or investigations by government and other regulatory bodies. Any allegations of non-compliance with the FCPA or similar laws could have a disruptive effect on our operations in such jurisdiction over the near term, including interruptions of business or loss of third-party relationships, which may negatively impact our results of operations or financial condition. Any determination that our operations or activities are not in compliance with the FCPA or similar laws could expose us to severe criminal or civil penalties or other sanctions, significant fines, termination of necessary licenses and permits, and penalties or other sanctions that may harm our business and reputation.

Our ability to compete effectively depends on our ability to protect our intellectual property rights.

We rely on patents and trade secrets to protect our intellectual property rights. We often rely on trade secrets to protect our proprietary fragrance and flavor formulations, as this does not require us to publicly file information regarding our intellectual property. From time to time, a third party may claim that we have infringed upon or misappropriated their intellectual property rights, or a third party may infringe upon or misappropriate our intellectual property rights. We could incur significant costs in connection with legal actions to assert our intellectual property rights against third parties or to defend ourselves from third party assertions of invalidity, infringement or misappropriation or other claims. Any settlement or adverse judgment resulting from such litigation could require us to obtain a license to continue to use the intellectual property rights that are the subject of the claim, or otherwise restrict or prohibit our use of such intellectual property rights. Any required licensing fees may not be available to us on acceptable terms, if at all. For those intellectual property rights that are protected as trade secrets, this litigation could result in even higher costs, and potentially the loss of certain rights, since we would not have a perfected intellectual property right that precludes others from making, using or selling our products or processes. The ongoing trend among our customers towards more transparent labeling could further diminish our ability to effectively protect our proprietary flavor formulations.

For intellectual property rights that we seek to protect through patents, we cannot be certain that these rights, if obtained, will not later be opposed, invalidated, or circumvented. In addition, even if such rights are obtained in the United States, the laws of some of the other countries in which our products are or may be sold do not protect intellectual property rights to the same extent as the laws of the United States. If other parties were to infringe on our intellectual property rights, or if a third party successfully asserted that we had infringed on their intellectual property rights, it could materially and adversely affect our future results of operations by (i) reducing the price that we could obtain in the marketplace for products which are based on such rights, (ii) increasing the royalty or other fees that we may be required to pay in connection with such rights or (iii) limiting the volume, if any, of such products that we can sell.

Our results of operations may be negatively impacted by the outcome of uncertainties related to litigation.

From time to time we are involved in a number of legal claims and litigation, including claims related to intellectual property, product liability, environmental matters and indirect taxes. We cannot predict the ultimate outcome of such litigation. In addition, we cannot provide assurance that future events will not result in an increase in the number of claims or require an increase in the amount accrued for any such claims, or require accrual for one or more claims that has not been previously accrued. In addition, if we were found liable, we could be subject to certain indemnification claims. There can be no assurance that our insurance will be adequate to protect us from all material expenses related to pending and future claims or that such levels of insurance will be available in the future at economical prices.

The level of returns on pension and postretirement plan assets and the actuarial assumptions used for valuation purposes could affect our earnings and cash flows in future periods. Changes in government regulations could also affect our pension and postretirement plan expenses and funding requirements.

The funding obligations for our pension plans are impacted by the performance of the financial markets, particularly the equity markets, and interest rates. Funding obligations are determined under government regulations and are measured each year based on the value of assets and liabilities on a specific date. If the financial markets do not provide the long-term returns that are expected under the governmental funding calculations, we could be required to make larger contributions. The equity markets can be very volatile, and therefore our estimate of future contribution requirements can change dramatically in relatively short periods of time. Similarly, changes in interest rates and legislation enacted by governmental authorities can impact the timing and amounts of contribution requirements. An adverse change in the funded status of the plans could significantly increase our required contributions in the future and adversely impact our liquidity.

Assumptions used in determining projected benefit obligations and the fair value of plan assets for our pension and other postretirement benefit plans are determined by us in consultation with outside consultants and advisors. In the event that we determine that changes are warranted in the assumptions used, such as the discount rate, expected long-term rate of return on assets, or expected health care costs, our future pension and postretirement benefit expenses could increase or decrease. Due to changing market conditions or changes in the participant population, the assumptions that we use may differ from actual results, which could have a significant impact on our pension and postretirement liabilities and related costs and funding requirements.

Any future impairment of our tangible or intangible long-lived assets may adversely impact our profitability.

A significant portion of our assets consists of long-lived assets, including tangible assets such as our manufacturing facilities, and intangible assets and goodwill. As of December 31, 2017, we had recorded approximately \$1.6 billion of intangible assets and goodwill including goodwill and intangible assets related to our acquisitions. Long-lived assets are subject to an impairment analysis whenever events or changes in circumstances indicate the carrying amount of the asset may not be recoverable. Additionally, goodwill is subject to an impairment test at least annually. Indicators such as under performance relative to historical or projected future operating results, changes in the Company's strategy for its overall business or use of acquired assets, unexpected negative industry or economic trends, decreased market capitalization relative to net book values, unanticipated competitive activities, change in consumer demand, loss of key personnel and acts by governments and courts may signal that an asset has become impaired. To the extent any of our acquisitions do not perform as anticipated, whether due to internal or external factors, the value of such assets may be negatively affected and we may be required to record impairment charges. Our results of operations and financial position in future periods could be negatively impacted should future impairments of our long-lived assets, including intangible assets or goodwill occur.

Changes in our tax rates, the adoption of new United States or international tax legislation, or changes in existing tax laws could expose us to additional tax liabilities that may affect our future results.

We are subject to taxes in the United States and numerous foreign jurisdictions. Our future effective tax rates could be affected by changes in the mix of earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities, changes in liabilities for uncertain tax positions, cost of repatriations or changes in tax laws or their interpretation. Any of these changes could have a material adverse effect on our profitability.

We have and will continue to implement transfer pricing policies among our various operations located in different countries. These transfer pricing policies are a significant component of the management and compliance of our operations across international boundaries and overall financial results. Many countries routinely examine transfer pricing policies of taxpayers subject to their jurisdiction, challenge transfer pricing policies aggressively where there is potential non-compliance and impose significant interest charges and penalties where non-compliance is determined. There can be no assurance that a governmental authority will not challenge these policies more aggressively in the future or, if challenged, that we will prevail. We could suffer significant costs related to one or more challenges to our transfer pricing policies.

We are subject to the continual examination of our income tax returns by the Internal Revenue Service and foreign tax authorities in those countries in which we operate, and we may be subject to assessments or audits in the future in any of the countries in which we operate. The final determination of tax audits and any related litigation could be materially different from our historical income tax provisions and accruals, and while we do not believe the results that follow would have a material adverse effect on our financial condition, such results could have a material effect on our income tax provision, net income or cash flows in the period or periods in which that determination is made.

In addition, a number of international legislative and regulatory bodies have proposed legislation and begun investigations of the tax practices of multi-national companies and, in the European Union (“EU”), the tax policies of certain EU member states. One of these efforts has been led by the OECD, an international association of 34 countries including the United States, which has finalized recommendations to revise corporate tax, transfer pricing, and tax treaty provisions in member countries. Since 2013, the European Commission (“EC”) has been investigating tax rulings granted by tax authorities in a number of EU member states with respect to specific multi-national corporations to determine whether such rulings comply with EU rules on state aid, as well as more recent investigations of the tax regimes of certain EU member states. Under EU law, selective tax advantages for particular taxpayers that are not sufficiently grounded in economic realities may constitute impermissible state aid. If the EC determines that a tax ruling or tax regime violates the state aid restrictions, the tax authorities of the affected EU member state may be required to collect back taxes for the period of time covered by the ruling. In late 2015 and early 2016, the EC declared that tax rulings, related to other companies, by tax authorities in Luxembourg, the Netherlands and Belgium did not comply with the EU state aid restrictions. If the EC were to successfully challenge tax rulings applicable to us in any of the EU member states in which we are subject to taxation, we could be exposed to increased tax liabilities.

The recently adopted US tax legislation may result in additional tax liabilities that may affect our future results and profitability.

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the “Tax Act”) that significantly revises the U.S. tax code effective January 1, 2018 by, among other things, lowering the corporate income tax rate from a top marginal rate of 35% to a flat 21%, limiting deductibility of interest expense and performance based incentive compensation, transitioning to a territorial system and creating new taxes associated with global operations. The Tax Act impacted our consolidated results of operations during the 2017 fourth quarter and is expected to continue to impact our consolidated results of operations in future periods. In particular, the transition to the new territorial tax system required us to record a one-time tax or “toll charge” which resulted in a provisional incremental tax expense of \$100.6 million principally related to previously unremitted earnings on non-U.S. subsidiaries. The cash portion of the “toll charge” will be payable in installments over 8 years beginning in 2018. In addition, the reduction of the U.S. corporate tax rate resulted in a provisional net deferred tax expense of \$38.6 million related to the remeasurement of net deferred tax assets as a result of the reduction in the corporate income tax rate. Given the significant complexity of the Tax Act, anticipated guidance from the U.S. Treasury about implementing the Tax Act and the potential for additional guidance from the SEC or the FASB, the Company’s provisional charge may be adjusted during 2018 and is expected to be finalized no later than the fourth quarter of 2018. Other provisions of the Tax Act that impact future tax years are still being assessed. Any material revisions in the Company’s computations could adversely affect its cash flows and results of operations.

In future periods, we expect that our effective tax rate will be impacted by the lower U.S. corporate tax rate that will initially be offset by the elimination of the deductibility of performance based incentive compensation, and other provisions of the Tax Act that may impact us prospectively. However, the ultimate impact of the Tax Act will depend on additional regulatory or accounting guidance that may be issued with respect to the Tax Act and any operating and structural changes that we may undertake to permit us to benefit from the new, lower U.S. tax rate prospectively. This could adversely affect our results of operations.

The potential government regulation of certain of our product development initiatives is uncertain, and we may be subject to adverse consequences if we fail to comply with applicable regulations.

As part of our ingredients research program, we seek to collaborate with research institutions and companies throughout the world, including biotechnology companies. However, it is unclear whether any of our product developments will be classified as genetically modified food products subject to regulation as a biotechnology product. The manufacture of biotechnology products is subject to applicable Current Good Manufacturing Practice (CGMP) regulations as prescribed by the Food and Drug Administration and the applicable standards prescribed by European Commission and the competent authorities of European Union Member States and to other rules and regulations prescribed by foreign regulatory authorities. Compliance with these regulations can be expensive and time consuming. Such regulation could also subject us to requirements for labeling and traceability, which may cause our customers to avoid our affected products and seek our

competitors' products. This may result in our inability to realize any benefit from our investment and have an adverse effect on our operating results.

The United Kingdom's expected departure from the European Union in 2019 could have an adverse effect on us.

In June 2016, the United Kingdom held a referendum in which a majority of voters voted to exit the European Union, commonly referred to as "Brexit" and negotiations are underway to determine the terms of the U.K.'s withdrawal from the European Union. A withdrawal could, among other outcomes, disrupt the free movement of goods, services and people between the U.K. and the European Union, undermine bilateral cooperation in key geographic areas and significantly disrupt trade between the U.K. and the European Union or other nations as the U.K. pursues independent trade relations. In addition, Brexit could lead to legal uncertainty and potentially divergent national laws and regulations as the U.K. determines which European Union laws to replace or replicate. The effects of Brexit will depend on any agreements the U.K. makes to retain access to European Union or other markets either during a transitional period or more permanently. Given the lack of comparable precedent, it is unclear what financial, trade and legal implications the withdrawal of the U.K. from the European Union would have and how such withdrawal would affect us. Adverse consequences concerning Brexit or the European Union could include deterioration in global economic conditions, instability in global financial markets, political uncertainty, volatility in currency exchange rates, or adverse changes in the cross-border agreements currently in place, any of which could have an adverse impact on our financial results in the future.

ITEM 1B. UNRESOLVED STAFF COMMENTS.

None.

ITEM 2. PROPERTIES.

Our principal properties are as follows:

<u>Location</u>	<u>Operation</u>
United States	
Carrollton, TX ⁽¹⁾	Production of flavor compounds; flavor laboratories.
Hazlet, NJ ⁽¹⁾	Production of fragrance compounds; fragrance laboratories.
Jacksonville, FL	Production of fragrance ingredients.
New York, NY ⁽¹⁾	Fragrance laboratories; corporate headquarters.
South Brunswick, NJ ⁽¹⁾	Production of flavor compounds and ingredients; flavor laboratories.
Union Beach, NJ	Research and development center.
France	
Neuilly ⁽¹⁾	Fragrance laboratories.
Grasse	Production of fragrance compounds, and cosmetic ingredients.
Great Britain	
Haverhill	Production of flavor compounds and ingredients, and fragrance ingredients; flavor laboratories.
Netherlands	
Hilversum	Flavor and fragrance laboratories, and administrative offices.
Tilburg	Production of flavor compounds and ingredients, and fragrance compounds.
Spain	
Benicarló	Production of fragrance ingredients.
Egypt	
Cairo	Production of flavor compounds and manufacturing.
Argentina	
Garin	Production of flavor and fragrance compounds; flavor and fragrance laboratories.
Brazil	
Rio de Janeiro	Production of fragrance compounds.
São Paulo	Flavor and fragrance laboratories.
Taubate	Production of flavor compounds and ingredients.
Mexico	
Tlalnepantla	Production of flavor and fragrance compounds; flavor and fragrance laboratories.
India	
Mumbai ⁽²⁾	Flavor and fragrance laboratories.
Chennai ⁽²⁾	Production of flavor compounds and ingredients, and fragrance compounds; flavor laboratories.
Australia	
Dandenong	Production of flavor compounds and flavor ingredients.
China	
Guangzhou ⁽³⁾	Production of flavor compounds.
Guangzhou ⁽³⁾	Production of fragrance compounds.
Shanghai ⁽⁴⁾	Flavor and fragrance laboratories.
Xin'anjiang ⁽⁵⁾	Production of fragrance ingredients.
Zhejiang ⁽³⁾	Production of fragrance ingredients.

<u>Location</u>	<u>Operation</u>
Indonesia	
Jakarta	Production of flavor compounds and ingredients; flavor and fragrance laboratories.
Japan	
Gotemba	Production of flavor compounds.
Tokyo	Flavor and fragrance laboratories.
Singapore	
Jurong ⁽⁴⁾	Production of flavor and fragrance compounds.
Science Park ⁽¹⁾	Flavor and fragrance laboratories.
Turkey	
Gebze	Production of flavor compounds.
Israel	
Kibbutz Givat-Oz ⁽³⁾	Production of fragrance ingredients.
Germany	
Hamburg	Production of fragrance compounds.

(1) Leased.

(2) We have a 93.4% interest in the subsidiary company that owns this facility.

(3) Land is leased and building, machinery and equipment are owned.

(4) Building is leased and machinery and equipment are owned.

(5) We have a 90% interest in the subsidiary company that leases the land and owns the buildings and machinery.

Our principal executive offices and New York laboratory facilities are located at 521 West 57th Street, New York City.

ITEM 3. LEGAL PROCEEDINGS.

We are subject to various claims and legal actions in the ordinary course of our business.

Environmental

Over the past 20 years, various federal and state authorities and private parties have claimed that we are a Potentially Responsible Party (“PRP”) as a generator of waste materials for alleged pollution at a number of waste sites operated by third parties located principally in New Jersey and have sought to recover costs incurred and to be incurred to clean up the sites.

We have been identified as a PRP at eight facilities operated by third parties at which investigation and/or remediation activities may be ongoing. We analyze our potential liability on at least a quarterly basis. We accrue for environmental liabilities when they are probable and estimable. We estimate our share of the total future cost for these sites to be less than \$5.0 million.

While joint and several liability is authorized under federal and state environmental laws, we believe the amounts we have paid and anticipate paying in the future for clean-up costs and damages at all sites are not material and will not have a material adverse effect on our financial condition, results of operations or liquidity. This assessment is based upon, among other things, the involvement of other PRPs at most of the sites, the status of the proceedings, including various settlement agreements and consent decrees, and the extended time period over which payments will likely be made. There can be no assurance, however, that future events will not require us to materially increase the amounts we anticipate paying for clean-up costs and damages at these sites, and that such increased amounts will not have a material adverse effect on our financial condition, results of operations or cash flows.

Other

We are also a party to other litigations arising in the ordinary course of our business. We do not expect the outcome of these cases, singly or in the aggregate, to have a material effect on our consolidated financial condition.

ITEM 4. MINE SAFETY DISCLOSURES.

Not applicable.

PART II

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

Market Information.

Our common stock is traded principally on the New York Stock Exchange. The table below shows the high and low sales prices for our common stock, and the cash dividends we paid per share for each quarterly period in 2017 and 2016:

	2017				2016			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
High	\$ 136.89	\$ 139.73	\$ 145.01	\$ 155.44	\$ 122.38	\$ 131.30	\$ 143.43	\$ 143.64
Low	115.26	128.98	131.69	144.47	97.24	114.65	124.77	116.64
Dividends declared per share	0.64	0.64	0.69	0.69	0.56	0.56	0.64	0.64

Our current intention is to return 50%-60% of adjusted Net Income through a combination of dividends and share repurchases; however, the payment of dividends and share repurchases is determined by our Board of Directors ("Board") at its discretion based on various factors, and no assurance can be provided as to future dividends.

Approximate Number of Equity Security Holders.

<u>Title of Class</u>	Number of shareholders of record as of February 15, 2018
Common stock, par value 12 1/2¢ per share	1,735

Issuer Purchases of Equity Securities.

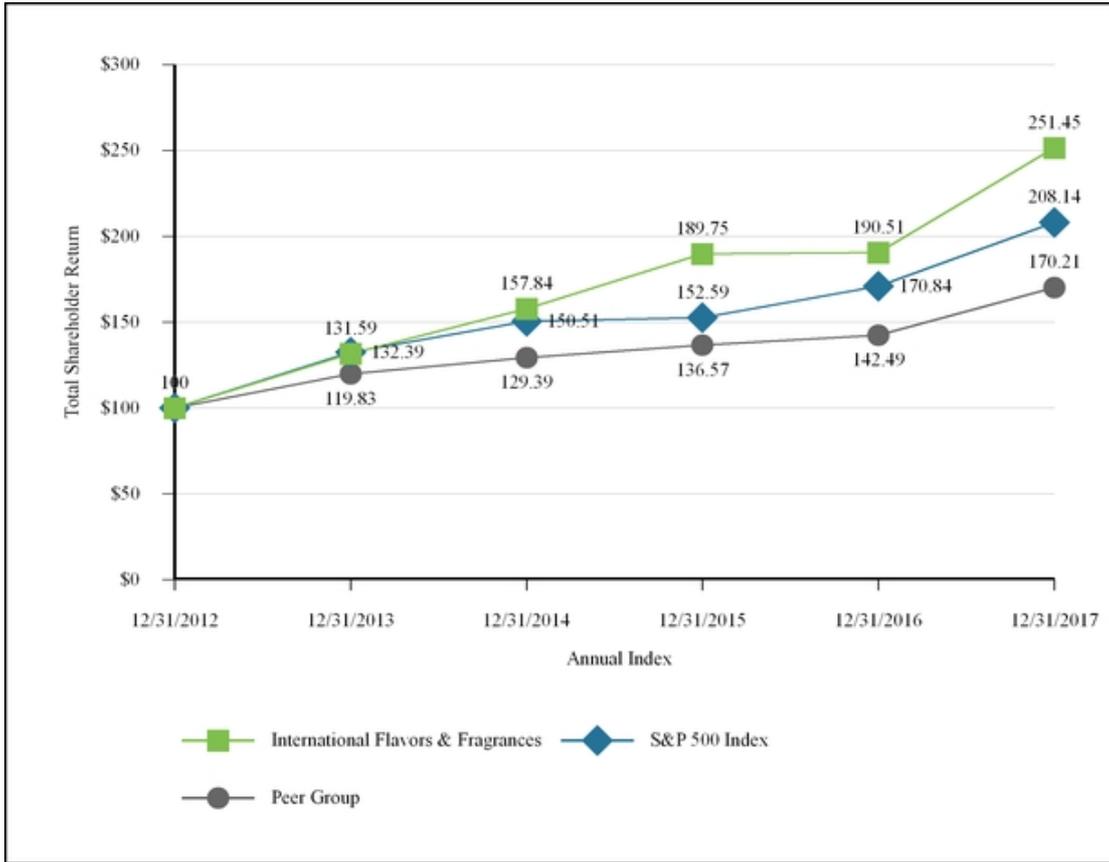
The table below reflects shares of common stock we repurchased during the fourth quarter of 2017.

Period	Total Number of Shares Repurchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Approximate Dollar Value of Shares That May Yet be Purchased Under the Program
October 1 - 31, 2017 ⁽¹⁾	—	\$ —	—	\$ 56,087,164
November 1 - 30, 2017 ⁽²⁾	19,144	150.40	19,144	297,120,829
December 1 - 31, 2017 ⁽²⁾	12,901	153.42	12,901	295,141,499
Total	32,045	\$ 151.61	32,045	\$ 295,141,499

- (1) Shares were repurchased pursuant to the repurchase program originally announced in December 2012 and amended in August 2015 (i) to increase from \$250 million to \$500 million the total purchase price of shares that may be repurchased under the program and (ii) to extend the program through December 31, 2017. Authorization of the repurchase program may be modified, suspended, or discontinued at any time.
- (2) Shares were repurchased pursuant to the repurchase program originally announced in December 2012, amended in August 2015 and further amended in November 2017 (i) to approve an additional \$250 million to be added to the approximately \$50 million remaining from the first amended program, thus increasing to \$300 million total purchase price of shares that may be repurchased under the program and (ii) to extend the program through November 1, 2022. Authorization of the repurchase program may be modified, suspended, or discontinued at any time.

Performance Graph.

The following graph compares a shareholder's cumulative total return for the last five fiscal years as if such amounts had been invested in: (i) our common stock; (ii) the stocks included in the S&P 500 Index; and (iii) a customized Peer Group. The graph is based on historical stock prices and measures total shareholder return, which takes into account both changes in stock price and dividends. The total return assumes that dividends were reinvested daily and is based on a \$100 investment on December 31, 2012.



SOURCE: S&P Capital IQ

Due to the international scope and breadth of our business, we believe that a Peer Group comprising international public companies, which are representative of the customer group to which we sell our products, is the most appropriate group against which to compare shareholder returns. See the table below for the list of companies included in our Peer Group.

Peer Group Companies

Avon Products, Inc.	Hormel Foods Corporation
Campbell Soup Company	Kellogg Company
Church & Dwight Co., Inc.	The Estée Lauder Companies Inc.
The Clorox Company	McCormick & Company, Incorporated
The Coca-Cola Company	McDonald's Corporation
Colgate-Palmolive Company	Nestle SA
ConAgra Brands, Inc.	PepsiCo, Inc.
Edgewell Personal Care Company ⁽¹⁾	The Procter & Gamble Company
General Mills, Inc.	Revlon, Inc.
Heinz (HJ) Co. ⁽¹⁾	Sensient Technologies Corporation
The Hershey Company	Unilever N.V.
Hillshire Brands Co. ⁽¹⁾	YUM! Brands, Inc.

- (1) In July 2012, Sara Lee Corp. spun off certain of its businesses and changed its name to Hillshire Brands Co. Heinz (HJ) Co. was acquired by Hawk Acquisition Holding Corp on June 7, 2013 and has only been included through that date. Hillshire Brands Co. was acquired by Tyson Foods on August 28, 2014 and has only been included through that date. Edgewell Personal Care has been included starting from July 1, 2015 when it spun off from Energizer Holdings.

ITEM 6. SELECTED FINANCIAL DATA.

**INTERNATIONAL FLAVORS & FRAGRANCES INC.
QUARTERLY FINANCIAL DATA
(UNAUDITED)**

The following selected consolidated financial data is derived from our Consolidated Financial Statements. This data should be read in conjunction with the Consolidated Financial Statements and Notes thereto, and with Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

(DOLLARS IN THOUSANDS EXCEPT PER SHARE DATA)

Quarter	Net Sales		Gross Profit ^(a)		Net Income (Loss) ^(b)		Net Income (Loss) Per Share			
	2017	2016	2017	2016	2017	2016	Basic		Diluted ^{(c)(d)}	
First	\$ 828,293	\$ 783,312	\$ 364,666	\$ 360,209	\$ 115,764	\$ 118,603	\$ 1.46	\$ 1.48	\$ 1.45	\$ 1.47
Second	842,861	793,478	374,589	365,641	109,795	116,733	1.39	1.46	1.38	1.46
Third	872,940	777,001	382,056	346,268	110,261	89,777	1.39	1.13	1.39	1.12
Fourth	854,625	762,559	357,690	326,952	(40,155)	79,918	(0.51)	1.00	(0.51)	1.00
	<u>\$ 3,398,719</u>	<u>\$ 3,116,350</u>	<u>\$ 1,479,001</u>	<u>\$ 1,399,070</u>	<u>\$ 295,665</u>	<u>\$ 405,031</u>	<u>\$ 3.73</u>	<u>\$ 5.07</u>	<u>\$ 3.72</u>	<u>\$ 5.05</u>

* See the following chart for (a)-(c) footnote explanations.

Included in the above quarterly results are the following:

Footnotes				
(DOLLARS IN THOUSANDS EXCEPT PER SHARE DATA)	Gross Profit (a)	Net Income(b)	Diluted EPS (c)	Description
Q1 2017				
Operational Improvement Initiatives	621	466	0.01	Represents accelerated depreciation in Hangzhou, China.
Acquisition Related Costs	5,301	5,650	0.07	Represents the amortization of inventory "step-up" related to the acquisitions of David Michael and PowderPure, included in Cost of goods sold and transaction costs related to the acquisitions of Fragrance Resources and PowderPure, included in Selling and administrative expenses.
Integration Related Costs	88	829	0.01	Represents costs related to the integration of the David Michael and Fragrance Resources acquisitions.
Tax Assessment	—	3,458	0.04	Represents the reserve for payment of a tax assessment related to commercial rent for prior periods.
Restructuring and Other Charges, net	—	7,176	0.09	Represents severance costs related to the 2017 Productivity Program.
Gain on Sale of Assets	—	(14)	—	Represents gains on sale of assets.
CTA Realization	—	(12,214)	(0.15)	Represents the release of CTA related to the liquidation of a foreign entity.
Q2 2017				
Operational Improvement Initiatives	445	334	—	Represents accelerated depreciation in Hangzhou, China.
Acquisition Related Costs	5,606	4,806	0.06	Represents the amortization of inventory "step-up" related to the acquisitions of David Michael, Fragrance Resources and PowderPure, included in Cost of goods sold and transaction costs related to the acquisitions of Fragrance Resources and PowderPure, included in Selling and administrative expenses.
Integration Related Costs	98	488	0.01	Represents costs related to the integration of the David Michael and Fragrance Resources acquisitions.
Legal Charges/Credits, net	—	646	0.01	Represents additional charge related to litigation settlement.
Tax Assessment	—	(12)	—	Represents the reversal of a portion of the reserve for payment of a tax assessment related to commercial rent for prior periods.
Restructuring and Other Charges, net	—	866	0.01	Represents severance costs related to the 2017 Productivity Program.
Gain on Sale of Assets	—	(46)	—	Represents gains on sale of assets.
FDA Mandated Product Recall	3,500	2,262	0.03	Represents additional charges recognized to accrue for an estimate of the Company's incremental direct costs and customer reimbursement obligations, in excess of the Company's sales value of the recalled products, arising from an FDA mandated recall of consumer products as a result of raw material received and identified by the Company as containing contamination.
Q3 2017				
Operational Improvement Initiatives	407	305	—	Represents accelerated depreciation in Hangzhou, China.
Acquisition Related Costs	5,147	3,487	0.04	Represents the amortization of inventory "step-up" related to the acquisitions of David Michael, Fragrance Resources and PowderPure, included in Cost of goods sold and transaction costs related to the acquisitions of Fragrance Resources and PowderPure, included in Selling and administrative expenses.
Integration Related Costs	131	428	0.01	Represents costs related to the integration of the David Michael and Fragrance Resources acquisitions.
Restructuring and Other Charges, net	—	2,237	0.03	Represents severance costs related to the 2017 Productivity Program.
Gain on Sale of Assets	—	(21)	—	Represents gains on sale of assets.
Q4 2017				
Operational Improvement Initiatives	329	247	—	Represents accelerated depreciation in Hangzhou, China.
Acquisition Related Costs	(194)	(68)	—	Represents the amortization of inventory "step-up" related to the acquisitions of David Michael and Fragrance Resources, included in Cost of goods sold and transaction costs related to the acquisitions of David Michael and Fragrance Resources, included in Selling and administrative expenses.
Integration Related Costs	163	1,102	0.01	Represents costs related to the integration of the David Michael.
Restructuring and Other Charges, net	—	3,967	0.05	Represents severance costs related to the 2017 Productivity Program.
Gain on Sale of Assets	—	(44)	—	Represents gains on sale of property in Brazil.
FDA Mandated Product Recall	7,500	4,848	0.06	Represents additional charges recognized to accrue for an estimate of the Company's incremental direct costs and customer reimbursement obligations, in excess of the Company's sales value of the recalled products, arising from an FDA mandated recall of consumer products as a result of raw material received and identified by the Company as containing contamination.
UK Pension Settlement Charges	—	2,243	0.03	Represents pension settlement charges related to one of the Company's UK plans.
U.S. Tax Reform	—	139,172	1.76	Represents charges incurred related to enactment of certain U.S. tax legislation changes in December 2017. The amount includes approximately \$38.6 million related to adjustments to net deferred tax assets and \$100.6 million related to a liability for taxes on deemed repatriation of earnings.

Footnotes

<u>(DOLLARS IN THOUSANDS EXCEPT PER SHARE DATA)</u>	Gross Profit (a)	Net Income(b)	Diluted EPS (c)	Description
Q1 2016				
Operational Improvement Initiatives	\$ 268	\$ 201	\$ —	Accelerated depreciation in Hangzhou, China.
Acquisition Related Costs	889	669	0.01	Expense related to the fair value step up of inventory and additional transaction costs related to the acquisition of Lucas Meyer.
Legal Charges/Credits, net	—	(1,044)	(0.01)	Amounts expected to be received related to the Spanish capital tax settlement.
Restructuring and Other Charges, net	101	82	—	Accelerated depreciation related to restructuring initiatives.
Q2 2016				
Operational Improvement Initiatives	831	623	0.01	Accelerated depreciation in Hangzhou, China and severance costs in Guangzhou, China.
Acquisition Related Costs	—	315	—	Additional transaction costs related to the acquisition of Lucas Meyer.
Restructuring and Other Charges, net	182	147	—	Accelerated depreciation and severance costs related to restructuring initiatives.
Q3 2016				
Operational Improvement Initiatives	791	602	0.01	Accelerated depreciation and dismantling costs in Hangzhou, China and severance costs in Guangzhou, China.
Acquisition Related Costs	—	510	0.01	Transaction costs related to the acquisition of David Michael.
Legal Charges/Credits, net	—	16,250	0.20	Legal charge related to litigation accrual.
Restructuring and Other Charges, net	190	154	—	Accelerated depreciation costs related to restructuring initiatives.
Q4 2016				
Operational Improvement Initiatives	502	379	—	Accelerated depreciation, dismantling and idle labor costs in Hangzhou, China and the partial reversal of severance accruals related to prior year operational initiatives in Europe.
Acquisition Related Costs	6,759	6,586	0.08	Transaction costs related to the acquisition of David Michael and Fragrance Resources as well as expense related to the fair value step up of inventory on the David Michael acquisition.
Legal Charges/Credits, net	—	16,250	0.20	Legal charge related to litigation accrual.
Restructuring and Other Charges, net	185	(158)	—	Accelerated depreciation related to restructuring initiatives, severance costs related to the termination of a former executive officer and the partial reversal of restructuring accruals recorded in the prior year.
Gain on Sale of Assets	—	(5,160)	(0.06)	Gain from sale of property in Brazil.

(d) The sum of the 2017 Net Income per diluted share by quarter does not equal the earnings per share for the full year due to rounding.

INTERNATIONAL FLAVORS & FRAGRANCES INC.
FIVE-YEAR SUMMARY
(DOLLARS IN THOUSANDS EXCEPT PER SHARE AND PERCENTAGE AMOUNTS)

	Year Ended December 31,				
	2017	2016	2015	2014	2013
Consolidated Statement of Income Data					
Net sales	\$ 3,398,719	\$ 3,116,350	\$ 3,023,189	\$ 3,088,533	\$ 2,952,896
Cost of goods sold ^(a)	1,919,718	1,717,280	1,671,590	1,726,383	1,668,691
Gross profit	1,479,001	1,399,070	1,351,599	1,362,150	1,284,205
Research and development expenses	286,026	254,263	246,101	253,640	259,838
Selling and administrative expenses ^(b)	557,311	566,224	494,517	507,563	499,805
Restructuring and other charges, net ^(c)	19,711	(1,700)	7,594	1,298	2,151
Amortization of acquisition-related intangibles	34,694	23,763	15,040	7,328	6,072
Gain on sales of fixed assets ^(d)	(184)	(10,836)	—	—	—
Operating profit	581,443	567,356	588,347	592,321	516,339
Interest expense	65,363	52,989	46,062	46,067	46,767
Other (income) expense, net ^(e)	(20,965)	(9,350)	3,184	(2,807)	(15,638)
Income before taxes	537,045	523,717	539,101	549,061	485,210
Taxes on income ^(f)	241,380	118,686	119,854	134,518	131,666
Net income	\$ 295,665	\$ 405,031	\$ 419,247	\$ 414,543	\$ 353,544
Percentage of net sales	8.7	13.0	13.9	13.4	12.0
Percentage of average shareholders' equity	17.8	25.1	26.9	27.7	26.0
Net income per share — basic	\$ 3.73	\$ 5.07	\$ 5.19	\$ 5.09	\$ 4.32
Net income per share — diluted	\$ 3.72	\$ 5.05	\$ 5.16	\$ 5.06	\$ 4.29
Average number of diluted shares (thousands)	79,370	79,981	80,891	81,494	81,930
Consolidated Balance Sheet Data					
Cash and cash equivalents	\$ 368,046	\$ 323,992	\$ 181,988	\$ 478,573	\$ 405,505
Receivables, net	663,663	550,658	537,896	493,768	524,493
Inventories	649,448	592,017	572,047	568,729	533,806
Property, plant and equipment, net	880,580	775,716	732,794	720,268	687,215
Goodwill and intangible assets, net	1,572,075	1,365,906	1,247,393	752,041	696,197
Total assets	4,598,926	4,016,984	3,702,010	3,494,621	3,331,731
Bank borrowings, overdrafts and current portion of long-term debt	6,966	258,516	132,349	8,090	149
Long-term debt	1,632,186	1,066,855	935,373	934,232	932,665
Total Shareholders' equity ^(g)	1,689,294	1,631,134	1,594,989	1,522,689	1,467,051
Other Data					
Current ratio ^(h)	2.5	1.8	2.0	3.3	2.9
Additions to property, plant and equipment	\$ 128,973	\$ 126,412	\$ 101,030	\$ 143,182	\$ 134,157
Depreciation and amortization expense	117,967	102,469	89,597	89,354	83,227
Cash dividends declared per share	\$ 2.66	\$ 2.40	\$ 2.06	\$ 1.72	\$ 1.46
Number of shareholders of record at year-end	1,735	1,892	2,013	2,105	2,255
Number of employees at year-end	7,299	6,932	6,732	6,211	6,000

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- (a) The 2017 amount includes \$15,860 of costs related to the fair value step-up for the Fragrance Resources and PowderPure acquisitions, \$1,802 of operational improvement initiative costs consisting of accelerated depreciation, FDA mandated product recall costs of \$11,000, and \$480 of integration costs related to the 2017 Productivity Program. The 2016 amount includes \$7,648 of costs related to the fair value step-up for the David Michael and Lucas Meyer acquisitions, \$2,391 of operational improvement initiative costs consisting of accelerated depreciation and \$658 of accelerated depreciation related to restructuring activities. The 2015 amount includes \$6,825 of costs related to the fair value step-up of inventory for the Ottens Flavors and Lucas Meyer acquisitions and \$1,115 of operational improvement initiative costs in Europe and Asia. The 2014 amount includes \$7,641 of accelerated depreciation associated with the Fragrance Ingredients rationalization and operational improvement initiative costs in Europe and Asia. The 2013 amount includes \$8,770 of accelerated depreciation associated with the Fragrance Ingredients rationalization and several locations in Asia.
- (b) The 2017 amount includes \$4,529 of costs related to the Fragrance Resources and PowderPure acquisitions, \$3,258 of integration costs related to the 2017 Productivity Program, \$1,000 of additional charge related to litigation settlement, \$5,331 of reserve for payment of a tax assessment related to commercial rent for prior periods and \$1,882 of UK pension settlement charges. The 2016 amount includes \$48,518 of legal charges/credits principally related to litigation accrual, \$4,547 of acquisition-related costs related to the acquisitions of Lucas Meyer, David Michael and Fragrance Resources and \$1,364 of severance costs related to the termination of a former executive officer. The 2015 amount includes \$10,530 of reversal of the previously recorded provision for the Spanish capital tax case, \$7,192 of expense for the acceleration of the contingent consideration payments related to the Aromor acquisition and \$11,517 of acquisition-related costs for the Ottens and Lucas Meyer acquisitions. The 2013 amount includes \$13,011 of expense associated with the Spanish capital tax case.
- (c) Represents severance costs related to the 2017 Productivity Program which were partially offset by the reversal of 2015 severance charges that were no longer needed. For 2016, represents accelerated depreciation related to restructuring initiatives and severance costs related to the termination of a former executive officer and the partial reversal of restructuring accruals recorded in the prior year. For 2015, 2014 and 2013, restructuring and other charges were the result of various restructuring and reorganization programs of the Company.
- (d) The 2016 amount includes \$7,818 of gains related to the sale of property in Brazil.
- (e) The 2017 amount includes \$12,217 from the release of CTA related to the liquidation of a foreign entity. The 2014 and 2013 amount includes \$723 and \$14,155, respectively, of net gains related to the sale of non-operating assets.
- (f) The 2017 amount represents charges incurred related to enactment of certain U.S. tax legislation changes in December 2017. The amount includes approximately \$38.6 million related to adjustments to deferred tax assets and \$100.6 million related to a liability for taxes on deemed repatriation of earnings. The 2015 amount includes \$10,478 of settlements due to favorable tax rulings in jurisdictions for which reserves were previously recorded for ongoing tax disputes.
- (g) Includes noncontrolling interest for all periods presented.
- (h) Current ratio is equal to current assets divided by current liabilities.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.
(UNLESS INDICATED OTHERWISE, DOLLARS IN MILLIONS EXCEPT PER SHARE AMOUNTS)

Overview

Company background

We are a leading innovator of sensory experiences, co-creating unique products that consumers taste, smell, or feel in fine fragrances and cosmetics, detergents and household goods, and food and beverages. We take advantage of our capabilities in consumer insights, research and product development ("R&D"), creative expertise and customer intimacy to partner with our customers in developing innovative and differentiated offerings for consumers. We believe that this collaborative approach will generate market share gains for our customers. Our flavors and fragrance compounds combine a number of ingredients that are blended, mixed or reacted together to produce proprietary formulas created by our flavorists and perfumers.

Flavors are the key building blocks that impart taste experiences in food and beverage products and, as such, play a significant role in determining consumer preference for the end products in which they are used. As a leading creator of flavors, we help our customers deliver on the promise of delicious and healthy foods and drinks that appeal to consumers. While we are a global leader, our flavors business is more regional in nature, with different formulas that reflect local taste preferences. Our flavors compounds are ultimately used by our customers in four end-use categories: (1) Savory, (2) Beverages, (3) Sweet and (4) Dairy.

We are a global leader in the creation of fragrance compounds that are integral elements in the world's finest perfumes and best-known consumer products within fabric care, home care, personal wash, hair care and toiletries products. Our Fragrances business consists of Fragrance Compounds and Fragrance Ingredients. Our Fragrance Compounds are defined into two broad categories, Fine Fragrances and Consumer Fragrances. Consumer Fragrances consists of five end-use categories of products: (1) Fabric Care, (2) Home Care, (3) Personal Wash, (4) Hair Care and (5) Toiletries. Fragrance Ingredients consist of active and functional ingredients that are used internally and sold to third parties, including customers and competitors, and are included in the Fragrances business unit.

The flavors and fragrances market is part of a larger market that supplies a wide variety of ingredients and compounds that are used in consumer products. The broader market includes large multinational companies and smaller regional and local participants which supply products such as seasonings, texturizers, spices, enzymes, certain food-related commodities, fortified products and cosmetic active ingredients. The global market for flavors and fragrances has expanded consistently, primarily as a result of an increase in demand for, as well as an increase in the variety of, consumer products containing flavors and fragrances. In 2017, the flavors and fragrances market was estimated by management to be approximately \$24.8 billion and is forecasted to grow approximately 2-3% by 2021, primarily driven by expected growth in emerging markets.

Development of new flavors and fragrance compounds is driven by a variety of sources, including requests from our customers who are in need of a specific flavor or fragrance for use in a new or modified consumer product, or as a result of internal initiatives stemming from our consumer insights program. Our product development team works in partnership with our scientists and researchers to optimize the consumer appeal of the flavor or fragrance. It then becomes a collaborative process among our researchers, our product development team and our customers to perfect the flavor or fragrance so that it is ready to be included in the final consumer product.

2017 Overview

Our 25 largest customers accounted for 50% of total sales in 2017; this percentage has remained fairly constant for several years. Sales to our largest customer across all end-use categories accounted for 11% to 12% of our sales for each of the last three fiscal years. A key factor for commercial success is inclusion on our strategic customers' core supplier lists, which provides opportunities to win new business. We are on the core supplier lists of a large majority of our global and strategic customers within Fragrances and Flavors.

Sales in 2017 increased 9% on both a reported and currency neutral basis (which excludes the effects of changes in currency), with the effects of acquisitions contributing approximately 5% to both the reported and currency neutral growth rates. Flavors achieved reported sales growth of 9% and currency neutral sales growth of 10%, with the effect of acquisitions contributing approximately 5% to both reported and currency neutral growth rates. Fragrances achieved sales growth of 9% on both a reported and currency basis in 2017, with the effect of acquisitions contributing approximately 5% to both reported and currency neutral growth rates. Sales growth excluding acquisitions was driven by new win performance (net of losses) in both Flavors and Fragrance Compounds. Additionally, Fragrance Ingredients sales were up 8% on a both a reported basis and

currency neutral basis, principally driven by higher volumes. Overall, our 2017 results continued to be driven by our strong emerging market presence that represented 48% of total sales and experienced 4% reported and currency neutral growth in 2017. From a geographic perspective, North America ("NOAM"), Europe, Africa and Middle East ("EAME"), Greater Asia ("GA") and Latin America ("LA") all delivered sales growth on a consolidated basis in 2017, led by NOAM.

On January 17, 2017, we completed the acquisition of Fragrance Resources, Inc. ("Fragrance Resources"), a privately-held fragrance company with facilities in Germany, North America, France and China, for approximately €143.4 million (approximately \$151.9 million). The acquisition is expected to strengthen our fragrances market position in North America and Germany. On April 7, 2017, we completed the acquisition of Columbia PhytoTechnology, LLC d/b/a PowderPure ("PowderPure"), a processor of all-natural food ingredients, for approximately \$54.6 million. PowderPure was acquired to expand our expertise and product offerings of clean label solutions within the Flavors business. These acquisitions did not have a material impact on our 2017 results.

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act") that significantly revised the U.S. tax code effective January 1, 2018 by, among other things, lowering the corporate income tax rate from a top marginal rate of 35% to a flat 21% and establishing a modified territorial system requiring a mandatory deemed repatriation tax on undistributed earnings of foreign subsidiaries. The Tax Act impacted our fourth quarter consolidated results of operations and is expected to continue to impact our consolidated results of operations in future periods. In particular, the transition to the new territorial tax system required the Company to record a one-time tax or "toll charge" which resulted in a provisional incremental tax expense of \$100.6 million principally related to previously unremitted earnings on non-U.S. subsidiaries. The cash portion of the "toll charge" will be payable in installments over 8 years beginning in 2018. In addition, the reduction of the U.S. corporate tax rate resulted in a provisional net deferred tax expense of \$38.6 million related to the remeasurement of net deferred tax assets as a result of the reduction in the corporate income tax rate.

2017 Sales by Business Unit



Sales by Destination (DOLLARS IN MILLIONS)	2017		2016		2015	
	\$	Percent of sales	\$	Percent of sales	\$	Percent of sales
Europe, Africa and Middle East	1,065	31%	965	31%	946	31%
Greater Asia	904	27%	880	28%	839	28%
North America	902	27%	769	25%	718	24%
Latin America	528	15%	502	16%	520	17%
Total net sales, as reported	\$ 3,399		\$ 3,116		\$ 3,023	

<u>Sales by Category</u>	Year Ended December 31,		
	2017	2016	2015
Flavor Compounds	48%	48%	48%
Consumer Fragrances	31%	32%	32%
Fine Fragrances	11%	10%	10%
Fragrance Ingredients	10%	10%	10%
Total Net Sales	100%	100%	100%

FINANCIAL PERFORMANCE OVERVIEW

Reported and currency neutral sales for 2017 increased 9% year-over-year (including approximately 5% growth from acquisitions). We continue to benefit from our diverse portfolio of end-use product categories and geographies and had sales growth in all four regions and in all categories. Both Flavors and Fragrances benefited from new win performance (net of losses) and the effect of acquisitions. Exchange rate variations did not have a material impact on revenue in 2017. The effect of exchange rates can vary by business and region depending upon the mix of sales by country as well as the relative percentage of local sales priced in U.S. dollars versus local currencies. We saw currency neutral sales growth during each quarter of 2017.

We believe that market conditions and the macro-economic environment will continue to be volatile in many markets in 2018 but that, overall, there will be slight improvements as compared to recent years. Pressures from increasing costs and the impact of a supply chain disruption related to a key ingredient manufactured by BASF and used in the flavors and fragrances industry are expected to reduce our currency neutral operating profit growth in 2018. The BASF supply chain disruption is not expected to be resolved until the second half of 2018.

On a long-term basis, we expect that sales growth for the industry will generally be in line with the underlying assumptions that support our long-term strategic goals, albeit with some risk in the near term given the continuing global economic uncertainty. We believe changing social habits resulting from increased disposable income, improved focus on personal health and wellness awareness should help drive growth of our consumer product customers' businesses.

Gross margin decreased 140 basis points ("bps") year-over-year. Included in 2017 was \$15.9 million of acquisition-related inventory "step-up" costs, \$11.0 million relating to an FDA mandated product recall, \$1.8 million of costs associated with operational improvement initiatives and \$0.5 million of integration related costs, compared to \$7.6 million of acquisition-related inventory "step-up" costs, \$2.4 million of costs related to operational improvement initiatives and \$0.7 million of costs related to accelerated depreciation included in Cost of goods sold included in 2016. Excluding these items, adjusted gross margin decreased 80 bps compared to the prior year period. The decrease was principally driven by higher costs including higher claim expense and higher input costs, offset by the favorable impact of productivity initiatives. Volumes were slightly higher but were offset by slightly unfavorable mix.

During 2017, the raw material cost environment continued its recent upward trend. We believe that, in 2018, we will continue to see higher prices on certain categories (such as vanilla and citrus), increases related to turpentine and oil derived materials and higher costs on a key ingredient due to the BASF supply disruption related to one of our key ingredients. We continue to seek improvements in our margins through operational performance, cost reduction efforts and mix enhancement.

Operating profit increased \$14.1 million to \$581.4 million (17.1% of sales) in 2017 compared to \$567.4 million (18.2% of sales) in 2016. Included in 2017 were restructuring and other charges of \$19.7 million, acquisition-related costs of \$20.4 million, \$11.0 million relating to an FDA mandated product recall, reserve for payment of a tax assessment related to commercial rent for prior periods of \$5.3 million, integration related costs of \$4.2 million, pension settlement charges of \$2.8 million, operational improvement initiative costs of \$1.8 million, additional charge related to litigation settlement of \$1.0 million and gain on sale of fixed assets of \$0.2 million. Included in 2016 were net legal charges/credits of \$48.5 million, acquisition-related costs of \$12.2 million, gain on sale of fixed assets of \$7.8 million, operational improvement initiative costs of \$2.4 million and restructuring and other charges, net of \$0.3 million. Excluding these charges, adjusted operating profit was \$647.4 million (19.0% of sales) for 2017 versus \$623.0 million (20.0% of sales) for 2016. The decrease in operating profit as a percentage of sales was principally driven by lower gross margins in 2017. Foreign currency changes had a favorable impact on operating profit of 1% in 2017 and an unfavorable impact on operating profit of approximately 2% in 2016.

Cash flows from operations were \$390.8 million or 11.5% of sales in 2017 as compared to cash flows from operations of \$550.1 million, or 17.7% of sales, during 2016. The decrease in operating cash flows in 2017 as compared to 2016 is principally related to the impact of increased core working capital requirements (trade receivables, inventories and accounts payable) and due to payments on legal claims along with payments for severance, integration and acquisition costs.

Our capital spend was \$129.0 million (3.8% of sales) during 2017. In light of our requirement to begin relocating our Fragrance facility in China and the ongoing construction of a new facility in India, we expect that capital spending in 2018 will be about 4.5-5% of sales (net of potential grants and other reimbursements from government authorities). During 2017, we received approximately \$15.0 million in payments related to the future relocation of our Zhejiang Ingredients plant and total payments for which are expected to approximate up to \$50 million.

Results of Operations

<i>(DOLLARS IN THOUSANDS EXCEPT PER SHARE AMOUNTS)</i>	Year Ended December 31,			Change	
	2017	2016	2015	2017 vs. 2016	2016 vs. 2015
Net sales	\$ 3,398,719	\$ 3,116,350	\$ 3,023,189	9.1 %	3.1 %
Cost of goods sold	1,919,718	1,717,280	1,671,590	11.8 %	2.7 %
Gross profit	1,479,001	1,399,070	1,351,599		
Research and development (R&D) expenses	286,026	254,263	246,101	12.5 %	3.3 %
Selling and administrative (S&A) expenses	557,311	566,224	494,517	(1.6)%	14.5 %
Restructuring and other charges, net	19,711	(1,700)	7,594	(1,259.5)%	(122.4)%
Amortization of acquisition-related intangibles	34,694	23,763	15,040	46.0 %	58.0 %
Gain on sales of fixed assets	(184)	(10,836)	—	(98.3)%	100.0 %
Operating profit	581,443	567,356	588,347		
Interest expense	65,363	52,989	46,062	23.4 %	15.0 %
Other (income) expense, net	(20,965)	(9,350)	3,184	124.2 %	(393.7)%
Income before taxes	537,045	523,717	539,101		
Taxes on income	241,380	118,686	119,854	103.4 %	(1.0)%
Net income	\$ 295,665	\$ 405,031	\$ 419,247		
Net income per share — diluted	\$ 3.72	\$ 5.05	\$ 5.16	(26.3)%	(2.1)%
Gross margin	43.5%	44.9%	44.7%	(140.0)	20.0
R&D as a percentage of sales	8.4%	8.2%	8.1%	20.0	10.0
S&A as a percentage of sales	16.4%	18.2%	16.4%	(180.0)	180.0
Operating margin	17.1%	18.2%	19.5%	(110.0)	(130.0)
Adjusted operating margin ⁽¹⁾	19.0%	20.0%	20.2%	(100.0)	(20.0)
Effective tax rate	44.9%	22.7%	22.2%	2,220.0	50.0
Segment net sales					
Flavors	\$ 1,632,166	\$ 1,496,525	\$ 1,442,951	9.1 %	3.7 %
Fragrances	1,766,553	1,619,825	1,580,238	9.1 %	2.5 %
Consolidated	\$ 3,398,719	\$ 3,116,350	\$ 3,023,189		

(1) Adjusted operating margin for the year ended December 31, 2017 excludes net legal charges/credits of \$1.0 million, acquisition related costs of \$20.4 million, gain on sale of assets of \$0.2 million, operational improvement initiative costs of \$1.8 million, restructuring and other charges, net of \$19.7 million, FDA mandated product recall costs of \$11.0 million, UK pension settlement charge of \$2.8 million, tax assessment of \$5.3 million, and integration related costs of \$4.2 million.

Adjusted operating margin for the year ended December 31, 2016 excludes net legal charges/credits of \$48.5 million, acquisition related costs of \$12.2 million, gain on sale of assets of \$7.8 million, operational improvement initiative costs of \$2.4 million and restructuring and other charges, net of \$0.3 million.

Adjusted operating margin for the year ended December 31, 2015 excludes acquisition related costs of \$18.3 million, the reversal of the previously recorded provision for the Spanish capital tax case of \$10.5 million, Restructuring and other charges, net of \$7.6 million, accelerated contingent consideration payments of \$7.2 million and operational improvement initiative costs of \$1.1 million.

Cost of goods sold includes the cost of materials and manufacturing expenses; raw materials generally constitute approximately 70% of the total. R&D expenses relate to the development of new and improved molecules and technologies, technical product support and compliance with governmental regulations. S&A expenses include expenses necessary to support

our commercial activities and administrative expenses principally associated with staff groups that support our overall operating activities.

2017 IN COMPARISON TO 2016

Sales

Sales for 2017 totaled \$3.4 billion, an increase of 9% from the prior year on both a reported and currency neutral basis. Sales growth reflected new win performance (net of losses) in both Flavors and Fragrance Compounds. On both a reported and currency neutral basis, the effect of acquisitions was approximately 5% to net sales amounts. In addition, Fragrance Ingredients sales were up 8% on both a reported and currency neutral basis, principally driven by volume growth.

Flavors Business Unit

Flavors sales in 2017 increased 9% on a reported basis and 10% on a currency neutral basis versus the prior year period. Acquisitions accounted for approximately 5% of the net sales growth on both a reported and currency neutral basis. Overall growth was primarily driven by mid single-digit growth in Savory combined with low single-digit growth in Beverage, Sweet and Dairy. Regionally, the Flavors business delivered reported and currency neutral growth across all regions. Sales growth was led by NOAM, driven by double-digit gains in Savory and low single-digit gains in Dairy. LA sales growth was primarily driven by double-digit growth in Savory and Dairy, and mid single-digit growth in Sweet. Sales growth in EAME was driven by high single-digit gains in Beverage and Dairy, combined with mid single-digit gains in Savory and Sweet. Sales growth in GA was driven by mid single-digit gains in Beverage and low single-digit gains in Sweet and Savory. Globally, Flavors growth included mid single-digit growth in emerging markets. Overall, emerging markets represented approximately 49% of total Flavors sales.

Fragrances Business Unit

Fragrances sales in 2017 increased 9% on both a reported basis and currency neutral basis. Acquisitions accounted for approximately 5% of both reported and currency neutral sales growth. Year-over-year, 2017 sales performance was led by double-digit growth in Fine Fragrance and Home Care, high single-digit growth in Fabric Care and Fragrance Ingredients, and mid single-digit growth in Personal Wash and Toiletries.

Sales growth within the regions was led by EAME reflecting double-digit gains in Fine Fragrances, Fragrance Ingredients, Home Care and Personal Wash, high single-digit growth in Fabric Care, and mid single-digit growth in Hair Care. NOAM sales growth was primarily driven by double-digit growth in Fine Fragrances, Toiletries, Fabric Care and Home Care. GA sales growth was primarily driven by double-digit gains in Fine Fragrances and Home Care, high single-digit gains in Fabric Care, and mid single-digit gains in Toiletries and Personal Wash. LA sales growth was primarily driven by double-digit gains in Fragrance Ingredients and Home Care, and low single-digit gains in Toiletries, Fabric Care and Personal Wash.

Fragrance Ingredients sales grew by high single-digits principally due to higher volumes.

Globally, Fragrances growth included low single-digit growth in emerging markets. Overall, emerging markets represented 47% of total Fragrance's sales.

Sales Performance by Region and Category

		% Change in Sales — 2017 vs. 2016					
		Fine Fragrances	Consumer Fragrances	Ingredients	Total Fragrances	Flavors	Total
NOAM	Reported	21 %	10%	3%	13%	23%	17%
EAME	Reported	22 %	11%	10%	15%	6%	10%
	<i>Currency Neutral⁽¹⁾</i>	22 %	10%	10%	14%	8%	11%
LA	Reported	4 %	1%	37%	2%	7%	5%
	<i>Currency Neutral⁽¹⁾</i>	-1 %	1%	36%	0%	6%	4%
GA	Reported	23 %	5%	1%	6%	1%	3%
	<i>Currency Neutral⁽¹⁾</i>	25 %	6%	2%	6%	1%	3%
Total	Reported	18 %	7%	8%	9%	9%	9%
	<i>Currency Neutral⁽¹⁾</i>	16 %	7%	8%	9%	10%	9%

(1) Currency neutral sales growth is calculated by translating prior year sales at the exchange rates for the corresponding 2017 period.

- NOAM Flavors sales growth, which included the impact of acquisitions, primarily reflected double-digit gains in Savory and low single-digit gains in Dairy, which more than offset low single-digit declines in Beverage. Total Fragrances sales growth reflected double-digit growth in Fine Fragrances (primarily driven by the impact of acquisitions), Toiletries, Fabric Care and Home Care, and low single-digit gains in Fragrance Ingredients and Personal Wash, which more than offset low single-digit declines in Hair Care.
- EAME Flavors sales growth primarily reflected high single-digit gains in Dairy and Beverage, and mid single-digit gains in Savory and Sweet. EAME total Fragrances sales growth was driven by double-digit gains in Fine Fragrances, Fragrance Ingredients, Home Care and Personal Wash, high single-digit growth in Fabric Care, mid single-digit growth in Hair Care, and low single-digit growth in Toiletries.
- LA Flavors sales growth was driven by double-digit growth in Savory and Dairy and mid single-digit growth in Sweet. LA total Fragrances sales growth was led by double-digit gains in Fragrance Ingredients and Home Care, low single-digit gains in Toiletries, Fabric Care and Personal Wash, which offset double-digit declines in Hair Care and low single-digit declines in Fine Fragrances.
- GA Flavors sales growth was led by mid single-digit gains in Beverage, and low single-digit gains in Savory and Sweet, which more than offset the high single-digit declines in Dairy. GA total Fragrances sales growth primarily reflected double-digit gains in Fine Fragrances and Home Care, high single-digit gains in Fabric Care, mid single-digit gains in Toiletries and Personal Wash, and low single-digit gains in Fragrance Ingredients. These gains more than offset low single-digit declines in Hair Care.

Cost of Goods Sold

Cost of goods sold, as a percentage of sales, increased 140 bps, to 56.5% in 2017 compared to 55.1% in 2016. Included in cost of goods sold was \$15.9 million of acquisition-related inventory "step-up" costs, \$11.0 million related to an FDA mandated product recall, \$1.8 million of costs associated with operational improvement initiatives, and \$0.5 million of integration related costs, in 2017. For 2016, included in costs of goods sold was \$7.6 million of acquisition-related inventory "step-up" costs, \$2.4 million of costs associated with operational improvement initiatives and \$0.7 million of costs related to accelerated depreciation.

Research and Development (R&D)

R&D expenses, as a percentage of sales, remained relatively consistent with the prior year period at 8.4% in 2017 compared to 8.2% in 2016. The slight increase in 2017 was principally driven by recent acquisitions, and, to a lesser extent, incentive compensation.

Selling and Administrative (S&A)

S&A, as a percentage of sales, decreased 180 bps to 16.4% versus 18.2% (or 15.9% and 16.4% on an adjusted basis in 2017 and 2016, respectively). Included in 2017 were commercial real estate tax assessment charges of \$5.3 million, acquisition and integration related costs of \$4.5 million and \$3.3 million, respectively, UK pension settlement charge of \$1.9 million and net legal charges/credits, principally related to a litigation accrual of \$1.0 million, compared to net legal charges/credits, principally related to a litigation accrual of \$48.5 million, acquisition related costs of \$4.5 million and severance costs related to the termination of a former executive officer of \$1.4 million in 2016. During 2017, costs were higher as a result of recently acquired companies, offset by slightly lower legal and professional fees associated with various finance initiatives, and decreases in legal and patent fees.

Restructuring and Other Charges

Restructuring and other charges primarily consist of separation costs for employees, including severance, outplacement and other benefit costs.

	For the Year Ended December 31,	
	2017	2016
<i>(DOLLARS IN THOUSANDS)</i>		
Flavors	\$ 4,505	\$ (1,119)
Fragrances	13,077	(581)
Global	2,129	—
Total	<u>\$ 19,711</u>	<u>\$ (1,700)</u>

2015 Severance and Contingent Consideration Charges

During the fourth quarter of 2015, we established a series of initiatives intended to streamline the Company's management structure, simplify decision-making and accountability, better leverage and align its capabilities across the organization and improve efficiency of its global manufacturing and operations network. As a result, in 2015, the Company recorded a pre-tax charge of \$7.6 million, included in Restructuring and other charges, net, related to severance and related costs pertaining to approximately 150 positions that were affected. During 2016, the Company recorded a credit of \$1.7 million related to the reversal of severance accruals that were determined to be no longer required. Separately, in 2015, the Company recorded a charge of \$7.2 million, included in Selling and administrative expenses, associated with the acceleration from 2016 to 2015 of contingent consideration payments from the Aromor acquisition that were triggered by certain of the management structure changes noted above. In addition, during 2017, the Company made payments of \$0.2 million related to severance and recorded a credit of \$2.3 million related to the reversal of severance accruals that were determined to be no longer required.

2017 Productivity Program

On February 15, 2017, we announced that we were adopting a multi-year productivity program designed to improve overall financial performance, provide flexibility to invest in growth opportunities and drive long-term value creation. In connection with this program, we expect to optimize our global footprint and simplify the Company's organizational structures globally. In connection with this initiative, the Company expects to incur cumulative, pre-tax cash charges of between \$30-\$35 million, consisting primarily of \$24-\$26 million in personnel-related costs and an estimated \$6 million in facility-related costs, such as lease termination, and integration-related costs.

The Company recorded \$20.6 million of charges related to personnel-related costs in 2017, with the remainder of the personnel-related and other costs expected to be recognized by the end of 2018. The Company made payments of \$14.0 million related to severance in 2017. The overall charges were split approximately evenly between Flavors and Fragrances. This initiative is expected to result in the reduction of approximately 370 members of the Company's global workforce, including acquired entities, in various parts of the organization.

Amortization of Acquisition-Related Intangibles

Amortization expenses increased to \$34.7 million in 2017 compared to \$23.8 million in 2016. The increase of \$10.9 million is principally due to the acquisitions of Fragrance Resources and PowderPure in 2017, as well as recognizing a full year of amortization in 2017 from the acquisition of David Michael as compared to 2016.

Operating Results by Business Unit

We evaluate the performance of business units based on segment profit which is defined as operating profit before Restructuring and certain non-recurring items, Interest expense, Other expense, net and Taxes on income. See Note 13 to our Consolidated Financial Statements for the reconciliation to Income before taxes.

	For the Year Ended December 31,	
	2017	2016
<i>(DOLLARS IN THOUSANDS)</i>		
Segment profit:		
Flavors	\$ 375,208	\$ 337,242
Fragrances	335,412	334,220
Global Expenses	(63,180)	(48,487)
Operational Improvement Initiatives	(1,802)	(2,402)
Acquisition Related Costs	(20,389)	(12,195)
Integration Related Costs	(4,179)	—
Legal Charges/Credits, net	(1,000)	(48,518)
Tax Assessment	(5,331)	—
Restructuring and Other Charges, net	(19,711)	(322)
Gain on Sale of Assets	184	7,818
FDA Mandated Product Recall	(11,000)	—
UK Pension Settlement Charges	(2,769)	—
Operating Profit	<u>\$ 581,443</u>	<u>\$ 567,356</u>
Profit margin		
Flavors	23.0%	22.5%
Fragrances	19.0%	20.6%
Consolidated	17.1%	18.2%

Flavors Business Unit

Flavors segment profit increased \$38.0 million to \$375.2 million in 2017 (23.0% of segment sales) from \$337.2 million (22.5% of sales) in the comparable 2016 period. The increase in segment profit and profit margin principally reflected productivity initiatives and solid top-line growth.

Fragrances Business Unit

Fragrances segment profit increased \$1.2 million to \$335.4 million in 2017 (19.0% of segment sales), compared to \$334.2 million (20.6% of sales) reported in 2016. The increase in segment profit and profit margin was principally driven by volume growth and the benefits from cost and productivity initiatives offset slightly by the impact of acquisitions.

Global Expenses

Global expenses represent corporate and headquarter-related expenses which include legal, finance, human resources and R&D and other administrative expenses that are not allocated to an individual business unit. In 2017, Global expenses were \$63.2 million compared to \$48.5 million during 2016. The increase was principally driven by lower gains on our cash flow hedging program and higher incentive compensation costs.

Interest Expense

In 2017, interest expense increased \$12.4 million to \$65.4 million, compared to \$53.0 million in 2016 reflecting the impact of our issuance of Senior Notes - 2017 in the second quarter of 2017. Average cost of debt was 4.1% for the 2017 period compared to 3.8% in 2016.

Other (Income) Expense, Net

Other income, net increased approximately \$11.6 million to \$21.0 million of income in 2017 versus \$9.4 million of income in 2016. The increase was largely driven by gains on foreign currency of approximately \$13 million in the current year versus approximately \$5 million in the prior year, as well as proceeds from certain life insurance policies of approximately \$4 million in 2017.

Income Taxes

The effective tax rate was 44.9% in 2017 as compared to 22.7% in 2016. Excluding \$139.2 million related to the U.S. tax reform, legal charges/credits, net of \$0.4 million, acquisition related costs of \$6.5 million, gain on sale of assets of \$0.1 million, operational improvement initiative costs of \$0.5 million, restructuring and other charges, net of \$5.5 million, FDA mandated product recall costs of \$3.9 million, UK pension settlement charge of \$0.5 million, tax assessment of \$1.9 million, and integration related costs of \$1.3 million, the adjusted effective tax rate for 2017 was 20.7%. For 2016, the adjusted tax rate was 23.8% excluding \$17.1 million, \$4.1 million, \$0.6 million and \$0.1 million of tax benefits associated with pretax legal charges/credits, acquisition-related costs, operational improvement initiatives and restructuring related costs, respectively, as well as a \$2.7 million tax charge related to the gain on sale of property. The year-over-year reduction principally reflects the reversal of certain valuation allowances on U.S. state deferred taxes.

U.S. Tax Reform

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act") that significantly revised the U.S. tax code effective January 1, 2018 by, among other things, lowering the corporate income tax rate from a top marginal rate of 35% to a flat 21%, limiting deductibility of interest expense and performance based incentive compensation, transitioning to a territorial system and creating new taxes associated with global operations.

The Tax Act impacted our consolidated results of operations during the 2017 fourth quarter and is expected to continue to impact our consolidated results of operations in future periods. In particular, the transition to the new territorial tax system required us to record a one-time tax or "toll charge" which resulted in a provisional incremental tax expense of \$100.6 million principally related to previously unremitted earnings on non-U.S. subsidiaries. The cash portion of the "toll charge" will be payable in installments over 8 years beginning in 2018. In addition, the reduction of the U.S. corporate tax rate resulted in a provisional net deferred tax expense of \$38.6 million related to the remeasurement of net deferred tax assets as a result of the reduction in the corporate income tax rate. Given the significant complexity of the Tax Act, anticipated guidance from the U.S. Treasury about implementing the Tax Act and the potential for additional guidance from the SEC or the FASB, the Company's provisional charge may be adjusted during 2018 and is expected to be finalized no later than the fourth quarter of 2018. Other provisions of the Tax Act that impact future tax years are still being assessed. Any material revisions in the Company's computations could adversely affect its cash flows and results of operations.

Based on our current assessment and understanding of the Tax Act and the Company's current global operating structure, the Company believes its effective tax rate will be approximately 21% in 2018. The impact of the Tax Act may differ from this estimate, due to, among other things, changes in interpretations and assumptions the Company has made, additional guidance that may be issued by the taxing authorities as well as operating and/or structural changes that the Company may take as a result of the Tax Act.

Adoption of ASC Topic 740

Effective January 1, 2017, the Company prospectively applied new accounting guidance which required all excess tax benefits/deficiencies be recognized as income tax expense/benefit in the Consolidated Statement of Comprehensive Income. This change resulted in a \$3.3 million benefit to income tax expense for the year ended December 31, 2017. For 2016, benefits of \$5.3 million were recognized in equity.

2016 IN COMPARISON TO 2015

Sales

Sales for 2016 totaled \$3.1 billion, an increase of 3% from the prior year. Excluding currency impacts, sales increased 5%. Sales growth reflected new win performance (net of losses) in both Flavors and Fragrance Compounds. On both a reported and currency neutral basis, the effect of acquisitions was approximately 2% to net sales amounts. In addition, Fragrance Ingredients sales were up 9% on a reported basis and 10% on a currency neutral basis, driven entirely by the impact of acquisitions. Overall organic sales growth includes 1% growth from both developed and emerging markets and on a currency neutral basis, 4% growth from emerging markets and 1% growth from developed markets, respectively.

Flavors Business Unit

Flavors sales in 2016 increased 4% on a reported basis and 6% on a currency neutral basis versus the prior year period. Acquisitions accounted for approximately 3% of the net sales growth on both a reported and currency neutral basis. Overall growth was primarily driven by to mid single-digit growth in Savory, Sweet and Dairy combined with low single-digit growth in Beverage. Regionally, the Flavors business delivered reported and currency neutral growth across all regions. Sales growth was led by NOAM, driven by high single-digit gains in Sweet and low single-digit gains in Beverage and Dairy. Sales growth in GA was driven by mid single-digit gains in Savory, Beverage and Sweet and high single-digit gains in Dairy. Sales growth in EAME was driven by mid single-digit gains in Savory and Sweet and high single-digit gains in Dairy. LA sales growth was primarily driven by double-digit growth in Savory and Dairy and high single-digit growth in Sweet. EAME performance continues to be led by our performance in the emerging market countries within the region. Globally, Flavors growth included mid single-digit growth in emerging markets. Overall, emerging markets represented approximately 52% of total Flavors sales.

Fragrances Business Unit

Fragrances sales in 2016 increased 3% on a reported basis and 4% on a currency neutral basis. Acquisitions accounted for approximately 2% of both reported and currency neutral sales growth. Year-over-year, 2016 sales performance was led by high single-digit growth in Fragrance Ingredients (which was driven entirely by the impact of acquisitions) and mid single-digit growth in Fabric Care, Home Care and Personal Wash. Sales growth within the regions was led by GA reflecting double-digit gains in Fragrance Ingredients and Fabric Care and high single-digit growth in Personal Wash. NOAM sales growth reflected double-digit gains in Fragrance Ingredients, Fabric Care and Home Care categories, which more than offset low single-digit declines in Fine Fragrance. EAME sales growth reflected double-digit gains in Fragrance Ingredients and Hair Care and low single-digit gains in Fabric Care. LA sales declined reflecting double-digit declines in Fragrance Ingredients as well as high single-digit declines in Hair Care and mid single-digit declines in Fabric Care and Home Care which more than offset double-digit gains in Personal Wash. Excluding the effects of acquisitions, Fragrance Ingredients sales declined low single-digits. Globally, Fragrances growth included low single-digit growth in emerging markets. Overall, emerging markets represented 48% of total Fragrances sales.

Sales Performance by Region and Category

		% Change in Sales — 2016 vs. 2015					
		Fine Fragrances	Consumer Fragrances	Ingredients	Total Fragrances	Flavors	Total
NOAM	Reported	-2 %	8 %	10 %	6 %	8%	7 %
EAME	Reported	-1 %	1 %	13 %	3 %	1%	2 %
	<i>Currency Neutral⁽¹⁾</i>	0 %	2 %	14 %	4 %	5%	4 %
LA	Reported	-6 %	-5 %	-15 %	-6 %	1%	-3 %
	<i>Currency Neutral⁽¹⁾</i>	-3 %	-3 %	-13 %	-4 %	5%	-1 %
GA	Reported	0 %	6 %	13 %	7 %	4%	5 %
	<i>Currency Neutral⁽¹⁾</i>	2 %	7 %	11 %	8 %	6%	6 %
Total	Reported	-2 %	2 %	9 %	3 %	4%	3 %
	<i>Currency Neutral⁽¹⁾</i>	-1 %	3 %	10 %	4 %	6%	5 %

(1) Currency neutral sales growth is calculated by translating prior year sales at the exchange rates for the corresponding 2016 period.

- NOAM Flavors sales growth, which included the impact of acquisitions, primarily reflected high single-digit gains in Sweet and low single-digit gains in Beverage and Dairy. Total Fragrances sales growth reflected double-digit gains in Fragrance Ingredients (driven entirely by the impact of acquisitions), Fabric Care and Home Care categories, which more than offset low single-digit declines in Fine Fragrance.
- EAME Flavors sales growth primarily reflected mid single-digit gains in Savory and Sweet and high single-digit gains in Dairy. EAME total Fragrances sales growth was driven by double-digit gains in Fragrance Ingredients (driven entirely by the impact of acquisitions) and Hair Care and low single-digit gains in Fabric Care.
- LA Flavors sales growth was driven by double-digit growth in Savory and Dairy and high single-digit growth in Sweet. LA total Fragrances sales declined reflecting double-digit declines in Fragrance Ingredients as well as high single-digit declines in Hair Care and mid single-digit declines in Fabric Care and Home Care which more than offset double-digit gains in Personal Wash.

- GA Flavors sales growth was led by mid single-digit gains in Savory, Beverage and Sweet and high single-digit gains in Dairy. GA total Fragrances sales growth primarily reflected double-digit gains in Fragrance Ingredients (driven entirely by the impact of acquisitions) and Fabric Care and high single-digit growth in Personal Wash.

Cost of Goods Sold

Cost of goods sold, as a percentage of sales, decreased 20 bps, to 55.1% in 2016 compared to 55.3% in 2015. Included in cost of goods sold was \$7.6 million of acquisition-related inventory "step-up" costs, \$2.4 million of costs associated with operational improvement initiatives and \$0.7 million of costs related to accelerated depreciation in 2016 and \$6.8 million of acquisition-related inventory "step-up" costs and \$1.1 million of costs related to operational improvement initiatives included in 2015.

Research and Development (R&D)

R&D expenses, as a percentage of sales, remained relatively consistent with the prior year period at 8.2% in 2016 compared to 8.1% in 2015. The slight increase in 2016 was principally driven by slightly higher salary costs and, to a lesser extent, the effect of recent acquisitions.

Selling and Administrative (S&A)

S&A, as a percentage of sales, increased 180 bps to 18.2% versus 16.4% (or 16.4% and 16.1% on an adjusted basis in 2016 and 2015, respectively). Included in 2016 were net legal charges/credits, principally related to litigation accrual, of \$48.5 million, acquisition-related costs of \$4.5 million and severance costs related to the termination of a former executive officer of \$1.4 million, compared to acquisition related costs of \$11.5 million, accelerated contingency payments of \$7.2 million and the reversal of the previously recorded provision related to the Spanish capital tax case of \$10.5 million included in 2015. Additionally, during 2016, costs were higher as a result of legal and professional fees associated with various finance initiatives and the effect of recently acquired companies, offset by slightly lower salary costs and the effect of foreign currency.

Restructuring and Other Charges

Restructuring and other charges primarily consist of separation costs for employees, including severance, outplacement and other benefit costs.

	For the Year Ended December 31,	
	2016	2015
<i>(DOLLARS IN THOUSANDS)</i>		
Flavors	\$ (1,119)	\$ 4,198
Fragrances	(581)	1,347
Global	—	2,049
Total	\$ (1,700)	\$ 7,594

Amortization of Acquisition-Related Intangibles

Amortization expenses increased to \$23.8 million in 2016 compared to \$15.0 million in 2015. The increase of \$8.7 million is principally due a full year of amortization in 2016 related to the acquisitions of Ottens Flavors and Lucas Meyer as compared to 2015 as well as the acquisition of David Michael in 2016.

Operating Results by Business Unit

We evaluate the performance of business units based on segment profit which is defined as operating profit before Restructuring and certain non-recurring items, Interest expense, Other expense, net and Taxes on income. See Note 13 to our Consolidated Financial Statements for the reconciliation to Income before taxes.

<i>(DOLLARS IN THOUSANDS)</i>	For the Year Ended December 31,	
	2016	2015
Segment profit:		
Flavors	\$ 337,242	\$ 318,476
Fragrances	334,220	321,764
Global Expenses	(48,487)	(28,180)
Restructuring and other charges, net	(322)	(7,594)
Gain on sales of fixed assets	7,818	—
Spanish capital tax charge reversal	—	10,530
Operational improvement initiative costs	(2,402)	(1,115)
Acquisition related costs	(12,195)	(18,342)
Accelerated contingent consideration	—	(7,192)
Legal charges/credits, net	(48,518)	—
Operating Profit	<u>\$ 567,356</u>	<u>\$ 588,347</u>
Profit margin		
Flavors	22.5%	22.1%
Fragrances	20.6%	20.4%
Consolidated	18.2%	19.5%

Flavors Business Unit

Flavors segment profit increased \$18.8 million to \$337.2 million in 2016 (22.5% of sales) from \$318.5 million (22.1% of sales) in the comparable 2015 period. The increase in segment profit and profit margin principally reflects productivity initiatives and solid top-line growth.

Fragrances Business Unit

Fragrances segment profit increased \$12.5 million to \$334.2 million in 2016 (20.6% of sales), compared to \$321.8 million (20.4% of sales) reported in 2015. The increase in segment profit and profit margin was principally driven by volume growth and the benefits from cost and productivity initiatives.

Global Expenses

Global expenses represent corporate and headquarter-related expenses which include legal, finance, human resources and R&D and other administrative expenses that are not allocated to an individual business unit. In 2016, Global expenses were \$48.5 million compared to \$28.2 million during 2015. The increase is principally driven by lower gains on our cash flow hedging program and higher incentive compensation costs.

Interest Expense

In 2016, interest expense increased \$6.9 million to \$53.0 million, compared to \$46.1 million in 2015 reflecting the impact of borrowings under the Euro Senior Notes - 2016. Average cost of debt was 3.8% for the 2016 period compared to 4.5% in 2015.

Other (Income) Expense, Net

Other (income) expense, net increased approximately \$12.5 million to \$9.4 million of income in 2016 versus \$3.2 million of expense in 2015. The increase was largely driven by gains on foreign currency of approximately \$5.0 million in the current year versus losses of approximately \$6.0 million in the prior year.

Income Taxes

The effective tax rate was 22.7% in 2016 as compared to 22.2% in 2015. Excluding \$17.1 million, \$4.1 million, \$0.6 million and \$0.1 million of tax benefits associated with pretax legal charges/credits, net, acquisition-related costs, operational improvement initiatives and restructuring related costs, respectively, as well as a \$2.7 million tax charge related to the gain on sale of property, the adjusted tax rate for 2016 was 23.8%. Excluding \$6.2 million, \$2.3 million and \$0.3 million of tax benefits associated with pretax acquisition-related costs, restructuring charges and operational improvement initiatives, respectively, a \$10.5 million tax settlement received in 2015 due to favorable tax rulings in Spain and another jurisdiction as well as a \$2.9 million charge related to the reversal of the previously recorded provision for the Spanish capital tax case, the adjusted tax rate for 2015 was 24.2%. The year-over-year reduction reflects a benefit from lower cost of repatriation and mix of earnings, which were partially offset by loss provisions.

Liquidity and Capital Resources

CASH AND CASH EQUIVALENTS

We had cash and cash equivalents of \$368.0 million at December 31, 2017 compared to \$324.0 million at December 31, 2016, of which \$286.6 million of the balance at December 31, 2017 was held outside the United States. Cash balances held in foreign jurisdictions are, in most circumstances, available to be repatriated to the United States.

Effective utilization of the cash generated by our international operations is a critical component of our strategy. We regularly repatriate, in the form of dividends from our non-U.S. subsidiaries, a portion of our current year earnings to fund financial obligations in the U.S. These repatriations of current year earnings totaled \$192.2 million, \$134.5 million and \$184.6 million in 2017, 2016, and 2015, respectively. The Tax Act includes a mandatory one-time tax on accumulated earnings of foreign subsidiaries, and as a result, all previously unremitted earnings for which no U.S. deferred tax liability had been accrued have now been subject to U.S. tax and will not be subject to additional U.S. tax when repatriated. We may repatriate a portion of these accumulated earnings of non-U.S. subsidiaries to fund financial obligations in the U.S., but we do not expect to incur any significant, additional taxes related to such amounts.

CASH FLOWS FROM OPERATING ACTIVITIES

Operating cash flows in 2017 were \$390.8 million compared to \$550.1 million in 2016 and \$467.3 million in 2015. The decrease in operating cash flows in 2017 as compared to 2016 was principally related to the impact of increased core working capital requirements (trade receivables, inventories and accounts payable) and due to payments on legal claims along with severance, integration and acquisition costs.

Working capital (current assets less current liabilities) totaled \$1.13 billion at year-end 2017 compared to \$0.71 billion at December 31, 2016. This increase in working capital of \$417.1 million primarily reflected increases in accounts receivable and inventory offset by an increase in accounts payable and a decrease in short term borrowings as compared to the prior year. In the prior years, current liabilities included a \$250 million liability related to the maturity of a payment due on one of our senior notes.

Additionally, we continue to sell certain accounts receivable on a non-recourse basis to unrelated financial institutions under “factoring” agreements that are sponsored, solely and individually, by certain customers. We believe that participating in the factoring programs strengthens our relationships with these customers and provides operational efficiencies. We estimate that, as a result of participating in the programs, there was a beneficial impact on cash provided by operations of approximately \$7.6 million, \$34 million and \$3.4 million in 2017, 2016 and 2015, respectively. The cost of participating in these programs was immaterial to our results in all periods.

CASH FLOWS USED IN INVESTING ACTIVITIES

Net investing activities in 2017 utilized \$299.9 million compared to \$355.5 million and \$577.2 million in 2016 and 2015, respectively. The decrease in cash paid for investing activities was primarily driven by lower payments for acquisitions. In 2017, we acquired Fragrance Resources and PowderPure for approximately \$137.5 million (net of cash acquired) and \$54.2 million (net of cash acquired), respectively, in addition to a purchase price adjustment of \$0.7 million related to David Michael in 2017. In 2016 we paid approximately \$237.5 million for the acquisition of David Michael, and in 2015 we paid approximately \$188.5 million (net of cash acquired) and \$305.1 million (net of cash acquired), for Ottens Flavors and Lucas Meyer, respectively.

Additions to property, plant and equipment were \$129.0 million, \$126.4 million and \$101.0 million in 2017, 2016 and 2015, respectively (net of grants and other reimbursements from government authorities). These investments largely arise from

our ongoing focus to align our manufacturing facilities with our customer demand, primarily in emerging markets, and new technology consistent with our strategy.

In light of our requirement to begin relocating our Fragrance facility in China and the ongoing construction of a new facility in India, we expect that capital spending in 2018 will be about 4.5-5% of sales (net of potential grants and other reimbursements from government authorities).

CASH FLOWS USED IN FINANCING ACTIVITIES

Net financing activities in 2017 utilized \$42.6 million compared to \$34.4 million and \$165.0 million in 2016 and 2015, respectively. The increase in outflow of cash used in financing activities in 2017 as compared to 2016 principally reflected slightly higher debt repayments in 2017 offset by lower treasury share repurchases. The decrease in outflow of cash used in financing activities in 2016 as compared to 2015 principally reflected borrowings under the Euro Senior Notes - 2016 which were offset by repayment of our Senior Notes - 2006 as well as higher dividend payments and treasury share repurchases in 2016.

At December 31, 2017, we had \$1,639.2 million of debt outstanding compared to \$1,325.4 million outstanding at December 31, 2016.

We paid dividends totaling \$206.1 million, \$184.9 million and \$158.9 million in 2017, 2016 and 2015, respectively. The cash dividend declared per share in 2017, 2016 and 2015 was \$2.66, \$2.40 and \$2.06, respectively.

In December 2012, the Board of Directors authorized a \$250.0 million share repurchase program, which commenced in the first quarter of 2013. In August 2015, the Board of Directors approved an additional \$250 million share repurchase authorization and extension through December 31, 2017. Based on the total remaining amount of \$56.1 million available under the amended repurchase program as of October 31, 2017, the Board of Directors re-approved on November 1, 2017 a \$250.0 million share repurchase authorization and extension for a total value of \$300.0 million available under the program. Based on the total remaining amount of \$295 million available under the repurchase program, approximately 1.9 million shares, or 2.4% of shares outstanding (based on the market price and shares outstanding as of December 31, 2017) could be repurchased under the program as of December 31, 2017. The purchases will be made from time to time on the open market or through private transactions as market and business conditions warrant. Repurchased shares will be placed into treasury stock. The ultimate level of purchases will be a function of the daily purchase limits established in the pre-approved program according to the share price at that time.

CAPITAL RESOURCES

Operating cash flow provides the primary source of funds for capital investment needs, dividends paid to shareholders and debt service repayments. We anticipate that cash flows from operations and availability under our existing credit facilities are sufficient to meet our investing and financing needs. We regularly assess our capital structure, including both current and long-term debt instruments, as compared to our cash generation and investment needs in order to provide ample flexibility and to optimize our leverage ratios. We believe our existing cash balances are sufficient to meet our debt service requirements.

During the second quarter of 2017, we acquired PowderPure for approximately \$54.2 million (net of cash acquired), which was funded from existing resources.

During the first quarter of 2017, we acquired Fragrance Resources for approximately \$137.5 million (net of cash acquired), which was funded from existing resources.

During the fourth quarter of 2016, we acquired David Michael for approximately \$237.5 million (net of cash acquired), which was funded from existing resources.

During the third quarter of 2015, we acquired Lucas Meyer for approximately \$305.1 million (net of cash acquired), which was funded from existing resources.

During the second quarter of 2015, we acquired Ottens Flavors for approximately \$188.5 million (net of cash acquired), which was funded from existing resources.

Credit Facility and Senior Notes

We supplement short-term liquidity with access to capital markets, mainly through bank credit facilities and issuance of commercial paper.

Commercial Paper

Commercial paper issued by the Company generally has terms of 90 days or less. As of December 31, 2017 and 2016, there was no commercial paper outstanding. The revolving credit facility is used as a backstop for the Company's commercial paper program. The maximum amount of commercial paper outstanding during 2017 and 2016 was \$107.5 million and \$65 million, respectively.

Credit Facility

There are two tranches under the credit facility. Tranche A of the facility is available to borrowers in U.S. dollars, euros, Swiss francs, Japanese yen and British sterling in an aggregate amount up to an equivalent of approximately \$564.1 million, with a sublimit of \$25 million for swing line borrowings. Tranche B of the facility is available to borrowers in U.S. dollars, euros, Swiss francs, Japanese yen and British sterling in an aggregate amount up to an equivalent of approximately \$385.9 million, with sublimits of €50 million and \$25 million for swing line borrowings.

The credit facility is available for general corporate purposes. Borrowings under the credit facility bear interest at rate of LIBOR corresponding to the term of the loan plus a margin, currently 112.5 bps, linked to the Company's credit rating. The credit facility contains various affirmative and negative covenants, including the requirement for us to maintain, at the end of each fiscal quarter, a ratio of net debt for borrowed money to adjusted EBITDA in respect of the previous 12-month period of not more than 3.50 to 1. Based on this ratio, at December 31, 2017 our covenant compliance would provide overall borrowing capacity of \$1,530.4 million.

As of December 31, 2017 we had no of borrowings under our revolving credit facility. The amount which we are able to draw down on under the facility is limited by financial covenants as described in more detail below. Our draw down capacity on the facility was \$950 million at December 31, 2017. See Note 9 to the Consolidated Financial Statements for further information on the credit facility.

At December 31, 2017 and 2016 we were in compliance with all financial and other covenants, including the net debt to adjusted EBITDA ratio. At December 31, 2017 our Net Debt/adjusted EBITDA⁽¹⁾ ratio was 1.59 to 1 as defined by the credit facility, well below the financial covenants of existing outstanding debt. Failure to comply with the financial and other covenants under our debt agreements would constitute default and would allow the lenders to accelerate the maturity of all indebtedness under the related agreement. If such acceleration were to occur, we would not have sufficient liquidity available to repay the indebtedness. We would likely have to seek amendments under the agreements for relief from the financial covenants or repay the debt with proceeds from the issuance of new debt or equity, and/or asset sales, if necessary. We may be unable to amend the agreements or raise sufficient capital to repay such obligations in the event the maturities are accelerated.

(1) Adjusted EBITDA and Net Debt, which are non-GAAP measures used for these covenants, are calculated in accordance with the definition in the debt agreements. In this context, these measures are used solely to provide information on the extent to which we are in compliance with debt covenants and may not be comparable to adjusted EBITDA and Net Debt used by other companies. Reconciliations of adjusted EBITDA to net income and net debt to total debt are as follows:

<u>(DOLLARS IN MILLIONS)</u>	Year Ended December 31, 2017	
Net income	\$	295.7
Interest expense		65.4
Income taxes		241.4
Depreciation and amortization		118.0
Specified items⁽¹⁾		53.7
Non-cash items⁽²⁾		26.4
Adjusted EBITDA	<u>\$</u>	<u>800.6</u>

(1) Specified items for the 12 months ended December 31, 2017 of \$53.7 million consist of net legal charges/credits, acquisition related costs, gain on sale of assets, operational improvement initiative costs, restructuring and other charges, net, FDA mandated product recall, UK pension settlement charge, tax assessment, CTA realization, and integration related costs.

(2) Non-cash items represent all other adjustments to reconcile net income to net cash provided by operations as presented on the Statement of Cash Flows, including gain on disposal of assets and stock-based compensation.

<i>(DOLLARS IN MILLIONS)</i>	December 31, 2017
<i>Total debt</i>	\$ 1,639.2
<i>Adjustments:</i>	
<i>Deferred gain on interest rate swaps</i>	0.6
<i>Cash and cash equivalents</i>	(368.0)
<i>Net debt</i>	\$ 1,271.8

Senior Notes

Senior Notes - 2017. On May 18, 2017, the Company issued \$500.0 million face amount of 4.375% Senior Notes ("Senior Notes - 2017") due 2047 at a discount of \$1.8 million. The Company received proceeds related to the issuance of these Senior Notes - 2017 of \$493.9 million which was net of the \$1.8 million discount and \$4.4 million in underwriting fees (recorded as deferred financing costs). In addition, the Company incurred \$0.9 million in legal and professional costs associated with the issuance and such costs were recorded as deferred financing costs. In connection with the debt issuance, the Company entered into pre-issuance hedging transactions that were settled upon issuance of the debt and resulted in a loss of approximately \$5.3 million. The Senior Notes - 2017 bear interest at a rate of 4.375% per annum, with interest payable semi-annually on June 1 and December 1 of each year, commencing on December 1, 2017. The Senior Notes - 2017 will mature on June 1, 2047. See Note 9 to the Consolidated Financial Statements for further information on the Senior Notes - 2017.

Euro Senior Notes - 2016. On March 14, 2016, we issued €500.0 million face amount of 1.75% Senior Notes ("Euro Senior Notes - 2016") due 2024 at a discount of €0.9 million. The Company received proceeds related to the issuance of these Euro Senior Notes - 2016 of €496.0 million which was net of the €0.9 million discount and €3.1 million underwriting discount (recorded as deferred financing costs). The Euro Senior Notes - 2016 bear interest at a rate of 1.75% per annum, with interest payable on March 14 of each year, commencing on March 14, 2017. The Euro Senior Notes - 2016 will mature on March 14, 2024. See Note 9 to the Consolidated Financial Statements for further information on the Euro Senior Notes - 2016.

Senior Notes - 2013. In April 2013, we issued \$300.0 million face amount of 3.20% Senior Notes ("Senior Notes - 2013") due 2023 at a discount of \$0.3 million, to take advantage of attractive borrowing rates and maintain efficiency and flexibility in our capital structure, and received proceeds of \$297.8 million. The Senior Notes -2013 bear interest at a rate of 3.20% per year, with interest payable on May 1 and November 1 of each year, commencing on November 1, 2013. See Note 9 to the Consolidated Financial Statements for further information on the Senior Notes - 2013.

Senior Notes - 2007. In September 2007, we issued an aggregate of \$500.0 million of senior unsecured notes in four series, with \$250.0 million due in 2017, \$100.0 million due in 2019, \$50 million due in 2022 and \$100.0 million due in 2027. During the third quarter of 2017, the \$250.0 million series note matured and was repaid in full. See Note 9 to the Consolidated Financial Statements for further information on the Senior Notes - 2007.

Other Commitments

Compliance with existing governmental requirements regulating the discharge of materials into the environment has not materially affected our operations, earnings or competitive position. In 2017 and 2016, we spent \$27.9 million and \$4.6 million on capital projects and \$17.5 million and \$16.0 million, respectively, in operating expenses and governmental charges for the purpose of complying with such regulations. Expenditures for these purposes will continue for the foreseeable future. In addition, we are party to a number of proceedings brought under the Comprehensive Environmental Response, Compensation and Liability Act or similar state statutes. It is expected that the impact of any judgments in or voluntary settlements of such proceedings will not be material to our financial condition, results of operations or liquidity.

CONTRACTUAL OBLIGATIONS

At December 31, 2017, we had contractual payment obligations due within the time periods as specified in the following table:

(Dollars In Millions)	Payments Due				
	Total	Less than 1 Year	1-3 Years	3-5 Years	After 5 Years
		2018	2019 - 2020	2021 - 2022	2023 and thereafter
Borrowings ⁽¹⁾	\$ 1,644	\$ —	\$ 100	\$ 50	\$ 1,494
Interest on borrowings ⁽¹⁾	208	58	52	49	49
Operating leases ⁽²⁾	283	36	65	58	124
Pension funding obligations ⁽³⁾	63	21	42	—	—
Postretirement obligations ⁽⁴⁾	83	5	10	11	57
Purchase commitments ⁽⁵⁾	73	46	26	1	—
U.S. tax reform toll-charge ⁽⁶⁾	65	\$ 5	\$ 10	\$ 10	\$ 40
Total	\$ 2,419	\$ 171	\$ 305	\$ 179	\$ 1,764

- (1) See Note 9 to the Consolidated Financial Statements for a further discussion of our various borrowing facilities.
- (2) Operating leases include facility and other lease commitments executed in the normal course of the business, including sale leaseback obligations included in Note 8 of the Notes to the Consolidated Financial Statements. Further details concerning worldwide aggregate operating leases are contained in Note 18 of the Notes to the Consolidated Financial Statements.
- (3) See Note 14 of the Notes to the Consolidated Financial Statements for a further discussion of our retirement plans. Anticipated funding obligations are based on current actuarial assumptions. The projected contributions beyond fiscal year 2020 are not currently determinable.
- (4) Amounts represent expected future benefit payments for our postretirement benefit plans.
- (5) Purchase commitments include agreements for raw material procurement and contractual capital expenditures. Amounts for purchase commitments represent only those items which are based on agreements that are enforceable and legally binding.
- (6) This amount represents our provisional estimate of the cash portion of the "toll charge" that will be payable in installments over eight years beginning in 2018. This will be subject to adjustment as we finalize the relevant computations and additional IRS rules and guidance on the Tax Act provisions are adopted.

The table above does not include \$38.2 million of the total unrecognized tax benefits for uncertain tax positions and approximately \$4.1 million of associated accrued interest. Due to the high degree of uncertainty regarding the timing of potential cash flows, we are unable to make a reasonable estimate of the amount and period in which the remaining liabilities might be paid.

Critical Accounting Policies and Use of Estimates

Our significant accounting policies are more fully described in Note 1 to the Consolidated Financial Statements. As disclosed in Note 1, the preparation of financial statements in conformity with U.S. generally accepted accounting principles ("GAAP") requires management to make estimates and assumptions that affect reported amounts and accompanying disclosures. These estimates are based on management's best judgment of current events and actions that we may undertake in the future. Actual results may ultimately differ from these estimates.

Those areas requiring the greatest degree of management judgment or deemed most critical to our financial reporting involve:

The periodic assessment of potential impairment of goodwill. We currently have goodwill of \$1.2 billion. In assessing the potential for impairment of goodwill, management uses the most current actual and forecasted operating data available and current market-based assumptions in accordance with the criteria in Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 350. The Company has identified four reporting units: (1) Flavors, (2) Fragrance Compounds, (3) Fragrance Ingredients and (4) Cosmetic Actives Ingredients. These reporting units were determined based on the level at which the performance is measured and reviewed by segment management.

The Company performs an annual goodwill impairment test for the Flavors, Fragrance Compounds, Fragrance Ingredients and Cosmetic Actives Ingredients reporting units by assessing the fair value of the reporting units based on discounted cash flows. If a reporting unit's carrying amount exceeds its fair value, the Company will record an impairment charge based on that difference, and the impairment charge will be limited to the amount of goodwill allocated to that reporting unit. In January 2017, the FASB issued an amendment to the Goodwill Impairment guidance which eliminates Step 2 from the goodwill impairment test. Effective fiscal year 2017, the Company adopted the new guidance and no longer performs the annual goodwill impairment test using the two-step approach. The Company completed its annual goodwill impairment test as of November 30, 2017, which indicated no impairment of goodwill, as the estimated fair values substantially exceeded the carrying values of each of these reporting units.

The periodic assessment of potential impairment of finite-lived intangible assets. We currently have intangible assets of \$415.8 million. The Company reviews long-lived assets for impairment when events or changes in business conditions indicate that their full carrying value may not be recovered. An estimate of undiscounted future cash flows produced by an asset or group of assets is compared to the carrying value to determine whether impairment exists. If assets are determined to be impaired, the loss is measured based on an estimate of fair value using various valuation techniques, including a discounted estimate of future cash flows.

The analysis and evaluation of income taxes. We account for taxes under the asset and liability method. Under this method, deferred income taxes are recognized for temporary differences between the financial statement and tax return bases of assets and liabilities. A valuation allowance is recognized if, based on the weight of available evidence, it is more likely than not that some portion or all of the deferred tax asset will not be realized. The assessment of the need for a valuation allowance requires management to make estimates and assumptions about future earnings, reversal of existing temporary differences and available tax planning strategies. If actual experience differs from these estimates and assumptions, the recorded deferred tax asset may not be fully realized resulting in an increase to income tax expense in our results of operations.

We are subject to income taxes in the U.S. and numerous foreign jurisdictions. Significant judgment is required in evaluating our uncertain tax positions and determining our provision for income taxes. We first determine whether it is "more likely than not" that we would sustain our tax position if the relevant tax authority were to audit the position with full knowledge of all the relevant facts and other information. For those tax positions that meet this threshold, we measure the amount of tax benefit based on the largest amount of tax benefit that we have a greater than 50% chance of realizing in a final settlement with the relevant authority. Those tax positions failing to qualify for initial recognition are recognized in the first interim period in which they meet the more likely than not standard. This evaluation is made at the time that we adopt a tax position and whenever there is new information and is based upon management's evaluation of the facts, circumstances and information available at the reporting date. We maintain a cumulative risk portfolio relating to all of our uncertainties in income taxes in order to perform this analysis, but the evaluation of our tax positions requires significant judgment and estimation in part because, in certain cases, tax law is subject to varied interpretation, and whether a tax position will ultimately be sustained may be uncertain. We do not currently believe that any of our pending tax assessments, even if ultimately resolved against us, would have a material impact on our results of operations and cash flows.

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act") that significantly revised the U.S. tax code effective January 1, 2018 by, among other things, lowering the corporate income tax rate from a top marginal rate of 35% to a flat 21%, limiting deductibility of interest expense and performance based incentive compensation, transitioning to a territorial system and creating new taxes associated with global operations.

The Tax Act impacted the Company's consolidated results of operations during the 2017 fourth quarter and is expected to continue to impact its consolidated results of operations in future periods. In particular, the transition to the new territorial tax system required the Company to record a one-time tax or "toll charge" which resulted in a provisional incremental tax expense of \$100.6 million principally related to previously unremitted earnings on non-U.S. subsidiaries. The cash portion of the "toll charge" will be payable in installments over 8 years beginning in 2018. In addition, the reduction of the U.S. corporate tax rate resulted in a provisional net deferred tax expense of \$38.6 million related to the remeasurement of net deferred tax assets as a result of the reduction in the corporate income tax rate. Given the significant complexity of the Tax Act, anticipated guidance from the U.S. Treasury about implementing the Tax Act and the potential for additional guidance from the SEC or the FASB, the Company's provisional charge may be adjusted during 2018 and is expected to be finalized no later than the fourth quarter of 2018. Other provisions of the Tax Act that impact future tax years are still being assessed. Any material revisions in the Company's computations could adversely affect its cash flows and results of operations.

The evaluation of potential litigation and environmental liabilities, where changing circumstances, rules and regulations require regular reassessment of related practices and anticipated costs. We are subject to certain legal claims regarding products and other matters, as well as environmental-related matters. Significant management judgment is involved in determining when it is probable that a liability has been incurred and the extent to which it can be reasonably estimated.

We regularly assess potential liabilities with respect to all legal claims based on the most recent available information, in consultation with outside counsel we have engaged on our behalf to handle the defense of such matters. To the extent a liability is considered to be probable and reasonably estimable, we recognize a corresponding liability; if the reasonably estimated liability is a range, we recognize that amount considered most likely, or in the absence of such a determination, the minimum reasonably estimated liability. To the extent such claims are covered by various insurance policies, we separately evaluate the right to recovery and estimate the related insurance claim receivable. Management judgments involve determination as to whether a liability has been incurred, the reasonably estimated amount of that liability, and any potential insurance recovery.

We regularly evaluate potential environmental exposure in terms of total estimated cost and the viability of other potentially responsible parties ("PRP's") associated with our exposure. Recorded liabilities are adjusted periodically as remediation efforts progress and additional information becomes available. Critical management assumptions relate to expected total costs to remediate and the financial viability of PRP's to share such costs.

Determination of the various assumptions employed in the valuation of pension and retiree health care expense and associated obligations. Amounts recognized in the Consolidated Financial Statements related to pension and other postretirement benefits are determined from actuarial valuations. Inherent in such valuations are assumptions including expected return on plan assets, discount rates at which the liabilities could be settled, rates of increase in future compensation levels, mortality rates and health care cost trend rates. These assumptions are updated annually and are disclosed in Note 14 to the Consolidated Financial Statements. In accordance with GAAP, actual results that differ from the assumptions are accumulated and amortized over future periods and, therefore, affect expense recognized and obligations recorded in future periods.

We consider a number of factors in determining and selecting assumptions for the overall expected long-term rate of return on plan assets. We consider the historical long-term return experience of our assets, the current and expected allocation of our plan assets, and expected long-term rates of return. We derive these expected long-term rates of return with the assistance of our investment advisors. We base our expected allocation of plan assets on a diversified portfolio consisting of domestic and international equity securities, fixed income, real estate, and alternative asset classes.

We consider a variety of factors in determining and selecting our assumptions for the discount rate at December 31. For the U.S. plans, the discount rate was based on the internal rate of return for a portfolio of high quality bonds rated Aa or higher by either Moody's or Standard & Poor's with maturities that are consistent with the projected future benefit payment obligations of the plan. For the Non-U.S. Plans, the discount rates were determined by region and are based on high quality long-term corporate bonds. Consideration has been given to the duration of the liabilities in each plan when selecting the bonds to be used in determining the discount rate. The rate of compensation increase for all plans and the medical cost trend rate for the applicable U.S. plans are based on plan experience.

With respect to the U.S. plans, the expected rate of return on plan assets was determined based on an asset allocation model using the current target allocation, real rates of return by asset class and an anticipated inflation rate. The target asset allocation consists of approximately: 20% in equity securities and 80% in fixed income securities. The plan has achieved a compounded annual rate of return of 5.9% over the previous 20 years. At December 31, 2017, the actual asset allocation for the U.S. plan was: 1% cash and cash equivalents, 28% in equity securities and 71% in fixed income securities.

The expected rate of return for the non-U.S. plans employs a similar set of criteria adapted for local investments, inflation rates and in certain cases specific government requirements. The target asset allocation, for the non-U.S. plans, consists of approximately: 40% – 70% in fixed income securities; 15% – 40% in equity securities; 5% – 20% in real estate; and 5% – 10% in alternative investments. At December 31, 2017, the actual asset allocation for the non-U.S. plan was: 40% in fixed income investments; 27% in equity investments; 4% in real estate investments, 4% in cash and cash equivalents and 25% in alternative investments.

Changes in pension and other post-employment benefits, and associated expenses, may occur in the future due to changes in these assumptions. The impact that a 0.25% decrease in the discount rate or a 1% change in the medical cost trend rate would have on our pension and other post-employment benefit expense, as applicable, is as follows:

	Sensitivity of Disclosures to Changes in Selected Assumptions			
	25 BP Decrease in Discount Rate		25 BP Decrease in Discount Rate	25 BP Decrease in Long-Term Rate of Return
	Change in PBO	Change in ABO	Change in pension expense	Change in pension expense
<i>(DOLLARS IN THOUSANDS)</i>				
U.S. Pension Plans	\$ 16,777	\$ 16,698	\$ (148)	\$ 1,249
Non-U.S. Pension Plans	49,150	47,394	2,677	1,941
Postretirement Benefit Plan	N/A	2,454	75	N/A

The effect of a 1% increase in the medical cost trend rate would increase the accumulated postretirement benefit obligation and the annual postretirement expense by approximately \$0.3 million and less than \$0.1 million, respectively; a 1% decrease in the rate would decrease the obligation and expense by approximately \$0.4 million and less than \$0.1 million, respectively.

The ongoing assessment of the valuation of inventory, given the large number of natural ingredients employed, the quality of which may be diminished over time. We hold a majority of our inventory as raw materials, providing the greatest degree of flexibility in manufacture and use. As of December 31, 2017, we maintained 50% of our inventory as raw materials. Materials are evaluated based on shelf life, known uses and anticipated demand based on forecasted customer order activity and changes in product/sales mix. Management policy provides for an ongoing assessment of inventory with adjustments recorded when an item is deemed to be slow moving or obsolete.

We believe that we have considered relevant circumstances that we may be currently subject to, and the financial statements accurately reflect our best estimate of the impact of these items in our results of operations, financial condition and cash flows for the years presented. We have discussed the decision process and selection of these critical accounting policies with the Audit Committee of the Board of Directors.

New Accounting Standards

In February 2018, FASB issued amendments to the Income Statement - Reporting Comprehensive Income guidance which allow a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the Tax Act, in addition to requiring certain disclosures about stranded tax effects. This guidance is effective for periods beginning after December 15, 2018, with an election to adopt early. The Company is currently evaluating the impact this guidance will have on its Consolidated Financial Statements.

In August 2017, FASB issued amendments to the Derivatives and Hedging guidance which eliminates the requirement to separately measure and present hedge ineffectiveness and aligns the presentation of hedge gains and losses with the underlying hedge item. This guidance is effective for fiscal years beginning after December 15, 2018. Early adoption is permitted. The amended presentation and disclosure requirements should be applied prospectively while the amendments to cash flow and net investment hedge relationships should be applied on a modified retrospective basis. The Company is currently evaluating the impact this guidance will have on its Consolidated Financial Statements.

In May 2017, the FASB issued amendments to the Compensation - Stock Compensation guidance which clarifies changes to the terms or conditions of a share-based payment award that require an entity to apply modification accounting. This guidance is effective, and should be applied prospectively, for fiscal years beginning after December 15, 2017. Early adoption is permitted. The Company does not expect this guidance to have an impact on its Consolidated Financial Statements as it is not the Company's practice to modify the terms or conditions of a share-based payment award after it has been granted.

In March 2017, the FASB issued amendments to the Compensation - Retirement Benefits guidance which requires employers who present a measure of operating income in their statement of income to include only the service cost component of net periodic pension cost and postretirement costs in operating expenses. This guidance is effective, and should be applied retrospectively, for fiscal years beginning after December 15, 2017. Early adoption is permitted as of the beginning of an annual period. The Company will adopt this standard on January 1, 2018, and expects the impact that this guidance will have on its Consolidated Statement of Comprehensive Income will be an increase in operating expenses of approximately \$30 million and \$15 million for the fiscal years 2017 and 2016, respectively. There will be no impact to Net income or Net Income

per share in either period. The new guidance also limits the amount of net periodic benefit cost eligible for capitalization to assets. The new guidance permits only the service cost component of net periodic benefit cost to be eligible for capitalization.

In January 2017, the FASB issued amendments to the Business Combination guidance which clarifies the definition of a business in order to assist companies when evaluating whether transactions should be accounted for as acquisitions or disposals of assets or businesses. This guidance will be effective prospectively for annual and interim periods beginning after December 15, 2017. The Company will apply this guidance for transactions occurring after the effective date.

In October 2016, the FASB issued authoritative guidance which allows for the immediate recognition of current and deferred income tax impact on intra-entity asset transfers, excluding inventory. The Company adopted this guidance in the first quarter of fiscal year 2017 and accordingly, recorded a cumulative-effect adjustment to Retained earnings that reduced Other assets and adjusted Deferred income taxes by a net amount of approximately \$34 million.

In August 2016, the FASB issued authoritative guidance which requires changes to the classification of certain activities within the statement of cash flows. This guidance will be effective for annual and interim periods beginning after December 15, 2017. Early adoption will be permitted for all entities. The Company does not expect this adoption to have a significant impact on its Consolidated Statement of Cash Flows.

In June 2016, the FASB issued authoritative guidance which requires issuers to measure expected credit losses for financial assets based on historical experience, current conditions and reasonable and supportable forecasts. As such, an entity will use forward-looking information to estimate credit losses. The guidance is effective for financial statements issued for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted for the fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The Company is currently evaluating the impact this guidance may have on its consolidated financial statements, but does not expect this guidance to have a material impact on its consolidated financial statements.

In March 2016, the FASB issued authoritative guidance which requires changes to several aspects of the accounting for share-based payment transactions, including the treatment of income tax consequences, classification of awards as either equity or liabilities, and classification of certain items on the statement of cash flows. This guidance was effective for annual and interim periods beginning after December 15, 2016. The Company adopted this standard during the first quarter of 2017. The standard requires that employee taxes paid when an employer withholds shares be presented in the Consolidated Statement of Cash Flows as a financing activity instead of an operating activity. The Company adopted this change retrospectively. The adoption resulted in an \$11.8 million, \$13.4 million and \$22.9 million reclassification from Net cash provided by operating activities to Net cash provided by financing activities on the Consolidated Statement of Cash Flows as of December 31, 2017, 2016 and 2015, respectively. In addition, the standard requires that excess tax benefits presented in the Consolidated Statement of Cash Flows be classified as an operating activity instead of a financing activity. The Company adopted this change retrospectively. The adoption resulted in a \$3.3 million, \$4.7 million and \$12.1 million reclassification from Net cash provided by financing activities to Net cash provided by operating activities on the Consolidated Statement of Cash Flows as of December 31, 2017, 2016 and 2015, respectively.

The standard also requires all excess tax benefits/deficiencies be recognized as income tax expense/benefit in the Consolidated Statement of Comprehensive Income. This guidance has been applied prospectively. This change resulted in a \$3.3 million benefit to income tax expense for the year ended December 31, 2017. For 2016, benefits of \$5.3 million were recognized in equity.

In February 2016, the FASB issued authoritative guidance which requires changes to the accounting for leases. The new guidance establishes a new lease accounting model, that requires entities to record assets and liabilities related to leases on the balance sheet for certain types of leases. The guidance will be effective for annual and interim periods beginning after December 15, 2018. The Company expects to adopt this guidance effective December 30, 2018 and that the adoption of this guidance will result in significant increases to assets and liabilities on its Consolidated Balance Sheet. The Company is still evaluating the impact of this guidance on its Consolidated Statement of Comprehensive Income. The Company has begun to evaluate the nature of its leases and has compiled preliminary analysis of the type and location of its leases. The Company expects that the significant portion of its leases will relate to property but with additional leases in existence that relate to vehicles and machinery.

Revenue Recognition - Adoption of ASC 606

In May 2014, the FASB issued authoritative guidance that provides for a comprehensive model to be used in accounting for revenue arising from contracts with customers (ASC Topic 606 Revenue from Contracts with Customers) (the "Revenue Standard"). Under the Revenue Standard, revenue will be recognized to depict the transfer of goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services.

This guidance is applicable to all entities and is effective for annual and interim periods beginning after December 15, 2017. Companies have the option to apply the new guidance under a retrospective approach to each prior reporting period presented or a modified retrospective approach with the cumulative effect of initially applying the new guidance recognized at the date of initial application within the Consolidated Balance Sheet. The Company has determined that it will adopt this guidance using the modified retrospective approach.

The Company has substantially completed the evaluation of the Revenue Standard, including updates to it issued by the FASB, and has adopted the Revenue Standard on December 30, 2017, the first day of the Company's 2018 fiscal year. A cumulative catch up adjustment will be recorded as of that date.

The Company creates and manufactures flavors and fragrances. Approximately 90% of products, principally Flavors compounds and Fragrance compounds, are customized to customer specifications and have no alternative use other than sale to the specific customer ("Compounds products"). The remaining revenue is derived largely from Fragrance Ingredient products that, generally, are commodity products with alternative uses and not customized ("Ingredients products").

The Company's evaluation is substantially complete and was comprised of (i) a detailed review of a large number of documents, including master service, supply, rebate and other similar agreements, and purchase orders, (ii) interviews with regional finance and business personnel on general issues, such as the nature of its larger customer relationships; the nature of potential regional variations; rebates and other price adjustments; upfront costs; and shipping terms and specific issues identified during the review (such as consignment, minimum order quantities, etc.), and (iii) consultation with legal counsel with respect to the nature of various terms within the contracts.

Based on this evaluation, with respect to the vast majority of the Company's contracts for Compounds products, the Company will recognize revenue at a point in time. Specifically, revenue will be recognized upon transfer of control of the product, as the Company does not have an "enforceable right to payment for performance to date" (as set out in section 606-10-25-27 (c) of the Standard). With respect to a small number of Compounds products customers, the Company has determined that it does have an "enforceable right to payment for performance to date" (as set out in section 606-10-25-27 (c) of the Revenue Standard). For contracts where an enforceable right to payment exists the Company will recognize revenue over time using the output method. The calculation of the required cumulative catch up adjustment is in the process of being finalized.

It was determined that no adjustment will be required with respect to revenue related to Ingredients products as such products generally have alternative uses and on which the Company does not have an enforceable right to payment at all times during the manufacturing process.

In completing its assessment of the adoption of the Revenue Standard the Company elected to combine the shipment of goods with their manufacture to account for both shipment and manufacture as a single performance obligation.

Non-GAAP Financial Measures

The Company uses non-GAAP financial operating measures in this Form 10-K, including: (i) currency neutral sales (which eliminates the effects that result from translating its international sales in U.S. dollars), (ii) adjusted gross profit and adjusted gross margin (which exclude operational improvement initiatives; acquisition related costs; integration related costs; restructuring and other charges, net; and FDA mandated product recall), (iii) adjusted operating profit and adjusted operating margin (which excludes operational improvement initiatives; acquisition related costs; integration related costs; legal charges/credits, net; tax assessment; restructuring and other charges, net; gain on sale of assets; FDA mandated product recall; and UK pension settlement charges), (iv) adjusted selling and administrative expenses (which excludes operational improvement initiatives; acquisition related costs; integration related costs; legal charges/credits, net; tax assessment; restructuring and other charges, net and UK pension settlement charges) and (v) adjusted effective tax rate (which excludes operational improvement initiatives; acquisition related costs; integration related costs; legal charges/credits, net; tax assessment; restructuring and other charges, net; gain on sale of assets; CTA realization; FDA mandated product recall; UK pension settlement charges; and U.S. tax reform). The Company also provides the non-GAAP measures adjusted EBITDA (which excludes certain specified items and non-cash items as set forth in the Company's debt agreements) and net debt (which is adjusted for deferred gain on interest rate swaps and cash and cash equivalents) solely for the purpose of providing information on the extent to which the Company is in compliance with debt covenants contained in its debt agreements.

We have included each of these non-GAAP measures in order to provide additional information regarding our underlying operating results and comparable year-over-year performance. Such information is supplemental to information presented in accordance with GAAP and is not intended to represent a presentation in accordance with GAAP. In discussing our historical and expected future results and financial condition, we believe it is meaningful for investors to be made aware of and to be assisted in a better understanding of, on a period-to-period comparable basis, financial amounts both including and excluding

these identified items, as well as the impact of exchange rate fluctuations. We believe such additional non-GAAP information provides investors with an overall perspective of the period-to-period performance of our business. In addition, management internally reviews each of these non-GAAP measures to evaluate performance on a comparative period-to-period basis in terms of absolute performance, trends and expected future performance with respect to our business. A material limitation of these non-GAAP measures is that such measures do not reflect actual GAAP amounts. We compensate for such limitations by using these measures as one of several metrics, including GAAP measures. These non-GAAP measures may not be comparable to similarly titled measures used by other companies.

A. Reconciliation of Non-GAAP Metrics

Reconciliation of Gross Profit

<i>(DOLLARS IN THOUSANDS)</i>	Year Ended December 31,	
	2017	2016
Reported (GAAP)	\$ 1,479,001	\$ 1,399,070
Operational Improvement Initiatives (a)	1,802	2,391
Acquisition Related Costs (b)	15,860	7,648
Integration Related Costs (c)	480	—
Restructuring and Other Charges, net (f)	—	658
FDA Mandated Product Recall (i)	11,000	—
Adjusted (Non-GAAP)	\$ 1,508,143	\$ 1,409,767

Reconciliation of Selling and Administrative Expenses

<i>(DOLLARS IN THOUSANDS)</i>	Year Ended December 31,	
	2017	2016
Reported (GAAP)	\$ 557,311	\$ 566,224
Operational Improvement Initiatives (a)	—	(11)
Acquisition Related Costs (b)	(4,529)	(4,547)
Integration Related Costs (c)	(3,258)	—
Legal Charges/Credits, net (d)	(1,000)	(48,518)
Tax Assessment (e)	(5,331)	—
Restructuring and Other Charges, net (f)	—	(1,364)
UK Pension Settlement Charges (j)	(1,882)	—
Adjusted (Non-GAAP)	\$ 541,311	\$ 511,784

Reconciliation of Operating Profit

<i>(DOLLARS IN THOUSANDS)</i>	Year Ended December 31,	
	2017	2016
Reported (GAAP)	\$ 581,443	\$ 567,356
Operational Improvement Initiatives (a)	1,802	2,402
Acquisition Related Costs (b)	20,389	12,195
Integration Related Costs (c)	4,179	—
Legal Charges/Credits, net (d)	1,000	48,518
Tax Assessment (e)	5,331	—
Restructuring and Other Charges, net (f)	19,711	322
Gain on Sale of Assets (g)	(184)	(7,818)
FDA Mandated Product Recall (i)	11,000	—
UK Pension Settlement Charges (j)	2,769	—
Adjusted (Non-GAAP)	\$ 647,440	\$ 622,975

Reconciliation of Net Income

Year Ended December 31,

<i>(DOLLARS IN THOUSANDS)</i>	2017				2016				
	Income before taxes	Taxes on income (l)	Net income	EPS	Income before taxes	Taxes on income (l)	Net income	EPS (m)	
Reported (GAAP)	\$ 537,045	\$ 241,380	\$ 295,665	3.72	\$ 523,717	\$ 118,686	\$ 405,031	\$ 5.05	
Operational Improvement Initiatives (a)	1,802	450	1,352	0.02	2,402	599	1,803	0.02	
Acquisition Related Costs (b)	20,389	6,514	13,875	0.17	12,195	4,117	8,078	0.10	
Integration Related Costs (c)	4,179	1,331	2,848	0.03	—	—	—	—	
Legal Charges/Credits, net (d)	1,000	354	646	0.01	48,518	17,089	31,429	0.39	
Tax Assessment (e)	5,331	1,885	3,446	0.04	—	—	—	—	
Restructuring and Other Charges, net (f)	19,711	5,465	14,246	0.17	322	97	225	—	
Gain on Sale of Assets (g)	(184)	(59)	(125)	—	(7,818)	(2,658)	(5,160)	(0.06)	
CTA Realization (h)	(12,217)	—	(12,217)	(0.15)	—	—	—	—	
FDA Mandated Product Recall (i)	11,000	3,890	7,110	0.09	—	—	—	—	
UK Pension Settlement Charges (j)	2,769	526	2,243	0.03	—	—	—	—	
U.S. Tax Reform (k)	—	(139,172)	139,172	1.76	—	—	—	—	
Adjusted (Non-GAAP) (n)	<u>\$ 590,825</u>	<u>\$ 122,564</u>	<u>\$ 468,261</u>	<u>\$ 5.89</u>	<u>\$ 579,336</u>	<u>\$ 137,930</u>	<u>\$ 441,406</u>	<u>\$ 5.51</u>	

- (a) For 2017 and 2016, represents accelerated depreciation and idle labor costs in Hangzhou, China. For 2016, also includes the partial reversal of severance accruals related to prior year operational initiatives in Europe. There was approximately \$0.4 million of idle labor costs in Hangzhou, China recorded during the 2016 that were not excluded from Adjusted Non-GAAP metrics.
- (b) For 2017, represents the amortization of inventory "step-up" included in Cost of goods sold and transaction costs related to the acquisitions of Fragrance Resources and PowderPure within Selling and administrative expenses. For 2016, represents the amortization of inventory "step-up" included in Cost of goods sold and transaction costs related to the acquisitions of David Michael within Selling and administrative expenses.
- (c) Represents costs related to the integration of the David Michael and Fragrance Resources acquisitions.
- (d) Represents additional charge related to litigation settlement.
- (e) Represents the reserve for payment of a tax assessment related to commercial rent for prior periods.
- (f) Represents severance costs related to the 2017 Productivity Program which were partially offset by the reversal of 2015 severance charges that were no longer needed. For 2016, represents accelerated depreciation related to restructuring initiatives and severance costs related to the termination of a former executive officer and the partial reversal of restructuring accruals recorded in the prior year.
- (g) Represents gains on sale of assets. For 2016, assets sold were principally in Brazil. During the first quarter of 2016, we previously recognized approximately \$3 million of gains related to the sale of fixed assets. We have not retrospectively adjusted these amounts out of our Adjusted Non-GAAP metrics.
- (h) Represents the release of CTA related to the liquidation of a foreign entity.
- (i) Represents an estimate of the Company's incremental direct costs and customer reimbursement obligations, in excess of the Company's sales value of the recalled products, arising from an FDA mandated recall.
- (j) Represents pension settlement charges incurred in one of the Company's UK pension plans.
- (k) Represents charges incurred related to enactment of certain U.S. tax legislation changes in December 2017. The amount includes approximately \$38.6 million related to net adjustments on deferred tax assets and \$100.6 million related taxes on deemed repatriation of earnings.
- (l) The income tax expense (benefit) on non-GAAP adjustments is computed in accordance with ASC 740 using the same methodology as the GAAP provision of income taxes. Income tax effects of non-GAAP adjustments are calculated based on the applicable statutory tax rate for each jurisdiction in which such charges were incurred, except for those items which are non-taxable for which the tax expense (benefit) was calculated at 0%. For fiscal year 2017, these non-GAAP adjustments were not subject to foreign tax credits or valuation allowances, but to the extent that such factors are applicable to any future non-GAAP adjustments we will take such factors into consideration in calculating the tax expense (benefit).
- (m) The sum of these items does not foot due to rounding.

- (n) The Company had approximately 79.4 million and 80.0 million shares outstanding on a weighted average basis for the years ended December 31, 2017 and 2016, respectively. As a result, our Adjusted EPS was \$5.89 and \$5.51, respectively, for the years ended December 31, 2017 and 2016, an increase of 7%.

B. Foreign Currency Reconciliation

	Operating Profit	
	Year Ended December 31,	
	2017	2016
% Change - Reported (GAAP)	2%	(4)%
Items impacting comparability ^{(1) (2)}	2%	5%
% Change - Adjusted (Non-GAAP)⁽²⁾	4%	2%
Currency Impact	1%	2%
% Change Year-over-Year - Currency Neutral Adjusted (Non-GAAP)^{(2)**}	5%	4%

⁽¹⁾ Includes items impacting comparability of \$66.0 million for the year ended December 31, 2017 and includes \$55.6 million of items impacting comparability for the year ended December 31, 2016.

⁽²⁾ 2016 item does not foot due to rounding.

** Currency neutral amount is calculated by translating prior year amounts at the exchange rates used for the corresponding 2017 period. Currency neutral operating profit also eliminates the year-over-year impact of cash flow hedging.

C. Acquisition Related Intangible Asset Amortization

The Company tracks the amount of amortization expensed on recent acquisitions in order to monitor its progress with respect to its Vision 2020 goals. The following amounts were expensed with respect to recent acquisitions:

<i>(DOLLARS IN THOUSANDS)</i>	Year ended December 31,	
	2017	2016
PowderPure	\$2,011	N/A
Fragrance Resources	\$6,989	N/A
David Michael	\$3,991	\$1,662
Ottens Flavors	\$6,285	\$6,345
Lucas Meyer Cosmetics	\$7,831	\$8,322

Cautionary Statement Under the Private Securities Litigation Reform Act of 1995

Statements in this Form 10-K, which are not historical facts or information, are “forward-looking statements” within the meaning of The Private Securities Litigation Reform Act of 1995. Such forward-looking statements are based on management’s current assumptions, estimates and expectations and include statements concerning (i) our ability to achieve long-term sustainable growth and increase shareholder value, (ii) growth potential in the emerging markets, (iii) the anticipated impact of our acquisitions on our market position within key markets, (iv) our competitive position in the market and expected financial results in 2018, (v) expected savings from profit improvement initiatives, (vi) expected capital expenditures and cost pressures in 2018, (vii) the impact of the Tax Act on the Company’s effective tax rate in 2018, (viii) the expected level of share repurchases under the Company’s share repurchase program, (ix) our ability to innovate and execute on specific consumer trends and demands, and (x) timing of completion or relocation of our plants in China. These forward-looking statements should be evaluated with consideration given to the many risks and uncertainties inherent in our business that could cause actual results and events to differ materially from those in the forward-looking statements. Certain of such forward-looking information may be identified by such terms as “expect”, “anticipate”, “believe”, “intend”, “outlook”, “may”, “estimate”, “should”, “predict” and similar terms or variations thereof. Such forward-looking statements are based on a series of expectations, assumptions, estimates and projections about the Company, are not guarantees of future results or performance, and involve significant risks, uncertainties and other factors, including assumptions and projections, for all forward periods. Our actual results may differ materially from any future results expressed or implied by such forward-looking statements. Such factors include, among others, the following:

- our ability to effectively compete in our market, and to successfully develop new products that appeal to our customers and consumers;
- our ability to provide our customers with innovative, cost-effective products;

- the impact of a disruption in our manufacturing operations;
- the impact of the BASF supply chain disruption on the supply and price of a key ingredient in 2018;
- our ability to implement our Vision 2020 strategy;
- the impact of the recently-enacted Tax Act on our effective tax rate in 2018 and beyond;
- our ability to successfully market to our expanding and decentralized Flavors customer base;
- our ability to react in a timely manner to changes in the consumer products industry related to health and wellness;
- our ability to establish and maintain collaborations, joint ventures or partnerships, which lead to the development or commercialization of products;
- our ability to benefit from our investments and expansion in emerging markets;
- the impact of international operations that are subject to regulatory, political and other risks;
- the impact of economic uncertainty which may adversely affect demand for consumer products using flavors and fragrances;
- our ability to attract and retain talented employees;
- our ability to comply with, and the costs associated with compliance with, U.S. and foreign environmental protection laws;
- our ability to realize the expected cost savings and efficiencies from our profitability improvement initiatives and the optimization of our manufacturing facilities;
- volatility and increases in the price of raw materials, energy and transportation;
- our ability to maintain the integrity of our raw materials, supply chain and finished goods, and comply with applicable regulations;
- our ability to successfully manage our inventory and/or working capital balances;
- the impact of violations of the U.S. Foreign Corrupt Practices Act or similar U.S. or foreign anti-bribery and anti-corruption laws and regulations in the markets in which we operate;
- our ability to protect our intellectual property rights;
- uncertainties regarding the outcome of, or funding requirements, related to litigation or settlement of pending litigation, uncertain tax positions or other contingencies;
- the impact of any future impairment of our tangible or intangible long-lived assets;
- the impact of changes in our tax rates, tax liabilities, the adoption of new United States or international tax legislation, or changes in existing tax laws;
- our ability to successfully estimate the impact of certain accounting and tax matters; and
- the potential adverse impact of Brexit on currency exchange rates, global economic conditions and cross-border agreements that affect our business.

The foregoing list of important factors does not include all such factors, nor necessarily present them in order of importance. In addition, you should consult other disclosures made by the Company (such as in our other filings with the Securities and Exchange Commission (“SEC”) or in company press releases) for other factors that may cause actual results to differ materially from those projected by the Company. Please refer to Part I. Item 1A., Risk Factors, of this Form 10-K for additional information regarding factors that could affect the Company’s results of operations, financial condition and liquidity.

We intend our forward-looking statements to speak only as of the time of such statements and do not undertake or plan to update or revise them as more information becomes available or to reflect changes in expectations, assumptions or results. We can give no assurance that such expectations or forward-looking statements will prove to be correct. An occurrence of, or any material adverse change in, one or more of the risk factors or risks and uncertainties referred to in this report or included in our other periodic reports filed with the SEC could materially and adversely impact our operations and our future financial results.

Any public statements or disclosures made by us following this report that modify or impact any of the forward-looking statements contained in or accompanying this report will be deemed to modify or supersede such outlook or other forward-looking statements in or accompanying this report.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

We operate on a global basis and are exposed to currency fluctuation related to the manufacture and sale of our products in currencies other than the U.S. dollar. The major foreign currencies involve the markets in the European Union, Great Britain, Mexico, Brazil, China, India, Indonesia, Australia and Japan, although all regions are subject to foreign currency fluctuations versus the U.S. dollar. We actively monitor our foreign currency exposures in all major markets in which we operate, and employ a variety of techniques to mitigate the impact of exchange rate fluctuations, including foreign currency hedging activities.

We have established a centralized reporting system to evaluate the effects of changes in interest rates, currency exchange rates and other relevant market risks. Our risk management procedures include the monitoring of interest rate and foreign exchange exposures and hedge positions utilizing statistical analyses of cash flows, market value and sensitivity analysis. However, the use of these techniques to quantify the market risk of such instruments should not be construed as an endorsement of their accuracy or the accuracy of the related assumptions. For the year ended December 31, 2017, the Company's exposure to market risk was estimated using sensitivity analyses, which illustrate the change in the fair value of a derivative financial instrument assuming hypothetical changes in foreign exchange rates and interest rates.

We enter into foreign currency forward contracts with the objective of reducing exposure to cash flow volatility associated with foreign currency receivables and payables, and with anticipated purchases of certain raw materials used in operations. These contracts, the counterparties to which are major international financial institutions, generally involve the exchange of one currency for a second currency at a future date, and have maturities not exceeding twelve months. The gain or loss on the hedging instrument and services is recorded in earnings at the same time as the transaction being hedged is recorded in earnings. At December 31, 2017, the Company's foreign currency exposures pertaining to derivative contracts exist with the Euro, Japanese Yen, British Pound, Australian Dollar and Indonesian Rupiah. Based on a hypothetical decrease or increase of 10% in the applicable balance sheet exchange rates (primarily against the U.S. dollar), the estimated fair value of the Company's foreign currency forward contracts would increase or decrease by approximately \$70 million. However, any change in the value of the contracts, real or hypothetical, would be significantly offset by a corresponding change in the value of the underlying hedged items.

We have also used non-U.S. dollar borrowings and foreign currency forward contracts, to hedge the foreign currency exposures of our net investment in certain foreign subsidiaries, primarily in the European Union. Based on a hypothetical decrease or increase of 10% in the value of the U.S. dollar against the Euro, the estimated fair value of the Company's foreign currency forward contracts would change by approximately \$2 million. However, any change in the value of the contracts, real or hypothetical, would be significantly offset by a corresponding change in the value of the underlying hedged items.

We use derivative instruments as part of our interest rate risk management strategy. The derivative instruments used are comprised of fixed to variable rate interest rate swaps based on the LIBOR plus an interest mark up and interest rate swaps to hedge the anticipated issuance of fixed rate debt. The notional amount, interest payment and maturity date of the swaps match the principal, interest payment and maturity date of the related debt and the swaps are valued using observable benchmark rates. Based on a hypothetical decrease or increase of one percentage point in LIBOR, the estimated fair value of the Company's interest rate swaps would change by less than \$4 million.

At December 31, 2017, the fair value of our fixed rate debt was 1.8 billion. Based on a hypothetical decrease of 10% in interest rates, the estimated fair value of the Company's fixed debt would increase by \$27 million.

We purchase certain commodities, such as natural gas, electricity, petroleum based products and certain crop related items. We generally purchase these commodities based upon market prices that are established with the vendor as part of the purchase process. In general, we do not use commodity financial instruments to hedge commodity prices.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

See index to Consolidated Financial Statements on page 62. See Item 6 on page 28 for supplemental quarterly data.

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

None.

ITEM 9A. CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures and Changes in Internal Control over Financial Reporting.

Our Chief Executive Officer and Chief Financial Officer, with the assistance of other members of our management, have evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Form 10-K. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures are effective as of the end of the period covered by this Form 10-K.

We have established controls and procedures designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Commission's rules and forms and is accumulated and communicated to management, including the principal executive officer and the principal financial officer, to allow timely decisions regarding required disclosure.

Our Chief Executive Officer and Chief Financial Officer have concluded that there have not been any changes in our internal control over financial reporting during the fourth quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934. Our 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 our internal control over financial reporting as of December 29, 2017. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in its 2013 *Internal Control — Integrated Framework*.

Based on this assessment, management determined that, as of December 29, 2017, our internal control over financial reporting was effective.

PricewaterhouseCoopers LLP, our independent registered public accounting firm, has audited the effectiveness of our internal control over financial reporting as of December 29, 2017 as stated in their report which is included herein.

ITEM 9B. OTHER INFORMATION.

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE.

The information relating to directors and nominees of the Company is set forth in the IFF 2018 Proxy Statement and is incorporated by reference herein. The information relating to Section 16(a) beneficial ownership reporting compliance that appears in the IFF 2018 Proxy Statement is also incorporated by reference herein. See Part I, Item 1 of this Form 10-K for information relating to the Company's Executive Officers.

We have adopted a Code of Business Conduct and Ethics (the "Code of Ethics") that applies to all of our employees, including our chief executive officer and our chief financial officer (who is also our principal accounting officer). We have also adopted a Code of Conduct for Directors and a Code of Conduct for Executive Officers (together with the Code of Ethics, the "Codes"). The Codes are available through the Investors — Corporate Governance link on our website www.iff.com.

Only the Board of Directors or the Audit Committee of the Board may grant a waiver from any provision of our Codes in favor of a director or executive officer, and any such waiver will be publicly disclosed. We will disclose substantive amendments to and any waivers from the Codes provided to our chief executive officer and principal financial officer (principal accounting officer), as well as any other executive officer or director, on the Company's website: www.iff.com.

The information regarding the Company's Audit Committee and its designated audit committee financial experts is set forth in the IFF 2018 Proxy Statement and such information is incorporated by reference herein.

The information concerning procedures by which shareholders may recommend director nominees is set forth in the IFF 2018 Proxy Statement and such information is incorporated by reference herein.

ITEM 11. EXECUTIVE COMPENSATION.

The information relating to executive compensation and the Company's policies and practices as they relate to the Company's risk management is set forth in the IFF 2018 Proxy Statement and such information is incorporated by reference herein; except that the information under the caption "Compensation Committee Report" shall be deemed "furnished" with this report and shall not be deemed "filed" with this report, not deemed incorporated by reference into any filing under the Securities Act of 1933 except only as may be expressly set forth in any such filing by specific reference.

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

The information relating to security ownership of management, certain beneficial owners and the Company's equity plans is set forth in the IFF 2018 Proxy Statement and such information is incorporated by reference herein.

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

The information regarding certain relationships and related party transactions and director independence is set forth in the IFF 2018 Proxy Statement and such information is incorporated by reference herein.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES.

The information regarding the independent registered public accounting firm ("independent accountant") fees and services and the Company's pre-approval policies and procedures for audit and non-audit services provided by the Company's independent accountant are set forth in the IFF 2018 Proxy Statement and such information is incorporated by reference herein.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES.

(a)(1) FINANCIAL STATEMENTS: The following consolidated financial statements, related notes, and independent registered public accounting firm's report are included in this Form 10-K:

Report of Independent Registered Public Accounting Firm	63
Consolidated Statement of Income and Comprehensive Income for the years ended December 31, 2017, 2016 and 2015	64
Consolidated Balance Sheet as of December 31, 2017 and 2016	65
Consolidated Statement of Cash Flows for the years ended December 31, 2017, 2016 and 2015	66
Consolidated Statement of Shareholders' Equity	67
Notes to Consolidated Financial Statements	68

(a)(3) EXHIBITS	109
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(a)(2) FINANCIAL STATEMENT SCHEDULES

Schedule II — Valuation and Qualifying Accounts and Reserves for the years ended December 31, 2017, 2016 and 2015	S-1
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All other schedules are omitted because they are not applicable or the required information is shown in the financial statements or notes thereto.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of International Flavors & Fragrances Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of International Flavors & Fragrances Inc. and its subsidiaries as of December 29, 2017 and December 30, 2016, and the related consolidated statements of income and comprehensive income, of shareholders' equity and of cash flows for each of the three years in the period ended December 29, 2017, including the related notes and schedule of valuation and qualifying accounts and reserves for each of the three years ended December 29, 2017 appearing on page S-1 (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 29, 2017, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 29, 2017 and December 30, 2016, and the results of their operations and their cash flows for each of the three years in the period ended December 29, 2017 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 29, 2017, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, 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 on Internal Control over Financial Reporting, appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. 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.

Definition and Limitations of Internal Control over Financial Reporting

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

New York, New York

February 27, 2018

We have served as the Company's auditor since 1957.

INTERNATIONAL FLAVORS & FRAGRANCES INC.
CONSOLIDATED STATEMENT OF INCOME AND COMPREHENSIVE INCOME

Year Ended December 31,

(DOLLARS IN THOUSANDS EXCEPT PER SHARE AMOUNTS)

	2017	2016	2015
Net sales	\$ 3,398,719	\$ 3,116,350	\$ 3,023,189
Cost of goods sold	1,919,718	1,717,280	1,671,590
Gross profit	1,479,001	1,399,070	1,351,599
Research and development expenses	286,026	254,263	246,101
Selling and administrative expenses	557,311	566,224	494,517
Restructuring and other charges, net	19,711	(1,700)	7,594
Amortization of acquisition-related intangibles	34,694	23,763	15,040
Gain on sales of fixed assets	(184)	(10,836)	—
Operating profit	581,443	567,356	588,347
Interest expense	65,363	52,989	46,062
Other (income) expense, net	(20,965)	(9,350)	3,184
Income before taxes	537,045	523,717	539,101
Taxes on income	241,380	118,686	119,854
Net income	295,665	405,031	419,247
Other comprehensive income (loss):			
Foreign currency translation adjustments	54,609	(54,526)	(124,157)
Losses on derivatives qualifying as hedges	(17,936)	(1,797)	(2,970)
Pension and postretirement liability adjustment	5,940	(10,332)	54,117
Comprehensive income	\$ 338,278	\$ 338,376	\$ 346,237
Net income per share — basic	\$ 3.73	\$ 5.07	\$ 5.19
Net income per share — diluted	\$ 3.72	\$ 5.05	\$ 5.16
Average number of shares outstanding - basic	79,070	79,648	80,449
Average number of shares outstanding - diluted	79,370	79,981	80,891
Dividends declared per share	\$ 2.66	\$ 2.40	\$ 2.06

See Notes to Consolidated Financial Statements

INTERNATIONAL FLAVORS & FRAGRANCES INC.
CONSOLIDATED BALANCE SHEET

<i>(DOLLARS IN THOUSANDS)</i>	December 31,	
	2017	2016
ASSETS		
Current Assets:		
Cash and cash equivalents	\$ 368,046	\$ 323,992
Receivables:		
Trade	677,055	560,653
Allowance for doubtful accounts	(13,392)	(9,995)
Inventories	649,448	592,017
Prepaid expenses and other current assets	215,387	142,347
Total Current Assets	1,896,544	1,609,014
Property, plant and equipment, net	880,580	775,716
Goodwill	1,156,288	1,000,123
Other intangible assets, net	415,787	365,783
Deferred income taxes	99,777	138,636
Other assets	149,950	127,712
Total Assets	\$ 4,598,926	\$ 4,016,984
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current Liabilities:		
Bank borrowings, overdrafts and current portion of long-term debt	\$ 6,966	\$ 258,516
Accounts payable	338,188	274,815
Dividends payable	54,420	50,678
Other current liabilities	369,194	314,288
Total Current Liabilities	768,768	898,297
Other Liabilities:		
Long-term debt	1,632,186	1,066,855
Deferred gains	37,344	39,816
Retirement liabilities	228,936	243,407
Other liabilities	242,398	137,475
Total Other Liabilities	2,140,864	1,487,553
Commitments and Contingencies (Note 18)		
Shareholders' Equity:		
Common stock 12 ¹ / ₂ ¢ par value; authorized 500,000,000 shares; issued 115,858,190 shares as of December 31, 2017 and 2016; and outstanding 78,947,381 and 79,213,037 shares as of December 31, 2017 and 2016	14,470	14,470
Capital in excess of par value	162,827	152,481
Retained earnings	3,870,621	3,818,535
Accumulated other comprehensive loss:		
Cumulative translation adjustments	(297,416)	(352,025)
Accumulated (losses) gains on derivatives qualifying as hedges	(10,332)	7,604
Pension and postretirement liability adjustment	(329,734)	(335,674)
Treasury stock, at cost - 36,910,809 and 36,645,153 shares as of December 31, 2017 and 2016	(1,726,234)	(1,679,147)
Total Shareholders' Equity	1,684,202	1,626,244
Noncontrolling interest	5,092	4,890
Total Shareholders' Equity including noncontrolling interest	1,689,294	1,631,134
Total Liabilities and Shareholders' Equity	\$ 4,598,926	\$ 4,016,984

See Notes to Consolidated Financial Statements

INTERNATIONAL FLAVORS & FRAGRANCES INC.
CONSOLIDATED STATEMENT OF CASH FLOWS

<i>(DOLLARS IN THOUSANDS)</i>	Year Ended December 31,		
	2017	2016	2015
Cash flows from operating activities:			
Net income	\$ 295,665	\$ 405,031	\$ 419,247
Adjustments to reconcile to net cash provided by operating activities:			
Depreciation and amortization	117,967	102,469	89,597
Deferred income taxes	58,889	14,350	13,043
Gain on disposal of assets	(184)	(10,836)	(622)
Stock-based compensation	26,567	24,587	23,160
Pension contributions	(39,298)	(46,347)	(67,897)
Litigation settlement	(56,000)	—	—
Foreign currency gain on liquidation of entity	(12,217)	—	—
Changes in assets and liabilities, net of acquisitions:			
Trade receivables	(68,851)	(21,544)	(91,712)
Inventories	(18,911)	15,452	(37,628)
Accounts payable	29,114	(7,642)	89,273
Accruals for incentive compensation	19,144	12,133	(17,399)
Other current payables and accrued expenses	22,679	49,103	29,124
Other assets	(3,866)	(1,067)	47,635
Other liabilities	20,058	14,450	(28,506)
Net cash provided by operating activities	390,756	550,139	467,315
Cash flows from investing activities:			
Cash paid for acquisitions, net of cash received	(192,328)	(236,836)	(493,424)
Additions to property, plant and equipment	(128,973)	(126,412)	(101,030)
Proceeds from disposal of assets	16,139	6,856	4,302
Maturity of net investment hedges	1,434	637	12,128
Proceeds from life insurance contracts	3,798	292	868
Net cash used in investing activities	(299,930)	(355,463)	(577,156)
Cash flows from financing activities:			
Cash dividends paid to shareholders	(206,118)	(184,897)	(158,870)
Increase (decrease) in revolving credit facility borrowings and overdrafts	(4,499)	(131,074)	138,036
Proceeds from issuance of long-term debt	498,250	555,559	—
Deferred financing costs	(5,373)	(5,788)	—
Repayments of debt	(250,000)	(125,000)	—
Loss on pre-issuance hedges	(5,310)	(3,244)	—
Proceeds from issuance of stock under stock plans	329	813	886
Employee withholding taxes paid	(11,768)	(13,353)	(22,892)
Purchase of treasury stock	(58,069)	(127,443)	(122,193)
Net cash used in financing activities	(42,558)	(34,427)	(165,033)
Effect of exchange rate changes on cash and cash equivalents	(4,214)	(18,245)	(21,711)
Net change in cash and cash equivalents	44,054	142,004	(296,585)
Cash and cash equivalents at beginning of year	323,992	181,988	478,573
Cash and cash equivalents at end of year	\$ 368,046	\$ 323,992	\$ 181,988
Cash paid for:			
Interest, net of amounts capitalized	\$ 55,440	\$ 50,576	\$ 46,760
Income taxes	\$ 107,390	\$ 107,898	\$ 102,734
Noncash investing activities:			
Accrued capital expenditures	\$ 37,556	\$ 26,049	\$ 26,030

See Notes to Consolidated Financial Statements

INTERNATIONAL FLAVORS & FRAGRANCES INC.
CONSOLIDATED STATEMENT OF SHAREHOLDERS' EQUITY

<i>(DOLLARS IN THOUSANDS)</i>	Common stock	Capital in excess of par value	Retained earnings	Accumulated other comprehensive (loss) income	Treasury stock		Non- controlling interest	Total
					Shares	Cost		
Balance at December 31, 2014	\$ 14,470	\$ 140,008	\$ 3,350,734	\$ (540,430)	(35,080,600)	\$ (1,446,221)	\$ 4,128	\$ 1,522,689
Net income			419,247				544	419,791
Cumulative translation adjustment				(124,157)				(124,157)
Losses on derivatives qualifying as hedges; net of tax \$463				(2,970)				(2,970)
Pension liability and postretirement adjustment; net of tax \$(29,452)				54,117				54,117
Cash dividends declared (\$2.06 per share)			(165,727)					(165,727)
Stock options		6,099			194,016	7,085		13,184
Treasury share repurchases					(1,074,210)	(121,193)		(121,193)
Vested restricted stock units and awards		(28,465)			124,895	4,560		(23,905)
Stock-based compensation		23,160						23,160
Balance at December 31, 2015	\$ 14,470	\$ 140,802	\$ 3,604,254	\$ (613,440)	(35,835,899)	\$ (1,555,769)	\$ 4,672	\$ 1,594,989
Net income			405,031				218	405,249
Cumulative translation adjustment				(54,526)				(54,526)
Losses on derivatives qualifying as hedges; net of tax \$(227)				(1,797)				(1,797)
Pension liability and postretirement adjustment; net of tax \$3,049				(10,332)				(10,332)
Cash dividends declared (\$2.40 per share)			(190,750)					(190,750)
Stock options		8,952			30,015	1,335		10,287
Treasury share repurchases					(1,058,018)	(127,443)		(127,443)
Vested restricted stock units and awards		(21,860)			218,749	2,730		(19,130)
Stock-based compensation		24,587						24,587
Balance at December 31, 2016	\$ 14,470	\$ 152,481	\$ 3,818,535	\$ (680,095)	(36,645,153)	\$ (1,679,147)	\$ 4,890	\$ 1,631,134
Net income			295,665				202	295,867
Cumulative adjustment relating to the adoption of ASC 2016-16			(33,719)					(33,719)
Cumulative translation adjustment				54,609				54,609
Losses on derivatives qualifying as hedges; net of tax \$2,017				(17,936)				(17,936)
Pension liability and postretirement adjustment; net of tax \$(1,583)				5,940				5,940
Cash dividends declared (\$2.66 per share)			(209,860)					(209,860)
Stock options		4,558			24,423	1,208		5,766
Treasury share repurchases					(459,264)	(58,069)		(58,069)
Vested restricted stock units and awards		(20,779)			169,185	9,774		(11,005)
Stock-based compensation		26,567						26,567
Balance at December 31, 2017	\$ 14,470	\$ 162,827	\$ 3,870,621	\$ (637,482)	(36,910,809)	\$ (1,726,234)	\$ 5,092	\$ 1,689,294

See Notes to Consolidated Financial Statements

INTERNATIONAL FLAVORS & FRAGRANCES INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1. NATURE OF OPERATIONS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of Operations International Flavors & Fragrances Inc. and its subsidiaries (the “Registrant,” “IFF,” “the Company,” “we,” “us” and “our”) is a leading creator and manufacturer of flavors and fragrances (including cosmetic active ingredients) used to impart or improve flavor or fragrance in a wide variety of consumer products. Our products are sold principally to manufacturers of perfumes and cosmetics, hair and other personal care products, soaps and detergents, cleaning products, dairy, meat and other processed foods, beverages, snacks and savory foods, sweet and baked goods, and pharmaceutical and oral care products.

Fiscal Year End The Company has historically operated on a 52/53 week fiscal year generally ending on the Friday closest to the last day of the year. For ease of presentation, December 31 is used consistently throughout the financial statements and notes to represent the period-end date. The 2017, 2016 and 2015 fiscal years were 52 week periods. For the 2017, 2016 and 2015 fiscal years, the actual closing dates were December 29, December 30 and January 1, respectively.

Use of Estimates The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts and accompanying disclosures. These estimates are based on management’s best knowledge of current events and actions the Company may undertake in the future. Actual results may ultimately differ from estimates.

Principles of Consolidation The consolidated financial statements include the accounts of International Flavors & Fragrances Inc. and those of its subsidiaries. Significant intercompany balances and transactions have been eliminated. To the extent a subsidiary is not wholly owned, any related noncontrolling interest is included as a separate component of Shareholders’ Equity. Any applicable expense (income) attributable to the noncontrolling interest is included in Other expense, net in the accompanying Consolidated Statement of Income and Comprehensive Income due to its immateriality and, as such, is not presented separately.

Revenue Recognition The Company recognizes revenue when the earnings process is complete. This generally occurs when (i) title and risk of loss have been transferred to the customer in accordance with the terms of sale and (ii) collection is reasonably assured. Sales are reduced, at the time revenue is recognized, for applicable discounts, rebates and sales allowances based on historical experience. Related accruals are included in Other current liabilities in the accompanying Consolidated Balance Sheet.

Foreign Currency Translation The Company translates the assets and liabilities of non-U.S. subsidiaries into U.S. dollars at year-end exchange rates. Income and expense items are translated at average exchange rates during the year. Cumulative translation adjustments are shown as a separate component of Shareholders’ Equity.

Research and Development Research and development (“R&D”) expenses relate to the development of new and improved flavors or fragrances, technical product support and compliance with governmental regulation. All research and development costs are expensed as incurred.

Cash Equivalents Cash equivalents include highly liquid investments with maturities of three months or less at date of purchase.

Accounts Receivable The Company sells certain accounts receivable on a non-recourse basis to unrelated financial institutions under “factoring” agreements that are sponsored, solely and individually, by certain customers. The Company accounts for these transactions as sale of receivables, removes the receivables sold from its financial statements, and records cash proceeds when received by the Company. The beneficial impact on cash provided by operations from participating in these programs increased approximately \$7.6 million, \$34.0 million and \$3.4 million in 2017, 2016 and 2015, respectively. The cost of participating in these programs was immaterial to our results in all periods.

Inventories Inventories are stated at the lower of cost (on a weighted-average basis) or market. Our inventories consisted of the following:

<i>(DOLLARS IN THOUSANDS)</i>	December 31,	
	2017	2016
Raw materials	\$ 326,140	\$ 288,629
Work in process	16,431	13,792
Finished goods	306,877	289,596
Total	\$ 649,448	\$ 592,017

Long-Lived Assets

Property, Plant and Equipment Property, plant and equipment are recorded at cost. Depreciation is calculated on a straight-line basis, principally over the following estimated useful lives: buildings and improvements, 10 to 40 years; machinery and equipment, 3 to 20 years; information technology hardware and software, 3 to 7 years; and leasehold improvements which are included in buildings and improvements, the estimated life of the improvements or the remaining term of the lease, whichever is shorter.

Finite-Lived Intangible Assets Finite-lived intangible assets include customer relationships, patents, trade names, technological know-how and other intellectual property valued at acquisition and amortized on a straight-line basis over the following estimated useful lives: customer relationships, 11 - 23 years; patents, 5 - 15 years; trade names, approximately 30 years; and technological know-how, 5 - 28 years.

The Company reviews long-lived assets for impairment when events or changes in business conditions indicate that their full carrying value may not be recovered. An estimate of undiscounted future cash flows produced by an asset or group of assets is compared to the carrying value to determine whether impairment exists. If assets are determined to be impaired, the loss is measured based on an estimate of fair value using various valuation techniques, including a discounted estimate of future cash flows.

Goodwill Goodwill represents the difference between the total purchase price and the fair value of identifiable assets and liabilities acquired in business acquisitions.

In assessing the potential for impairment of goodwill, management uses the most current actual and forecasted operating data available and current market-based assumptions in accordance with the criteria in Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 350. The Company has identified four reporting units: (1) Flavors, (2) Fragrance Compounds, (3) Fragrance Ingredients and (4) Cosmetic Actives Ingredients. These reporting units were determined based on the level at which the performance is measured and reviewed by segment management.

The Company performs an annual goodwill impairment test for the Flavors, Fragrance Compounds, Fragrance Ingredients and Cosmetic Actives Ingredients reporting units by assessing the fair value of the reporting units based on discounted cash flows. If a reporting unit's carrying amount exceeds its fair value, the Company will record an impairment charge based on that difference, and the impairment charge will be limited to the amount of goodwill allocated to that reporting unit. In January 2017, the FASB issued an amendment to the Goodwill Impairment guidance which eliminates Step 2 from the goodwill impairment test. Effective fiscal year 2017, the Company adopted the new guidance and no longer performs the annual goodwill impairment test using the two-step approach. The Company completed its annual goodwill impairment test as of November 30, 2017, which indicated no impairment of goodwill, as the estimated fair values substantially exceeded the carrying values of each of these reporting units.

Income Taxes The Company accounts for taxes under the asset and liability method. Under this method, deferred income taxes are recognized for temporary differences between the financial statement and tax return bases of assets and liabilities, based on enacted tax rates and other provisions of the tax law. The effect of a change in tax laws or rates on deferred tax assets and liabilities is recognized as income in the period in which such change is enacted. Future tax benefits are recognized to the extent that the realization of such benefits is more likely than not, and a valuation allowance is established for any portion of a deferred tax asset that management believes may not be realized.

The Company recognizes uncertain tax positions that it has taken or expects to take on a tax return. Pursuant to accounting requirements, the Company first determines whether it is "more likely than not" its tax position will be sustained if the relevant tax authority were to audit the position with full knowledge of all the relevant facts and other information. For those tax positions that meet this threshold, the Company measures the amount of tax benefit based on the largest amount of tax benefit that it has a greater than 50% chance of realizing in a final settlement with the relevant authority. Those tax positions

failing to qualify for initial recognition are recognized in the first interim period in which they meet the more likely than not standard. The Company maintains a cumulative risk portfolio relating to all of its uncertainties in income taxes in order to perform this analysis, but the evaluation of its tax positions requires significant judgment and estimation in part because, in certain cases, tax law is subject to varied interpretation, and whether a tax position will ultimately be sustained may be uncertain.

Interest and penalties related to unrecognized tax benefits are recognized as a component of income tax expense.

U.S. Tax Reform

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act") that significantly revised the U.S. tax code effective January 1, 2018 by, among other things, lowering the corporate income tax rate from a top marginal rate of 35% to a flat 21%, limiting deductibility of interest expense and performance based incentive compensation, transitioning to a territorial system and creating new taxes associated with global operations.

The Tax Act impacted the Company's consolidated results of operations during the 2017 fourth quarter and is expected to continue to impact its consolidated results of operations in future periods. In particular, the transition to the new territorial tax system required the Company to record a one-time tax or "toll charge" which resulted in a provisional incremental tax expense of \$100.6 million principally related to previously unremitted earnings on non-U.S. subsidiaries. The cash portion of the "toll charge" will be payable in installments over 8 years beginning in 2018. In addition, the reduction of the U.S. corporate tax rate resulted in a provisional net deferred tax expense of \$38.6 million related to the remeasurement of net deferred tax assets as a result of the reduction in the corporate income tax rate. Given the significant complexity of the Tax Act, anticipated guidance from the U.S. Treasury about implementing the Tax Act and the potential for additional guidance from the SEC or the FASB, the Company's provisional charge may be adjusted during 2018 and is expected to be finalized no later than the fourth quarter of 2018. Other provisions of the Tax Act that impact future tax years are still being assessed. Any material revisions in the Company's computations could adversely affect its cash flows and results of operations.

Retirement Benefits Current service costs of retirement plans and postretirement health care and life insurance benefits are accrued. Prior service costs resulting from plan improvements are amortized over periods ranging from 10 to 20 years.

Financial Instruments Derivative financial instruments are used to manage interest and foreign currency exposures. The gain or loss on the hedging instrument is recorded in earnings at the same time as the transaction being hedged is recorded in earnings. The associated asset or liability related to the open hedge instrument is recorded in Prepaid expenses and Other current assets or Other current liabilities, as applicable.

The Company records all derivative financial instruments on the balance sheet at fair value. Changes in a derivative's fair value are recognized in earnings unless specific hedge criteria are met. If the derivative is designated as a fair value hedge, the changes in the fair value of the derivative and of the hedged item attributable to the hedged risk are recognized in Net income. If the derivative is designated as a cash flow hedge, the effective portions of changes in the fair value of the derivative are recorded in Accumulated other comprehensive income ("AOCI") in the accompanying Consolidated Balance Sheet and are subsequently recognized in Net income when the hedged item affects earnings. Ineffective portions of changes in the fair value of cash flow hedges, if any, are recognized as a charge or credit to earnings.

Software Costs The Company capitalizes direct internal and external development costs for certain significant projects associated with internal-use software and amortizes these costs over 7 years. Neither preliminary evaluation costs nor costs associated with the software after implementation are capitalized. Costs related to projects that are not significant are expensed as incurred.

Shipping and Handling Costs Net sales include shipping and handling charges billed to customers. Cost of goods sold includes all costs incurred in connection with shipping and handling.

Net Income Per Share Net income per share is based on the weighted average number of shares outstanding. A reconciliation of shares used in the computations of basic and diluted net income per share is as follows:

<i>(SHARES IN THOUSANDS)</i>	December 31,		
	2017	2016	2015
Basic	79,070	79,648	80,449
Assumed dilution under stock plans	300	333	442
Diluted	79,370	79,981	80,891

An immaterial amount of Stock-Settled Appreciation Rights (“SSARs”) were excluded from the computation of diluted net income per share at December 31, 2017 and 2016. There were no stock options or SSARs excluded from the computation in 2015.

The Company has issued shares of Purchased Restricted Stock (“PRS”) and Purchased Restricted Stock Units (“PRsUs”) which contain nonforfeitable rights to dividends and thus are considered participating securities which are required to be included in the computation of basic and diluted earnings per share pursuant to the two-class method. The two-class method was not presented since the difference between basic and diluted net income per share for both common shareholders, PRS and PRsU holders was less than \$0.01 per share for each year and the number of PRS and PRsUs outstanding as of December 31, 2017, 2016 and 2015 was immaterial. Net income allocated to such PRS and PRsUs during 2017, 2016 and 2015 was approximately \$1.0 million, \$1.0 million and \$2.0 million, respectively.

Stock-Based Compensation Compensation cost of all stock-based awards is measured at fair value on the date of grant and recognized over the service period for which awards are expected to vest. The cost of such stock-based awards is principally recognized on a straight-line attribution basis over their respective vesting periods, net of estimated forfeitures.

Financing Costs Costs incurred in the issuance of debt are deferred and amortized as part of interest expense over the stated life of the applicable debt instrument. Unamortized deferred financing costs relating to senior debt are presented as a reduction in the amount of debt outstanding on the Consolidated Balance Sheet. Unamortized deferred financing costs relating to the revolving credit facility are recorded in Other assets on the Consolidated Balance Sheet.

Recent Accounting Pronouncements

In February 2018, FASB issued amendments to the Income Statement - Reporting Comprehensive Income guidance which allow a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the Tax Act, in addition to requiring certain disclosures about stranded tax effects. This guidance is effective for periods beginning after December 15, 2018, with an election to adopt early. The Company is currently evaluating the impact this guidance will have on its Consolidated Financial Statements.

In August 2017, FASB issued amendments to the Derivatives and Hedging guidance which eliminates the requirement to separately measure and present hedge ineffectiveness and aligns the presentation of hedge gains and losses with the underlying hedge item. This guidance is effective for fiscal years beginning after December 15, 2018. Early adoption is permitted. The amended presentation and disclosure requirements should be applied prospectively while the amendments to cash flow and net investment hedge relationships should be applied on a modified retrospective basis. The Company is currently evaluating the impact this guidance will have on its Consolidated Financial Statements.

In May 2017, the FASB issued amendments to the Compensation - Stock Compensation guidance which clarifies changes to the terms or conditions of a share-based payment award that require an entity to apply modification accounting. This guidance is effective, and should be applied prospectively, for fiscal years beginning after December 15, 2017. Early adoption is permitted. The Company does not expect this guidance to have an impact on its Consolidated Financial Statements as it is not the Company's practice to modify the terms or conditions of a share-based payment award after it has been granted.

In March 2017, the FASB issued amendments to the Compensation - Retirement Benefits guidance which requires employers who present a measure of operating income in their statement of income to include only the service cost component of net periodic pension cost and postretirement costs in operating expenses. This guidance is effective, and should be applied retrospectively, for fiscal years beginning after December 15, 2017. Early adoption is permitted as of the beginning of an annual period. The Company will adopt this standard on January 1, 2018, and expects the impact that this guidance will have on its Consolidated Statement of Comprehensive Income will be an increase in operating expenses of approximately \$30 million and \$15 million for the fiscal years 2017 and 2016, respectively. There will be no impact to Net income or Net Income per share in either period. The new guidance also limits the amount of net periodic benefit cost eligible for capitalization to assets. The new guidance permits only the service cost component of net periodic benefit cost to be eligible for capitalization.

In January 2017, the FASB issued amendments to the Business Combination guidance which clarifies the definition of a business in order to assist companies when evaluating whether transactions should be accounted for as acquisitions or disposals of assets or businesses. This guidance will be effective prospectively for annual and interim periods beginning after December 15, 2017. The Company will apply this guidance for transactions occurring after the effective date.

In October 2016, the FASB issued authoritative guidance which allows for the immediate recognition of current and deferred income tax impact on intra-entity asset transfers, excluding inventory. The Company adopted this guidance in the first quarter of fiscal year 2017 and accordingly, recorded a cumulative-effect adjustment to Retained earnings that reduced Other assets and adjusted Deferred income taxes by a net amount of approximately \$34 million.

In August 2016, the FASB issued authoritative guidance which requires changes to the classification of certain activities within the statement of cash flows. This guidance will be effective for annual and interim periods beginning after December 15, 2017. Early adoption will be permitted for all entities. The Company does not expect this adoption to have a significant impact on its Consolidated Statement of Cash Flows.

In June 2016, the FASB issued authoritative guidance which requires issuers to measure expected credit losses for financial assets based on historical experience, current conditions and reasonable and supportable forecasts. As such, an entity will use forward-looking information to estimate credit losses. The guidance is effective for financial statements issued for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted for the fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The Company is currently evaluating the impact this guidance may have on its consolidated financial statements, but does not expect this guidance to have a material impact on its consolidated financial statements.

In March 2016, the FASB issued authoritative guidance which requires changes to several aspects of the accounting for share-based payment transactions, including the treatment of income tax consequences, classification of awards as either equity or liabilities, and classification of certain items on the statement of cash flows. This guidance was effective for annual and interim periods beginning after December 15, 2016. The Company adopted this standard during the first quarter of 2017. The standard requires that employee taxes paid when an employer withholds shares be presented in the Consolidated Statement of Cash Flows as a financing activity instead of an operating activity. The Company adopted this change retrospectively. The adoption resulted in an \$11.8 million, \$13.4 million and \$22.9 million reclassification from Net cash provided by operating activities to Net cash provided by financing activities on the Consolidated Statement of Cash Flows as of December 31, 2017, 2016 and 2015, respectively. In addition, the standard requires that excess tax benefits presented in the Consolidated Statement of Cash Flows be classified as an operating activity instead of a financing activity. The Company adopted this change retrospectively. The adoption resulted in a \$3.3 million, \$4.7 million and \$12.1 million reclassification from Net cash provided by financing activities to Net cash provided by operating activities on the Consolidated Statement of Cash Flows as of December 31, 2017, 2016 and 2015, respectively.

The standard also requires all excess tax benefits/deficiencies be recognized as income tax expense/benefit in the Consolidated Statement of Comprehensive Income. This guidance has been applied prospectively. This change resulted in a \$3.3 million benefit to income tax expense for the year ended December 31, 2017. For 2016, benefits of \$5.3 million were recognized in equity. Additionally, the standard allows the Company to make an entity-wide accounting policy election to either estimate the number of awards that are expected to be forfeited or account for forfeitures as they occur. The Company has elected to continue to account for forfeitures using an estimate of awards expected to be forfeited.

In February 2016, the FASB issued authoritative guidance which requires changes to the accounting for leases. The new guidance establishes a new lease accounting model, that requires entities to record assets and liabilities related to leases on the balance sheet for certain types of leases. The guidance will be effective for annual and interim periods beginning after December 15, 2018. The Company expects to adopt this guidance effective December 30, 2018 and that the adoption of this guidance will result in significant increases to assets and liabilities on its Consolidated Balance Sheet. The Company is still evaluating the impact of this guidance on its Consolidated Statement of Comprehensive Income. The Company has begun to evaluate the nature of its leases and has compiled preliminary analysis of the type and location of its leases. The Company expects that the significant portion of its leases will relate to property but with additional leases in existence that relate to vehicles and machinery.

Revenue Recognition - Adoption of ASC 606

In May 2014, the FASB issued authoritative guidance that provides for a comprehensive model to be used in accounting for revenue arising from contracts with customers (ASC Topic 606 Revenue from Contracts with Customers) (the "Revenue Standard"). Under the Revenue Standard, revenue will be recognized to depict the transfer of goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services. This guidance is applicable to all entities and is effective for annual and interim periods beginning after December 15, 2017. Companies have the option to apply the new guidance under a retrospective approach to each prior reporting period presented or a modified retrospective approach with the cumulative effect of initially applying the new guidance recognized at the date of initial application within the Consolidated Balance Sheet. The Company has determined that it will adopt this guidance using the modified retrospective approach.

The Company has substantially completed the evaluation of the Revenue Standard, including updates to it issued by the FASB, and has adopted the Revenue Standard on December 30, 2017, the first day of the Company's 2018 fiscal year. A cumulative catch up adjustment will be recorded as of that date.

The Company creates and manufactures flavors and fragrances. Approximately 90% of products, principally Flavors compounds and Fragrance compounds, are customized to customer specifications and have no alternative use other than sale to the specific customer (“Compounds products”). The remaining revenue is derived largely from Fragrance Ingredient products that, generally, are commodity products with alternative uses and not customized (“Ingredients products”).

The Company’s evaluation is substantially complete and was comprised of (i) a detailed review of a large number of documents, including master service, supply, rebate and other similar agreements, and purchase orders, (ii) interviews with regional finance and business personnel on general issues, such as the nature of its larger customer relationships; the nature of potential regional variations; rebates and other price adjustments; upfront costs; and shipping terms and specific issues identified during the review (such as consignment, minimum order quantities, etc.), and (iii) consultation with legal counsel with respect to the nature of various terms within the contracts.

Based on this evaluation, with respect to the vast majority of the Company’s contracts for Compounds products, the Company will recognize revenue at a point in time. Specifically, revenue will be recognized upon transfer of control of the product, as the Company does not have an “enforceable right to payment for performance to date” (as set out in section 606-10-25-27 (c) of the Standard). With respect to a small number of Compounds products customers, the Company has determined that it does have an “enforceable right to payment for performance to date” (as set out in section 606-10-25-27 (c) of the Revenue Standard). For contracts where an enforceable right to payment exists the Company will recognize revenue over time using the output method. The calculation of the required cumulative catch up adjustment is in the process of being finalized.

It was determined that no adjustment will be required with respect to revenue related to Ingredients products as such products generally have alternative uses and on which the Company does not have an enforceable right to payment at all times during the manufacturing process.

In completing its assessment of the adoption of the Revenue Standard the Company elected to combine the shipment of goods with their manufacture to account for both shipment and manufacture as a single performance obligation.

Reclassifications and Revisions

Certain prior year amounts have been reclassified and revised to conform to the current year presentation.

The Consolidated Statement of Cash Flows has been revised to properly reclassify \$3.3 million from Net cash used in financing activities to Net cash provided by operating activities for the year ended December 31, 2016. In addition, approximately \$5.4 million of expense was recorded during the first quarter of 2017 for a tax assessment relating to prior periods. These adjustments were not material to the current and previously-issued financial statements.

NOTE 2. RESTRUCTURING AND OTHER CHARGES

Restructuring and other charges primarily consist of separation costs for employees including severance, outplacement and other benefit costs.

2017 Productivity Program

On February 15, 2017, the Company announced that it was adopting a multi-year productivity program designed to improve overall financial performance, provide flexibility to invest in growth opportunities and drive long-term value creation. In connection with this program, we expect to optimize our global footprint and simplify the Company’s organizational structures globally. In connection with this initiative, the Company expects to incur cumulative, pre-tax cash charges of between \$30-\$35 million, consisting primarily of \$24-\$26 million in personnel-related costs and an estimated \$6 million in facility-related costs, such as lease termination, and integration-related costs.

The Company recorded \$20.6 million of charges related to personnel-related costs in 2017, with the remainder of the personnel-related and other costs expected to be recognized by the end of 2018. The Company made payments of \$14.0 million related to severance in 2017. The overall charges were split approximately evenly between Flavors and Fragrances. This initiative is expected to result in the reduction of approximately 370 members of the Company’s global workforce, including acquired entities, in various parts of the organization.

2015 Severance and Contingent Consideration Charges

During 2015, the Company established a series of initiatives intended to streamline its management structure, simplify decision-making and accountability, better leverage and align its capabilities across the organization and improve efficiency of its global manufacturing and operations network. As a result, the Company recorded charges for severance and related costs pertaining to approximately 150 positions that were affected. During 2016, the Company recorded a credit of \$1.7 million related to the reversal of severance accruals that were determined to be no longer required. Separately, in 2015, the Company recorded a charge of \$7.2 million, included in Selling and administrative expenses, associated with the acceleration from 2016 to 2015 of contingent consideration payments from the Aromor acquisition that were triggered by certain of the management structure changes noted above. In addition, during 2017, the Company made payments of \$0.2 million related to severance and recorded a credit of \$2.3 million related to the reversal of severance accruals that were determined to be no longer required.

Roll Forward of Liability

Movements in severance-related accruals during 2015, 2016 and 2017 are as follows:

<i>(DOLLARS IN THOUSANDS)</i>	Employee-Related Costs	Other	Total
Balance at January 1, 2015	\$ 759	\$ —	\$ 759
Additional charges (reversals), net	7,594	—	7,594
Payments	(471)	—	(471)
Balance at December 31, 2015	7,882	—	7,882
Additional charges (reversals), net	(1,700)	658	(1,042)
Non-cash charges	—	(658)	(658)
Payments	(2,905)	—	(2,905)
Balance at December 31, 2016	3,277	—	3,277
Additional charges (reversals), net	18,309	1,402	19,711
Non-cash charges	—	(528)	(528)
Payments	(14,047)	(456)	(14,503)
Balance at December 31, 2017	\$ 7,539	\$ 418	\$ 7,957

NOTE 3. ACQUISITIONS

PowderPure

On April 7, 2017, the Company completed the acquisition of 100% of the outstanding shares of Columbia PhytoTechnology, LLC d/b/a PowderPure ("PowderPure"), a privately-held flavors company with facilities in North America. The acquisition was accounted for under the purchase method. PowderPure was acquired to expand expertise in, and product offerings of, clean label solutions within the Flavors business.

The Company paid approximately \$54.6 million including \$0.4 million of cash acquired for this acquisition, which was funded from existing resources including use of its revolving credit facility. Additionally, the Company recorded an accrual of approximately \$1.4 million representing the current estimate of additional contingent consideration payable to the former owners of PowderPure. (The maximum earnout payable is \$10 million upon satisfaction of certain performance metrics). The purchase price exceeded the preliminary fair value of existing net assets by approximately \$48.0 million. The excess was allocated principally to identifiable intangible assets including approximately \$27.5 million to proprietary technology, approximately \$4.5 million to trade name and approximately \$0.8 million to customer relationships, and approximately \$15.2 million of goodwill (which is deductible for tax purposes). Goodwill is the excess of the purchase price over the fair value of net assets acquired and represents the value the Company expects to achieve from its increased exposure to clean label products within the Company's existing Flavors business. The intangible assets are being amortized over the following estimated useful lives: proprietary technology, 14 years; trade name, 14 years; and customer relationships, 2 years.

The purchase price allocation is preliminary pending finalization of working capital adjustment calculations. The purchase price allocation is expected to be completed by the first quarter of 2018. No material adjustments have been made to the purchase price allocation since the preliminary valuation performed in the second quarter of 2017.

No pro forma financial information for 2017 or 2016 is presented as the acquisition was not material to the consolidated financial statements.

Fragrance Resources

On January 17, 2017, the Company completed the acquisition of 100% of the outstanding shares of Fragrance Resources, Inc., Fragrance Resources GmbH, and Fragrance Resources SAS (collectively "Fragrance Resources"), a privately-held fragrance company with facilities in Germany, North America, France, and China. The acquisition was accounted for under the purchase method. Fragrance Resources was acquired to strengthen the North American and German Fragrances business.

The Company paid approximately €143.4 million (approximately \$151.9 million) including approximately €13.7 million (approximately \$14.4 million) of cash acquired for this acquisition, which was funded from existing resources including use of its revolving credit facility. Of the total paid, approximately €142.0 million (approximately \$150.5 million) was paid at closing and an additional €1.4 million (approximately \$1.5 million) was paid in connection with the finalization of the working capital adjustment. The purchase price exceeded the fair value of existing net assets by approximately \$122.0 million. The excess was allocated principally to identifiable intangible assets including approximately \$51.7 million related to customer relationships, approximately \$13.6 million related to proprietary technology and trade name, and approximately \$72.0 million of goodwill (which is not deductible for tax purposes) and approximately \$15.3 million of net deferred tax liability. Goodwill is the excess of the purchase price over the fair value of net assets acquired and represents synergies from the addition of Fragrance Resources to the Company's existing Fragrances business. The intangible assets are being amortized over the following estimated useful lives: trade name, 2 years; proprietary technology, 5 years; and customer relationships, 12 - 16 years.

The purchase price allocation was finalized in the fourth quarter of 2017. Certain measurement period adjustments were made subsequent to the initial purchase price allocation including adjustments related to the finalization of the purchase price, the allocation of certain intangibles and the calculation of applicable deferred taxes. The additional amortization of intangibles required as a result of the measurement period adjustments was not material.

No pro forma financial information for 2016 is presented as the acquisition was not material to the consolidated financial statements.

2016 Activity

David Michael

On October 7, 2016, the Company completed the acquisition of 100% of the outstanding shares of David Michael & Company, Inc. ("David Michael"). The acquisition was accounted for under the purchase method. David Michael was acquired to strengthen the North American flavors business. The Company paid approximately \$242.6 million (including \$5.1 million of cash acquired) for this acquisition, which was funded from existing resources. The preliminary purchase price allocation was updated during the first quarter of 2017, resulting in a reduction in allocation of value to customer relationships. The related reduction in amortization expense was not material to the Consolidated Statement of Comprehensive Income. The purchase price allocation was finalized during the second quarter of 2017. Additionally, during the second quarter of 2017, the Company finalized the working capital adjustment and paid an additional \$0.7 million. The purchase price exceeded the fair value of existing net assets by approximately \$168.7 million. The excess was allocated principally to identifiable intangible assets including approximately \$50.0 million related to customer relationships, approximately \$8.4 million related to proprietary technology and trade name, and approximately \$110.2 million of goodwill (which is deductible for tax purposes). Goodwill is the excess of the purchase price over the fair value of net assets acquired and represents synergies from the addition of David Michael to the Company's existing Flavors business. The intangible assets are being amortized over the following estimated useful lives: trade name, of goodwill (which is deductible for tax purposes). Goodwill is the excess of the purchase price over the fair value of net assets acquired and represents synergies from the addition of David Michael to the Company's existing Flavors business. The intangible assets are being amortized over the following estimated useful lives: trade name, 2 years; proprietary technology, 5 years; and customer relationships, 18 - 20 years.

No pro forma financial information for 2016 or 2015 is presented as the impact of the acquisition was immaterial to the Consolidated Statement of Comprehensive Income.

2015 Activity

Lucas Meyer

During the third quarter of 2015, the Company completed the acquisition of 100% of the outstanding shares of Lucas Meyer Cosmetics, a business of Unipex Group ("Lucas Meyer"). The total shares acquired include shares effectively acquired pursuant to put and call option agreements. The acquisition was accounted for under the purchase method. Total consideration was approximately €284.0 million (\$312.1 million), including approximately \$4.8 million of cash acquired. The Company paid €282.1 million (approximately \$309.9 million) for this acquisition, which was funded from existing resources, and recorded a liability of approximately €2.0 million (approximately \$2.2 million). The purchase price exceeded the fair value of existing net assets by approximately \$290.1 million. The excess was allocated principally to identifiable intangible assets (approximately \$156.4 million), goodwill (approximately \$179.5 million) and approximately \$40.1 million to deferred taxes. Goodwill is the excess of the purchase price over the fair value of net assets acquired. Goodwill represents the value the Company expects to

achieve from its expansion into new segments of the industry. Separately identifiable intangible assets are principally related to customer relationships, proprietary technology and patents. The intangible assets are being amortized over the following estimated useful lives: trade names and proprietary technology, 28 years; customer relationships, 23 years; patents, 11 years; and non-solicitation agreements, 3 years. The purchase price allocation was completed during the second quarter of 2016.

No pro forma financial information for 2015 is presented as the impact of the acquisition was immaterial to the Consolidated Statement of Comprehensive Income.

Ottens Flavors

During the second quarter of 2015, the Company completed the acquisition of 100% of the outstanding shares of Henry H. Ottens Manufacturing Co., Inc. ("Ottens Flavors"). The acquisition was accounted for under the purchase method. The Company paid \$198.9 million (including \$10.4 million of cash acquired) for this acquisition, which was funded from existing resources. The purchase price exceeded the fair value of existing net assets by \$162.1 million. The excess was allocated principally to identifiable intangible assets (\$80.0 million) and goodwill (\$82.1 million, which is deductible for tax purposes). Goodwill represents synergies from the addition of Ottens Flavors to the Company's existing Flavors business. Separately identifiable intangible assets are principally related to customer relationships and proprietary flavors technology. The intangible assets are being amortized using lives ranging from 5-17 years. The purchase price allocation was completed during the fourth quarter of 2015.

No pro forma financial information for 2015 is presented as the impact of the acquisition was immaterial to the Consolidated Statement of Comprehensive Income.

NOTE 4. PROPERTY, PLANT AND EQUIPMENT, NET

Property, plant and equipment consisted of the following amounts:

<i>(DOLLARS IN THOUSANDS)</i>	December 31,	
	2017	2016
<i>Asset Type</i>		
Land	\$ 39,006	\$ 36,366
Buildings and improvements	560,939	519,947
Machinery and equipment	1,162,164	1,052,114
Information technology	186,891	182,153
Construction in process	141,755	122,753
Total Property, Plant and Equipment	2,090,755	1,913,333
Accumulated depreciation	(1,210,175)	(1,137,617)
Total Property, Plant and Equipment, Net	<u>\$ 880,580</u>	<u>\$ 775,716</u>

Depreciation expense was \$83.4 million for the year ended December 31, 2017, and \$78.6 million and \$74.8 million for the years ended December 31, 2016 and 2015, respectively.

NOTE 5. GOODWILL AND OTHER INTANGIBLE ASSETS, NET*Goodwill*

Movements in goodwill during the years ended December 31, 2015, 2016 and 2017 were as follows:

<i>(DOLLARS IN THOUSANDS)</i>	Goodwill
Balance at January 1, 2015	\$ 675,484
Acquisitions	265,905
Balance at December 31, 2015	941,389
Acquisitions	67,480
Foreign exchange	(8,746)
Balance at December 31, 2016	1,000,123
Acquisitions	87,865
Foreign exchange	32,920
Other ^(a)	35,380
Balance at December 31, 2017	<u>\$ 1,156,288</u>

- (a) Other above principally represents the increase to Goodwill associated with the update of certain customer relationship assumptions in the final purchase price allocation of David Michael, as disclosed in Note 3.

Goodwill by segment was as follows:

<i>(DOLLARS IN THOUSANDS)</i>	December 31,	
	2017	2016
Flavors	\$ 525,038	\$ 473,820
Fragrances	631,250	526,303
Total	<u>\$ 1,156,288</u>	<u>\$ 1,000,123</u>

The increase reflected in Flavors above represents the preliminary purchase price allocation of PowderPure as disclosed in Note 3 and the finalization of the David Michael purchase price allocation in 2017. The increase reflected in Fragrances above represents the purchase price allocation of Fragrance Resources as disclosed in Note 3.

Other Intangible Assets

Other intangible assets, net consisted of the following amounts:

<i>(DOLLARS IN THOUSANDS)</i>	December 31,	
	2017	2016
<i>Asset Type</i>		
Customer relationships	\$ 407,636	\$ 371,270
Trade names & patents	38,771	30,679
Technological know-how	161,856	119,544
Other	24,814	24,470
Total carrying value	633,077	545,963
<i>Accumulated Amortization</i>		
Customer relationships	(104,800)	(82,555)
Trade names & patents	(15,241)	(12,198)
Technological know-how	(76,766)	(68,292)
Other	(20,483)	(17,135)
Total accumulated amortization	(217,290)	(180,180)
Other intangible assets, net	\$ 415,787	\$ 365,783

Amortization expense was \$34.7 million for the year ended December 31, 2017, and \$23.8 million and \$15.0 million for the years ended December 31, 2016 and 2015, respectively. Estimated annual amortization is \$36.3 million for the year 2018, \$34.7 million for the year 2019, \$34.0 million for the year 2020, \$29.2 million for the year 2021 and \$25.1 million for 2022.

NOTE 6. OTHER ASSETS

Other assets consisted of the following amounts:

<i>(DOLLARS IN THOUSANDS)</i>	December 31,	
	2017	2016
Overfunded pension plans	\$ 70,792	\$ 4,343
Cash surrender value of life insurance contracts	45,216	43,425
Other ^(a)	33,942	79,944
Total	\$ 149,950	\$ 127,712

(a) Includes land usage rights in China.

NOTE 7. OTHER CURRENT LIABILITIES

Other current liabilities consisted of the following amounts:

<i>(DOLLARS IN THOUSANDS)</i>	December 31,	
	2017	2016
Accrued payrolls and bonuses	\$ 88,361	\$ 64,357
Rebates and incentives payable	37,218	21,471
Value-added tax payable	17,856	15,567
Interest payable	15,863	17,173
Current pension and other postretirement benefit obligation	12,866	10,630
Accrued insurance (including workers' compensation)	10,771	10,798
Restructuring and other charges	7,957	3,277
Litigation accrual	—	55,000
Accrued income taxes	22,190	617
Other	156,112	115,398
Total	<u>\$ 369,194</u>	<u>\$ 314,288</u>

NOTE 8. SALE AND LEASEBACK TRANSACTIONS

In connection with the disposition of certain real estate in prior years, the Company entered into long-term operating leases. The leases are classified as operating leases and the gains realized on these leases have been deferred and are being credited to income over the initial lease term. Such deferred gains totaled \$32.7 million and \$35.6 million at December 31, 2017 and 2016, respectively, of which \$29.5 million and \$32.4 million, respectively, are reflected in the accompanying Consolidated Balance Sheet under Deferred gains, with the remainder included as a component of Other current liabilities.

NOTE 9. BORROWINGS

Debt consisted of the following at December 31:

<i>(DOLLARS IN THOUSANDS)</i>	Effective Interest Rate	2017	2016
Senior notes - 2007 ⁽¹⁾	6.40% - 6.82%	\$ 249,765	\$ 499,676
Senior notes - 2013 ⁽¹⁾	3.39%	298,670	297,986
Euro Senior notes - 2016 ⁽¹⁾	1.99%	589,848	512,764
Senior notes - 2017 ⁽¹⁾	4.50%	492,819	—
Bank overdrafts and other		7,993	13,599
Deferred realized gains on interest rate swaps		57	1,346
		<u>\$ 1,639,152</u>	<u>\$ 1,325,371</u>
Less: Bank borrowings, overdrafts and current portion of long-term debt		(6,966)	(258,516)
		<u>\$ 1,632,186</u>	<u>\$ 1,066,855</u>

(1) Amount is net of unamortized discount and debt issuance costs.

Senior Notes - 2017

On May 18, 2017, the Company issued \$500.0 million face amount of 4.375% Senior Notes ("Senior Notes - 2017") due 2047 at a discount of \$1.8 million. The Company received proceeds related to the issuance of these Senior Notes - 2017 of \$493.9 million which was net of the \$1.8 million discount and \$4.4 million in underwriting fees (recorded as deferred financing costs). In addition, the Company incurred \$0.9 million in legal and professional costs associated with the issuance and such costs were recorded as deferred financing costs. In connection with the debt issuance, the Company entered into pre-issuance hedging transactions that were settled upon issuance of the debt and resulted in a loss of approximately \$5.3 million. The discount, deferred financing costs and pre-issuance hedge loss are being amortized as interest expense over the 30 year term of the debt. The Senior Notes - 2017 bear interest at a rate of 4.375% per annum, with interest payable semi-annually on June 1 and December 1 of each year, commencing on December 1, 2017. The Senior Notes - 2017 will mature on June 1, 2047.

Upon 30 days' notice to holders of the Senior Notes - 2017, the Company may redeem the Senior Notes - 2017 for cash in whole, at any time, or in part, from time to time, prior to maturity, at redemption prices that include accrued and unpaid interest and a make-whole premium, as specified in the indenture governing the Senior Notes - 2017. However, no make-whole premium will be paid for redemptions of the Senior Notes - 2017 on or after December 1, 2046. The indenture provides for customary events of default and contains certain negative covenants that limit the ability of the Company and its subsidiaries to grant liens on assets, or to enter into sale-leaseback transactions. In addition, subject to certain limitations, in the event of the occurrence of both (1) a change of control of the Company and (2) a downgrade of the Senior Notes - 2017 below investment grade rating by both Moody's Investors Services, Inc. and Standard & Poor's Ratings Services within a specified time period, the Company will be required to make an offer to repurchase the Senior Notes - 2017 at a price equal to 101% of the principal amount of the Senior Notes - 2017, plus accrued and unpaid interest to the date of repurchase.

Euro Senior Notes - 2016

On March 14, 2016, the Company issued €500.0 million face amount of 1.75% Senior Notes ("Euro Senior Notes - 2016") due 2024 at a discount of €0.9 million. The Company received proceeds related to the issuance of these Euro Senior Notes - 2016 of €496.0 million which was net of the €0.9 million discount and €3.1 million underwriting discount (recorded as deferred financing costs). In addition, the Company incurred \$1.3 million of other deferred financing costs in connection with the debt issuance. In connection with the debt issuance, the Company entered into pre-issuance hedging transactions that were settled upon issuance of the debt and resulted in a loss of approximately \$3.2 million. The discount, deferred financing costs and pre-issuance hedge loss are being amortized as interest expense over the eight year term of the debt. The Euro Senior Notes - 2016 bear interest at a rate of 1.75% per annum, with interest payable on March 14 of each year, commencing on March 14, 2017. The Euro Senior Notes - 2016 will mature on March 14, 2024.

Upon 30 days' notice to holders of the Euro Senior Notes - 2016, the Company may redeem the Euro Senior Notes - 2016 for cash in whole, at any time, or in part, from time to time, prior to maturity, at redemption prices that include accrued and unpaid interest and a make-whole premium, as specified in the indenture governing the Euro Senior Notes - 2016. However, no make-whole premium will be paid for redemptions of the Euro Senior Notes - 2016 on or after December 14, 2023. The indenture provides for customary events of default and contains certain negative covenants that limit the ability of the Company and its subsidiaries to grant liens on assets, or to enter into sale-leaseback transactions. In addition, subject to certain limitations, in the event of the occurrence of both (1) a change of control of the Company and (2) a downgrade of the Euro Senior Notes - 2016 below investment grade rating by both Moody's Investors Services, Inc. and Standard & Poor's Ratings Services within a specified time period, the Company will be required to make an offer to repurchase the Notes at a price equal to 101% of the principal amount of the Euro Senior Notes - 2016, plus accrued and unpaid interest to the date of repurchase.

As discussed in Note 15, the Euro Senior Notes - 2016 have been designated as a hedge of the Company's net investment in certain subsidiaries.

Senior Notes - 2013

On April 4, 2013, the Company issued \$300.0 million face amount of 3.20% Senior Notes ("Senior Notes - 2013") due 2023 at a discount of \$0.3 million. The Company received proceeds related to the issuance of these Senior Notes - 2013 of \$297.8 million which was net of the \$0.3 million discount and a \$1.9 million underwriting discount (recorded as deferred financing costs). In addition, the Company incurred \$0.9 million of other deferred financing costs in connection with the debt issuance. The discount and deferred financing costs are being amortized as interest expense over the term of the Senior Notes - 2013. The Senior Notes - 2013 bear interest at a rate of 3.20% per year, with interest payable on May 1 and November 1 of each year, commencing on November 1, 2013. The Senior Notes - 2013 mature on May 1, 2023.

Upon 30 days' notice to holders of the Senior Notes - 2013, the Company may redeem the Senior Notes - 2013 for cash in whole, at any time, or in part, from time to time, prior to maturity, at redemption prices that include accrued and unpaid interest and a make-whole premium, as specified in the indenture governing the Senior Notes - 2013. However, no make-whole premium will be paid for redemptions of the Senior Notes - 2013 on or after February 1, 2023. The indenture provides for customary events of default and contains certain negative covenants that limit the ability of the Company and its subsidiaries to grant liens on assets, to enter into sale-leaseback transactions or to consolidate with or merge into any other entity or convey, transfer or lease all or substantially all of the Company's properties and assets. In addition, subject to certain limitations, in the event of the occurrence of both (1) a change of control of the Company and (2) a downgrade of the Senior Notes - 2013 below investment grade rating by both Moody's Investors Services, Inc. and Standard & Poor's Ratings Services within a specified time period, the Company will be required to make an offer to repurchase the Senior Notes - 2013 at a price equal to 101% of the principal amount of the Senior Notes - 2013, plus accrued and unpaid interest to the date of repurchase.

Senior Notes - 2007

On September 27, 2007, the Company issued \$500.0 million of Senior Unsecured Notes ("Senior Notes - 2007") in four series under the Note Purchase Agreement ("NPA"): (i) \$250.0 million in aggregate principal amount of 6.25% Series A Senior Notes due September 27, 2017, (ii) \$100.0 million in aggregate principal amount of 6.35% Series B Notes due September 27, 2019, (iii) \$50.0 million in aggregate principal amount of 6.50% Series C Notes due September 27, 2022, and (iv) \$100.0 million in aggregate principal amount of 6.79% Series D Notes with interest payable on March 27 and September 27 of each year, commencing on March 27, 2008. The Senior Notes - 2007 mature on September 27, 2027.

During the third quarter of 2017, the Company made a payment of \$250 million on the Senior Notes - 2007.

The Senior Notes - 2007 contain various affirmative and negative covenants, including the requirement for the Company to maintain, at the end of each fiscal quarter, a ratio of consolidated net debt for borrowed money to adjusted Earnings Before Interest, Taxes, Depreciation and Amortization ("EBITDA") in respect of the previous 12-month period of not more than 3.50 to 1. As of December 31, 2017, the Company was in compliance with all covenants under the Senior Notes - 2007.

Credit Facility

On December 2, 2016, the Company and certain of its subsidiaries amended and restated the Company's existing amended and restated credit agreement with Citibank, N.A., as administrative agent, last amended and restated on April 4, 2014 (the "Credit Facility"), to, among other things (i) modify the available tranches of the revolving loan facility provided under the Credit Facility, (ii) extend the maturity date of the Credit Facility until December 2, 2021 and (iii) increase the Company's required ratio of Net Debt to Consolidated EBITDA under the Facility from 3.25 to 1.0 to 3.50 to 1.0. Tranche A of the Credit Facility is now available to borrowers in U.S. dollars, Euro, Swiss francs, Japanese yen and British sterling in an aggregate amount up to an equivalent of approximately \$564.1 million, with a sublimit of \$25.0 million for swing line borrowings. Tranche B of the Credit Facility is now available to borrowers in U.S. dollars, Euro, Swiss francs, Japanese yen and British sterling in an aggregate amount up to an equivalent of approximately \$385.9 million, with sublimits of €50 million and \$25 million for swing line borrowings.

The Credit Facility is available for general corporate purposes of each borrower and its subsidiaries. The obligations under the Credit Facility are unsecured and the Company has guaranteed the obligations of each other borrower under the Credit Facility. Borrowings under the Credit Facility bear interest at rate of LIBOR corresponding to the term of the loan plus a margin, currently 112.5 bps, linked to the Company's credit rating. The Company pays a commitment fee on the aggregate unused commitments; such fee is not material. The Credit Facility contains various affirmative and negative covenants, including the requirement for the Company to maintain, at the end of each fiscal quarter, a ratio of net debt for borrowed money to adjusted EBITDA in respect of the previous 12-month period of not more than 3.50 to 1. As of December 31, 2017, the Company was in compliance with all covenants under this Credit Facility. The Company had no borrowings outstanding under the Credit Facility as of December 31, 2017, with \$950.0 million still available for additional borrowings. As the Credit Facility is a multi-year revolving credit agreement, the Company classifies as long-term debt the portion that it has the intent and ability to maintain outstanding longer than 12 months.

Outstanding Borrowings

The following table shows the contractual maturities of our long-term debt as of December 31, 2017.

<i>(DOLLARS IN THOUSANDS)</i>	Payments Due by Period				
	Total	Less than 1 Year	1-3 Years	3-5 Years	After 5 Years
Senior notes - 2007	\$ 250,000	\$ —	\$ 100,000	\$ 50,000	\$ 100,000
Senior notes - 2013	300,000	—	—	—	300,000
Euro Senior notes - 2016	594,400	—	—	—	594,400
Senior notes - 2017	500,000	—	—	—	500,000
Total	\$ 1,644,400	\$ —	\$ 100,000	\$ 50,000	\$ 1,494,400

Commercial Paper

Commercial paper issued by the Company generally has terms of 90 days or less. As of December 31, 2017 and 2016, there was no commercial paper outstanding. The revolving credit facility is used as a backstop for the Company's commercial paper program. The maximum amount of commercial paper outstanding during 2017 and 2016 was \$107.5 million and \$65 million, respectively.

NOTE 10. INCOME TAXES

Earnings before income taxes consisted of the following:

<i>(DOLLARS IN THOUSANDS)</i>	December 31,		
	2017	2016	2015
U.S. income before taxes	\$ (24)	\$ 9,078	\$ 29,792
Foreign income before taxes	537,069	514,639	509,309
Total income before taxes	\$ 537,045	\$ 523,717	\$ 539,101

The income tax provision consisted of the following:

<i>(DOLLARS IN THOUSANDS)</i>	December 31,		
	2017	2016	2015
Current tax provision			
Federal	\$ 68,886	\$ (2,920)	\$ 7,648
State and local	137	1,383	199
Foreign	113,468	105,873	98,964
	<u>182,491</u>	<u>104,336</u>	<u>106,811</u>
Deferred tax provision			
Federal	74,446	8,838	14,379
State and local	(11,537)	(631)	399
Foreign	(4,020)	6,143	(1,735)
	<u>58,889</u>	<u>14,350</u>	<u>13,043</u>
Total income taxes	\$ 241,380	\$ 118,686	\$ 119,854

Effective Tax Rate Reconciliation

Reconciliation between the U.S. federal statutory income tax rate to the actual effective tax rate was as follows:

	December 31,		
	2017	2016	2015
Statutory tax rate	35.0 %	35.0 %	35.0 %
Difference in effective tax rate on foreign earnings and remittances	(11.8)	(11.5)	(10.7)
Tax benefit from supply chain optimization	(2.3)	(0.7)	—
Unrecognized tax benefit, net of reversals	2.3	0.6	(0.8)
U.S. tax reform	26.0	—	—
Spanish tax charges	—	—	(0.4)
State and local taxes	(2.1)	0.1	0.1
Other, net	(2.2)	(0.8)	(1.0)
Effective tax rate	44.9 %	22.7 %	22.2 %

The effective tax rate reflects the impact of U.S. tax reform as discussed below, partially offset by the benefit from having significant operations outside the U.S. that are taxed at rates that are lower than the U.S. federal rate of 35% and the reversal of a valuation allowance on certain state deferred tax assets. Included in the 2015 effective tax rate was a \$10.5 million benefit related to favorable tax rulings in Spain and another jurisdiction for which reserves were previously recorded. The 2017, 2016 and 2015 effective tax rates were also favorably impacted by the reversals of liabilities for uncertain tax positions of \$9.5 million, \$7.5 million and \$2.8 million, respectively, principally due to statutory expiry and effective settlement.

U.S. Tax Reform

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act") that significantly revised the U.S. tax code effective January 1, 2018 by, among other things, lowering the corporate income tax rate from a top marginal rate of 35% to a flat 21% and establishing a modified territorial system requiring a mandatory deemed repatriation tax on undistributed earnings of foreign subsidiaries. Beginning in 2018, the Act also requires a minimum tax on certain future earnings generated by foreign subsidiaries while providing for future tax-free repatriation of such earnings through a 100% dividends-received deduction.

The Tax Act impacted the Company's consolidated results of operations during the 2017 fourth quarter and is expected to continue to impact its consolidated results of operations in future periods. In particular, the transition to the new territorial tax system required the Company to record a one-time tax or "toll charge" which resulted in a provisional incremental tax expense of \$100.6 million principally related to previously unremitted earnings on non-U.S. subsidiaries. The cash portion of the "toll charge" will be payable in installments over 8 years beginning in 2018. In addition, the reduction of the U.S. corporate tax rate resulted in a provisional net deferred tax expense of \$38.6 million related to the remeasurement of net deferred tax assets as a result of the reduction in the corporate income tax rate. Given the significant complexity of the Tax Act, anticipated guidance from the U.S. Treasury about implementing the Tax Act and the potential for additional guidance from the SEC or the FASB, the Company's provisional charge may be adjusted during 2018 and is expected to be finalized no later than the fourth quarter of 2018. Other provisions of the Tax Act that impact future tax years are still being assessed. Any material revisions in the Company's computations could adversely affect its cash flows and results of operations.

The U.S. consolidated group has historically generated taxable income after the inclusion of foreign dividends which has allowed the Company to realize its federal deferred tax assets. In the future foreign dividends will be subject to a 100% dividends received deduction under the Tax Act and will not serve as a source of taxable income. However, as of December 31, 2017 the U.S. consolidated group is in a cumulative income position and expects to continue to generate future taxable income to realize tax benefits for the reversal of temporary differences. The corresponding U.S. federal taxable income is sufficient to realize \$60.3 million in deferred tax assets as of December 31, 2017. The Company's assessment is provisional as the Company analyzes other provisions of the Tax Act that may impact its U.S. tax profile.

Further, as of December 31, 2017 the Company recorded a benefit for \$9.2 million related to a valuation allowance release previously recorded against state deferred tax assets. This was due to improved performance of the North American business in 2016 and 2017 and cumulative income from a state perspective. The majority of the Company's state deferred tax assets relate to net operating loss and tax credit carryforwards that have a specified carryforward period. Therefore, the Company has maintained a valuation allowance of \$10.6 million on certain state tax attributes based on a state taxable income

forecast. The main input into the forecast is the 2017 taxable income projection. Changes in the performance of the North American business, the Company's transfer pricing policies and adjustments to the Company's U.S. tax profile due to the Tax Act could impact the estimate.

Deferred Taxes

The deferred tax assets consisted of the following amounts:

<i>(DOLLARS IN THOUSANDS)</i>	December 31,	
	2017	2016
Employee and retiree benefits	\$ 87,400	\$ 132,638
Credit and net operating loss carryforwards ^(a)	218,933	186,062
Trademarks and other	11,469	1,406
Amortizable R&D expenses	1,502	4,040
Gain (loss) on foreign currency translation	10,885	(8,799)
Other, net	11,692	6,016
Gross deferred tax assets	341,881	321,363
Property, plant and equipment, net	(11,745)	(17,000)
Trademarks and other	(73,979)	(55,899)
Gross deferred tax liabilities	(85,724)	(72,899)
Valuation allowance ^(a)	(207,483)	(152,752)
Total net deferred tax assets	\$ 48,674	\$ 95,712

(a) During 2017 and 2016, the Company increased its deferred tax assets by \$58.8 million and by \$7.6 million, respectively, relating to an adjustment to the 2016 and 2015 foreign net operating loss carryforwards, respectively. The entire adjustments of \$58.8 million and \$7.6 million were offset by corresponding adjustments in valuation allowances. These adjustments are not considered material to the previously issued financial statements.

Effective January 1, 2017, the Company prospectively applied new accounting guidance which required all excess tax benefits/deficiencies be recognized as income tax expense/benefit in the Consolidated Statement of Comprehensive Income. This change resulted in a \$3.3 million benefit to income tax expense for the year ended December 31, 2017. For 2016, benefits of \$5.3 million were recognized in equity.

Net operating loss carryforwards were \$212.5 million and \$149.1 million at December 31, 2017 and 2016, respectively. If unused, \$6.6 million will expire between 2018 and 2037. The remainder, totaling \$205.9 million, may be carried forward indefinitely. Tax credit carryforwards were \$12.5 million and \$42.8 million at December 31, 2017 and 2016, respectively. If unused, the \$12.2 million will expire between 2018 and 2037. The remaining \$0.3 million may be carried forward indefinitely.

Of the \$225.0 million deferred tax asset for net operating loss carryforwards and credits at December 31, 2017, the Company considers it unlikely that a portion of the tax benefit will be realized. Accordingly, a valuation allowance of \$198.1 million of net operating loss carryforwards and \$8.6 million of tax credits has been established against these deferred tax assets, respectively. In addition, due to realizability concerns, the Company established a valuation allowance against certain other net deferred tax assets of \$3.2 million.

Uncertain Tax Positions

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

<i>(DOLLARS IN THOUSANDS)</i>	December 31,		
	2017	2016	2015
Balance of unrecognized tax benefits at beginning of year	\$ 26,428	\$ 24,198	\$ 23,055
Gross amount of increases in unrecognized tax benefits as a result of positions taken during a prior year	1,169	1,254	18
Gross amount of decreases in unrecognized tax benefits as a result of positions taken during a prior year	(268)	(3)	(43)
Gross amount of increases in unrecognized tax benefits as a result of positions taken during the current year	13,191	8,131	12,011
The amounts of decreases in unrecognized benefits relating to settlements with taxing authorities	—	(6,075)	(10,221)
Reduction in unrecognized tax benefits due to the lapse of applicable statute of limitation	(2,358)	(1,077)	(622)
Balance of unrecognized tax benefits at end of year	\$ 38,162	\$ 26,428	\$ 24,198

At December 31, 2017, 2016 and 2015, there were \$28.5 million, \$19.1 million, and \$24.2 million, respectively, of unrecognized tax benefits recorded to Other liabilities and \$9.7 million and \$7.3 million recorded to Other current liabilities for 2017 and 2016, respectively. If these unrecognized tax benefits were recognized, all the benefits and related interest would be recorded as a benefit to income tax expense.

For the year ended December 31, 2017, the Company increased its liabilities for interest and penalties by \$3.0 million, net, and increased its liabilities for interest and penalties by \$0.3 million, net, and reduced its liabilities by \$1.4 million, net for the years ended 2016 and 2015, respectively. At December 31, 2017, 2016 and 2015, the Company had accrued \$2.8 million, \$0.8 million and \$0.8 million, respectively, of interest and penalties classified as Other liabilities and \$1.3 million and \$0.3 million in 2017 and 2016, respectively, recorded to Other current liabilities. No such liabilities were accrued for the year ended December 31, 2015.

As of December 31, 2017, the Company's aggregate provision for uncertain tax positions, including interest and penalties, was \$42.3 million, associated with various tax positions asserted in foreign jurisdictions, none of which is individually material.

Other

Tax benefits credited to Shareholders' equity totaled \$0.1 million for the year ended December 31, 2017, and \$0.2 million in each of the years ended December 31, 2016 and 2015 associated with stock option exercises and PRSU dividends.

The Tax Act requires a mandatory deemed repatriation tax on undistributed earnings of foreign subsidiaries, and as a result, all previously unremitted earnings for which no U.S. deferred tax liability had been accrued have now been subject to U.S. tax and will not be subject to additional U.S. tax when repatriated. Foreign withholding taxes, however, may still apply in certain jurisdictions. The Company has not provided for the foreign withholding taxes with respect to the \$1.9 billion of accumulated unremitted earnings of non-U.S. subsidiaries, as management still has the intention and ability to permanently reinvest those earnings, but its assessment is provisional under SAB 118. The unrecognized deferred tax liability on these unremitted earnings approximates \$72.0 million.

The Company has ongoing income tax audits and legal proceedings which are at various stages of administrative or judicial review, of which the material items are discussed below. In addition, the Company has other ongoing tax audits and legal proceedings that relate to indirect taxes, such as value-added taxes, capital tax, sales and use and property taxes, which are discussed in Note 18.

The Company also has several other tax audits in process and has open tax years with various taxing jurisdictions that range primarily from 2007 to 2016. Based on currently available information, the Company does not believe the ultimate outcome of any of these tax audits and other tax positions related to open tax years, when finalized, will have a material impact on its financial position.

NOTE 11. SHAREHOLDERS' EQUITY

Dividends

Cash dividends declared per share were \$2.66, \$2.40 and \$2.06 in for the years ended December 31, 2017, 2016 and 2015, respectively. The Consolidated Balance Sheet reflects \$54.4 million of dividends payable at December 31, 2017. This amount relates to a cash dividend of \$0.69 per share declared in December 2017 and paid in January 2018. Dividends declared, but not paid as of December 31, 2016 and December 31, 2015 were \$50.7 million (\$0.64 per share) and \$44.8 million (\$0.56 per share), respectively.

Share Repurchases

In December 2012, the Board of Directors authorized a \$250.0 million share repurchase program, which commenced in the first quarter of 2013. In August 2015, the Board of Directors approved an additional \$250 million share repurchase authorization and extension through December 31, 2017. Based on the total remaining amount of \$56.1 million available under the amended repurchase program as of October 31, 2017, the Board of Directors re-approved on November 1, 2017 a \$250.0 million share repurchase authorization and extension for a total value of \$300.0 million available under the program.

A summary of the stock repurchase activity under the stock repurchase program, reported based on the trade date, is summarized as follows:

<i>(DOLLARS IN THOUSANDS)</i>	Shares Repurchased	Weighted-Average Price per Share	Dollar Amount Repurchased
Year Ended December 31, 2017	459,264	\$ 126.44	\$ 58,069
Year Ended December 31, 2016	1,058,018	124.01	127,443
Year Ended December 31, 2015	1,074,210	114.90	121,193

Based on the total remaining amount of \$295.1 million available under the repurchase program, 1,933,959 shares, or 2.4% of shares outstanding (based on the market price and weighted average shares outstanding as of December 31, 2017) could be repurchased under the program as of December 31, 2017.

The purchases will be made from time to time on the open market or through private transactions as market and business conditions warrant. Repurchased shares will be placed into treasury stock. The ultimate level of purchases will be a function of the daily purchase limits established in the pre-approved program according to the share price at that time. This plan expires on November 1, 2022.

NOTE 12. STOCK COMPENSATION PLANS

The Company has various equity plans under which its officers, senior management, other key employees and Board of Directors may be granted options to purchase IFF common stock or other forms of stock-based awards. Beginning in 2004, the Company granted Restricted Stock Units ("RSUs") as the principal element of its equity compensation for all eligible U.S.-based employees and a majority of eligible overseas employees. Vesting of the RSUs is solely time based; the vesting period is primarily 3 years from date of grant. For a small group of employees, primarily overseas, the Company granted stock options prior to 2008.

The cost of all employee stock-based awards are principally recognized on a straight-line attribution basis over their respective vesting periods, net of estimated forfeitures. Total stock-based compensation expense included in the Consolidated Statement of Income and Comprehensive Income was as follows:

<i>(DOLLARS IN THOUSANDS)</i>	December 31,		
	2017	2016	2015
Equity-based awards	\$ 26,567	\$ 24,587	\$ 23,160
Liability-based awards	6,014	3,884	4,784
Total stock-based compensation	32,581	28,471	27,944
Less tax benefit	(5,659)	(7,375)	(8,348)
Total stock-based compensation, net of tax	\$ 26,922	\$ 21,096	\$ 19,596

The shareholders of the Company approved the Company's 2015 Stock Award and Incentive Plan (the "2015 Plan") on May 6, 2015. The 2015 Plan replaced the Company's 2010 Stock Award and Incentive Plan (the "2010 Plan") and provides the

source for future deferrals of cash into deferred stock under the Company's Deferred Compensation Plan (with the Deferred Compensation Plan being deemed a subplan under the 2015 Plan for the sole purpose of funding deferrals under the IFF Share Fund).

Under the 2015 Plan, a total of 1,500,000 shares are authorized for issuance in addition to 1,552,694 shares remaining available under the 2010 plan that were rolled into the 2015 Plan. At December 31, 2017, 865,349 shares were subject to outstanding awards and 2,351,560 shares remained available for future awards under all of the Company's equity award plans, including the 2015 Plan (excluding shares not yet issued under open cycles of the Company's Long-Term Incentive Plan).

The Company offers a Long-Term Incentive Plan ("LTIP") for senior management. The targeted payout is 50% cash and 50% IFF common stock at the end of the three-year cycle and provides for segmentation in which one-fourth of the award vests during each twelve-month period, with the final one-fourth segment vesting over the full three-year period. Grants under the LTIP are currently earned upon achievement of defined Economic Profit ("EP") targets and the Company's performance ranking of Total Shareholder Return as a percentile of the S&P 500 ("Relative TSR"). EP measures operating profitability after considering (i) all operating costs, (ii) income taxes and (iii) a charge for the capital employed in the business. When the award is granted, 50% of the target dollar value of the award is converted to a number of "notional" shares based on the closing price at the beginning of the cycle. For those shares whose payout is based on Relative TSR, compensation expense is recognized using a graded-vesting attribution method, while compensation expense for the remainder of the performance shares (EP targets) is recognized on a straight-line basis over the vesting period based on the probable outcome of the performance condition.

The 2013-2015 cycle concluded at the end of 2015 and an aggregate 73,134 shares of common stock were issued in March 2015. The 2014-2016 cycle concluded at the end of 2016 and an aggregate 47,267 shares of common stock were issued in March 2016. The 2015-2017 cycle concluded at the end of 2017 and an aggregate 46,091 shares of common stock will be issued in March 2018.

In 2006, the Board of Directors approved the Equity Choice Program (the "Program") for senior management. This program continues under the 2015 Plan. Eligible employees can choose from among three equity alternatives and will be granted such equity awards up to certain dollar awards depending on the participant's employment grade level. A participant may choose among (1) SSARs, (2) RSUs or (3) PRSUs.

SSARs and Options

SSARs are a contractual right to receive the value, in shares of Company stock, of the appreciation in our stock price from the grant date to the date the SSARs are exercised by the participant. SSARs granted become exercisable on the third anniversary of the grant date and have a maximum term of 7 years. SSARs do not require a financial investment by the SSARs grantee. An immaterial amount of SSARS was granted in 2015. No SSARs were granted in 2017 or 2016. Stock options require the participant to pay the exercise price at the time they exercise their stock options. No stock options were granted in 2017, 2016 or 2015.

SSARs and options activity was as follows:

<i>(SHARE AMOUNTS IN THOUSANDS)</i>	Shares Subject to SSARs/Options	Weighted Average Exercise Price	SSARs/ Options Exercisable
December 31, 2016	19	\$ 59.14	18
Exercised	(15)	57.66	
Canceled	—	—	
Balance at December 31, 2017	<u>4</u>	<u>\$ 64.25</u>	<u>4</u>

The weighted average exercise price of SSARs and options exercisable at December 31, 2017, 2016 and 2015 were \$60.39, \$58.24 and \$52.10, respectively.

SSARs and options outstanding at December 31, 2017 was as follows:

Price Range	Number Outstanding (in thousands)	Weighted Average Remaining Contractual Life (in years)	Weighted Average Exercise Price	Aggregate Intrinsic Value (in thousands)
\$51 – \$60	4	1.34	\$ 60.39	
Over \$65	—	4.35	118.10	
Total	4		\$ 64.25	\$ 376

SSARs and options exercisable as of December 31, 2017 was as follows:

Price Range	Number Exercisable (in thousands)	Weighted Average Remaining Contractual Life (in years)	Weighted Average Exercise Price	Aggregate Intrinsic Value (in thousands)
\$51 – \$60	4	1.34	\$ 60.39	
	4		\$ 60.39	\$ 366

The total intrinsic value of options/SSARs exercised during 2017, 2016 and 2015 totaled \$1.2 million, \$1.3 million and \$7.3 million, respectively.

As of December 31, 2017, there was less than \$0.1 million of total unrecognized compensation cost related to non-vested SSARs granted; such cost is expected to be recognized over a period of 0.27 years.

Restricted Stock Units

The Company has granted RSUs to eligible employees and members of the Board of Directors. Such RSUs are subject to forfeiture if certain conditions are not met. RSUs principally vest 100% at the end of 3 years and contain no performance criteria provisions. An RSU's fair value is calculated based on the market price of the Company's stock at date of grant, with an adjustment to reflect the fact that such awards do not participate in dividend rights. The aggregate fair value is amortized to expense ratably over the vesting period.

RSU activity was as follows:

	Number of Shares (in thousands)	Weighted Average Grant Date Fair Value Per Share
December 31, 2016	444	\$ 107.43
Granted	161	131.36
Vested	(140)	95.52
Forfeited	(24)	115.79
Balance at December 31, 2017	441	\$ 119.45

The total fair value of RSUs that vested during the year ended December 31, 2017 was \$18.4 million.

As of December 31, 2017, there was \$23.2 million of total unrecognized compensation cost related to non-vested RSUs granted under the equity incentive plans; such cost is expected to be recognized over a weighted average period of 1.9 years.

Purchased Restricted Stock and Purchased Restricted Stock Units

In 2014, the grant of awards under the Equity Choice program provided for eligible employees to purchase restricted shares of IFF common stock and deposit them into an escrow account. For each share deposited in escrow by the eligible employee, the Company matched with a grant of a share of restricted stock or, for non-U.S. participants, a restricted stock unit. The shares of restricted stock and restricted stock units generally vest on the third anniversary of the grant date, are subject to continued employment and other specified conditions, and pay dividends if and when paid by the Company. Holders of restricted stock have, in most instances, all of the rights of stockholders, except that they may not sell, assign, pledge or otherwise encumber such shares. The PRSUs provide no such rights. During 2015, the Company modified the program so that all participants, including U.S. participants, began to receive a restricted stock unit instead of a share of restricted stock. Restricted stock units pay dividend equivalents and do not have voting rights.

The following table summarizes the Company's activity for the years ended December 31, 2017, 2016 and 2015:

	Issued Shares		Aggregate Purchase Price		Covered Shares
	PRSU	PRS	PRSU	PRS	
2017	41,801	—	\$ 5.8	\$ —	20,901
2016	58,629	—	7.0	—	29,315
2015	14,622	52,577	1.7	6.2	33,600

PRS and PRSU activity was as follows:

	Number of Shares	Weighted Average Grant Date Fair Value Per Share
<i>(SHARE AMOUNTS IN THOUSANDS)</i>		
December 31, 2016	198	\$ 110.62
Granted	42	138.83
Vested	(79)	98.26
Forfeited	(2)	118.95
Balance at December 31, 2017	159	\$ 124.15

The total fair value of PRS and PRSUs that vested during the year ended December 31, 2017 was \$10.4 million.

As of December 31, 2017, there was \$7.8 million of total unrecognized compensation cost related to non-vested PRS and PRSUs granted under the equity incentive plans; such cost is expected to be recognized over a weighted average period of 1.7 years.

Liability Awards

The Company has granted cash-settled RSUs ("Cash RSUs") to eligible employees that are paid out 100% in cash upon vesting. Such RSUs are subject to forfeiture if certain conditions are not met. Cash RSUs principally vest 100% at the end of three years and contain no performance criteria provisions. A Cash RSU's fair value is calculated based on the market price of the Company's stock at the date of the closing period and is accounted for as a liability award. The aggregate fair value is amortized to expense ratably over the vesting period.

Cash RSU activity was as follows:

	Cash RSUs	Weighted Average Fair Value Per Share
<i>(SHARE AMOUNTS IN THOUSANDS)</i>		
December 31, 2016	96	\$ 117.83
Granted	32	152.61
Vested	(31)	138.62
Forfeited	(2)	132.80
Balance at December 31, 2017	95	\$ 152.61

The total fair value of Cash RSUs that vested during the year ended December 31, 2017 was \$4.1 million.

As of December 31, 2017, there was \$6.4 million of total unrecognized compensation cost related to non-vested Cash RSUs granted under the equity incentive plans; such cost is expected to be recognized over a weighted average period of 1.8 years. The aggregate compensation cost will be adjusted based on changes in the Company's stock price.

NOTE 13. SEGMENT INFORMATION

The Company is organized into two operating segments, Flavors and Fragrances; these segments align with the internal structure used to manage these businesses. Flavor compounds are sold to the food and beverage industries for use in consumer products such as prepared foods, beverages, dairy, food and sweet products. Fragrances is comprised of (1) Fragrance Compounds, which are ultimately used by our customers in two broad categories: Fine Fragrances, including perfumes and colognes, and Consumer Fragrances, including fragrance compounds for personal care (e.g., soaps), household products (e.g., detergents and cleaning agents) and beauty care, including toiletries; (2) Fragrance Ingredients, consisting of synthetic and

natural ingredients that can be combined with other materials to create unique fine fragrance and consumer compounds; and (3) Cosmetic Active Ingredients, consisting of active and functional ingredients, botanicals and delivery systems to support our customers' cosmetic and personal care product lines. Major fragrance customers include the cosmetics industry, including perfume and toiletries manufacturers, and the household products industry, including manufacturers of soaps, detergents, fabric care, household cleaners and air fresheners.

The Company's Chief Operating Decision Maker evaluates the performance of these operating segments based on segment profit which is defined as operating profit before Restructuring, global expenses (as discussed below) and certain non-recurring items, Interest expense, Other income (expense), net and Taxes on income.

The Global expenses caption represents corporate and headquarter-related expenses which include legal, finance, human resources, certain incentive compensation expenses and other R&D and administrative expenses that are not allocated to individual operating segments. Unallocated assets are principally cash and cash equivalents and other corporate and headquarter-related assets.

Reportable segment information is as follows:

<i>(DOLLARS IN THOUSANDS)</i>	December 31,		
	2017	2016	2015
Net sales			
Flavors	\$ 1,632,166	\$ 1,496,525	\$ 1,442,951
Fragrances	1,766,553	1,619,825	1,580,238
Consolidated	<u>\$ 3,398,719</u>	<u>\$ 3,116,350</u>	<u>\$ 3,023,189</u>
		December 31,	
<i>(DOLLARS IN THOUSANDS)</i>		2017	2016
Segment assets			
Flavors		\$ 1,929,005	\$ 1,780,695
Fragrances		2,284,309	1,925,642
Global assets		385,612	310,647
Consolidated		<u>\$ 4,598,926</u>	<u>\$ 4,016,984</u>

	December 31,		
	2017	2016	2015
<i>(DOLLARS IN THOUSANDS)</i>			
Segment profit:			
Flavors	\$ 375,208	\$ 337,242	\$ 318,476
Fragrances	335,412	334,220	321,764
Global expenses	(63,180)	(48,487)	(28,180)
Operational Improvement Initiatives (a)	(1,802)	(2,402)	(1,115)
Acquisition Related Costs (b)	(20,389)	(12,195)	(18,342)
Integration Related Costs (c)	(4,179)	—	—
Legal Charges/Credits, net (d)	(1,000)	(48,518)	—
Tax Assessment (e)	(5,331)	—	—
Restructuring and Other Charges, net (f)	(19,711)	(322)	(7,594)
Gain on Sale of Assets (g)	184	7,818	—
FDA Mandated Product Recall (h)	(11,000)	—	—
UK Pension Settlement Charges (i)	(2,769)	—	—
Spanish Capital Tax Charge (j)	—	—	10,530
Accelerated Contingent Consideration (k)	—	—	(7,192)
Operating Profit	581,443	567,356	588,347
Interest expense	(65,363)	(52,989)	(46,062)
Other income (expense), net (l)	20,965	9,350	(3,184)
Income before taxes	\$ 537,045	\$ 523,717	\$ 539,101
Profit margin			
Flavors	23.0%	22.5%	22.1%
Fragrances	19.0%	20.6%	20.4%
Consolidated	17.1%	18.2%	19.5%

- (a) For 2017 and 2016, represents accelerated depreciation and idle labor costs in Hangzhou, China. For 2016, also includes the partial reversal of severance accruals related to prior year operational initiatives in Europe. There was approximately \$0.4 million of idle labor costs in Hangzhou, China recorded during the 2016 that were not excluded from segment profit. For 2015, represents costs related to the closing of a smaller facility in Europe and certain manufacturing activities in Asia while transferring production to larger facilities in each respective region.
- (b) For 2017, represents the amortization of inventory "step-up" included in Cost of goods sold and transaction costs related to the acquisitions of Fragrance Resources and PowderPure within Selling and administrative expenses. For 2016, represents the amortization of inventory "step-up" included in Cost of goods sold and transaction costs related to the acquisitions of David Michael within Selling and administrative expenses. For 2015, represents transaction costs and costs related to the fair value step-up of inventory of the Ottens Flavors and Lucas Meyer acquisitions.
- (c) Represents costs related to the integration of the David Michael and Fragrance Resources acquisitions.
- (d) Represents additional charge related to litigation settlement.
- (e) Represents the reserve for payment of a tax assessment related to commercial rent for prior periods.
- (f) Represents severance costs related to the 2017 Productivity Program which were partially offset by the reversal of 2015 severance charges that were no longer needed. For 2016, represents accelerated depreciation related to restructuring initiatives and severance costs related to the termination of a former executive officer and the partial reversal of restructuring accruals recorded in the prior year. For 2015, represents severance and related costs related to restructuring initiatives.
- (g) Represents gains on sale of assets. For 2016, assets sold were principally in Brazil. During the first quarter of 2016, we previously recognized approximately \$3 million of gains related to the sale of fixed assets. We have not retrospectively adjusted these amounts out of our segment profit.
- (h) Represents an estimate of the Company's incremental direct costs and customer reimbursement obligations, in excess of the Company's sales value of the recalled products, arising from an FDA mandated recall.
- (i) Represents pension settlement charges incurred in one of the Company's UK pension plans.
- (j) The Spanish capital tax charge reversal represents the reversal of the charge recorded during the year ended December 31, 2013 (as a result of the unfavorable ruling of the Spanish capital tax case from 2002) in the year ended December 31, 2015 due to a favorable ruling on the Company's appeal.

- (k) Acceleration of contingent consideration payments related to the Aromor acquisition.
- (l) The 2017 amount includes \$12,217 from the release of CTA related to the liquidation of a foreign entity.

The Company has not disclosed revenues at a lower level than provided herein, such as revenues from external customers by product, as it is impracticable for it to do so.

The Company had one customer that accounted for more than 10% of consolidated net sales in each year for all periods presented and had net sales of \$358.5 million, \$364.8 million and \$358.9 million in 2017, 2016 and 2015, respectively. The majority of these sales were in the Fragrances operating segment.

Total long-lived assets consist of net property, plant and equipment and amounted to \$880.6 million and 775.7 million at December 31, 2017 and 2016, respectively. Of this total, \$219.1 million and \$191.3 million were located in the United States at December 31, 2017 and 2016, respectively, \$113.7 million and \$95.1 million were located in the Netherlands at December 31, 2017 and 2016, respectively, \$77.9 million and \$78.4 million were located in Singapore at December 31, 2017 and 2016, respectively, and \$135.8 million and \$117.7 million were located in China at December 31, 2017 and 2016, respectively.

<i>(DOLLARS IN THOUSANDS)</i>	Capital Expenditures			Depreciation and Amortization		
	2017	2016	2015	2017	2016	2015
Flavors	\$ 68,937	\$ 47,064	\$ 39,416	\$ 53,534	\$ 47,705	\$ 45,228
Fragrances	53,089	73,345	50,597	59,951	50,724	39,614
Unallocated assets	6,947	6,003	11,017	4,482	4,040	4,755
Consolidated	\$ 128,973	\$ 126,412	\$ 101,030	\$ 117,967	\$ 102,469	\$ 89,597

<i>(DOLLARS IN THOUSANDS)</i>	Net Sales by Geographic Area		
	2017	2016	2015
Europe, Africa and Middle East	\$ 1,065,596	\$ 964,931	\$ 945,675
Greater Asia	903,546	880,040	839,120
North America	901,821	769,081	718,614
Latin America	527,756	502,298	519,780
Consolidated	\$ 3,398,719	\$ 3,116,350	\$ 3,023,189

Net sales are attributed to individual regions based upon the destination of product delivery. Net sales related to the U.S. for the years ended December 31, 2017, 2016 and 2015 were \$864.1 million, \$735.3 million and \$682.2 million, respectively. Net sales attributed to all foreign countries in total for the years ended December 31, 2017, 2016 and 2015 were \$2.5 billion, \$2.4 billion and \$2.3 billion, respectively. No non-U.S. country had net sales in any period presented greater than 10.0% of total consolidated net sales.

NOTE 14. EMPLOYEE BENEFITS

The Company has pension and/or other retirement benefit plans covering approximately one-fourth of active employees. In 2007, the Company amended its U.S. qualified and non-qualified pension plans under which accrual of future benefits was suspended for all participants that did not meet the rule of 70 (age plus years of service equal to at least 70 as of December 31, 2007). Pension benefits are generally based on years of service and compensation during the final years of employment. Plan assets consist primarily of equity securities and corporate and government fixed income securities. Substantially all pension benefit costs are funded as accrued; such funding is limited, where applicable, to amounts deductible for income tax purposes. Certain other retirement benefits are provided by general corporate assets.

The Company sponsors a qualified defined contribution plan covering substantially all U.S. employees. Under this plan, the Company matches 100% of participants' contributions up to 4% of compensation and 75% of participants' contributions from over 4% to 8%. Employees that are still eligible to accrue benefits under the pension plans are limited to a 50% match of up to 6% of the participants' compensation.

In addition to pension benefits, certain health care and life insurance benefits are provided to qualifying U.S. employees upon retirement from IFF. Such coverage is provided through insurance plans with premiums based on benefits paid. The

Company does not generally provide health care or life insurance coverage for retired employees of foreign subsidiaries; such benefits are provided in most foreign countries by government-sponsored plans, and the cost of these programs is not material.

The Company offers a non-qualified Deferred Compensation Plan ("DCP") for certain key employees and non-employee directors. Eligible employees and non-employee directors may elect to defer receipt of salary, incentive payments and Board of Directors' fees into participant-directed investments which are generally invested by the Company in individual variable life insurance contracts it owns that are designed to informally fund savings plans of this nature. The cash surrender value of life insurance is based on the net asset values of the underlying funds available to plan participants. At December 31, 2017 and December 31, 2016, the Consolidated Balance Sheet reflects liabilities of \$43.0 million and \$37.6 million, respectively, related to the DCP in Other liabilities and \$22.5 million and \$18.8 million, respectively, included in Capital in excess of par value related to the portion of the DCP that will be paid out in IFF shares.

The total cash surrender value of life insurance contracts the Company owns in relation to the DCP and post-retirement life insurance benefits amounted to \$45.2 million and \$43.4 million at December 31, 2017 and 2016, respectively, and are recorded in Other assets in the Consolidated Balance Sheet.

As of January 1, 2017, the Company changed its approach for calculating the discount rate which is applied to the Consolidated Balance Sheet and Consolidated Statement of Comprehensive Income from a single weighted-average discount rate approach to a multiple discount rate approach. The impact of this change for the full year 2017 was a reduction of approximately \$8 million in pension expense.

During 2017, a pension settlement charge of \$2.8 million was recorded related to one of the Company's U.K. plans. The settlement charge was triggered by the payment of large lump sum payments made to participants leaving the plan.

The plan assets and benefit obligations of the defined benefit pension plans are measured at December 31 of each year.

<i>(DOLLARS IN THOUSANDS)</i>	U.S. Plans			Non-U.S. Plans		
	2017	2016	2015	2017	2016	2015
Components of net periodic benefit cost						
Service cost for benefits earned	\$ 2,175	\$ 2,497	\$ 3,144	\$ 18,652	\$ 15,210	\$ 15,866
Interest cost on projected benefit obligation	20,075	24,096	23,705	17,116	24,413	25,389
Expected return on plan assets	(35,577)	(33,988)	(32,405)	(50,626)	(45,865)	(50,437)
Net amortization of deferrals	5,424	5,821	21,390	14,403	12,802	12,864
Settlements and curtailments	—	—	—	2,746	—	—
Net periodic benefit cost	(7,903)	(1,574)	15,834	2,291	6,560	3,682
Defined contribution and other retirement plans	8,604	8,404	7,104	5,681	6,304	7,028
Total expense	\$ 701	\$ 6,830	\$ 22,938	\$ 7,972	\$ 12,864	\$ 10,710
Changes in plan assets and benefit obligations recognized in OCI						
Net actuarial (gain) loss	\$ (12,145)	\$ (4,917)		\$ (20,557)	\$ 72,848	
Recognized actuarial loss	(5,383)	(5,759)		(17,895)	(13,643)	
Prior service cost	93	—		—	—	
Recognized prior service (cost) credit	(41)	(62)		747	742	
Currency translation adjustment	—	—		36,722	(43,270)	
Total recognized in OCI (before tax effects)	\$ (17,476)	\$ (10,738)		\$ (983)	\$ 16,677	

	Postretirement Benefits		
	2017	2016	2015
<i>(DOLLARS IN THOUSANDS)</i>			
Components of net periodic benefit cost			
Service cost for benefits earned	\$ 718	\$ 852	\$ 966
Interest cost on projected benefit obligation	2,710	3,326	3,904
Net amortization and deferrals	(4,913)	(5,088)	(4,476)
(Credit) Expense	<u>\$ (1,485)</u>	<u>\$ (910)</u>	<u>\$ 394</u>
Changes in plan assets and benefit obligations recognized in OCI			
Net actuarial loss	\$ 2,895	\$ 2,868	
Recognized actuarial loss	(1,421)	(1,701)	
Recognized prior service credit	6,334	6,789	
Total recognized in OCI (before tax effects)	<u>\$ 7,808</u>	<u>\$ 7,956</u>	

The amounts expected to be recognized in net periodic cost in 2018 are:

	U.S. Plans		Non-U.S. Plans		Postretirement Benefits
	2017	2016	2017	2016	2015
<i>(DOLLARS IN THOUSANDS)</i>					
Actuarial loss recognition	\$ 6,152	\$ 6,152	\$ 12,680	\$ 12,680	\$ 1,580
Prior service cost (credit) recognition	43	43	(794)	(794)	(6,335)

The weighted-average actuarial assumptions used to determine expense at December 31 of each year are:

	U.S. Plans			Non-U.S. Plans		
	2017	2016	2015	2017	2016	2015
Discount rate	4.19%	4.20%	3.90%	2.14%	3.03%	2.74%
Expected return on plan assets	7.30%	7.30%	7.30%	5.95%	6.40%	6.24%
Rate of compensation increase	3.25%	3.25%	3.25%	1.97%	1.98%	2.00%

Changes in the postretirement benefit obligation and plan assets, as applicable, are detailed in the following table:

<i>(DOLLARS IN THOUSANDS)</i>	U.S. Plans		Non-U.S. Plans		Postretirement Benefits	
	2017	2016	2017	2016	2017	2016
Benefit obligation at beginning of year	\$ 577,332	\$ 587,511	\$ 895,566	\$ 860,240	\$ 79,845	\$ 77,148
Service cost for benefits earned	2,175	2,497	18,652	15,210	718	852
Interest cost on projected benefit obligation	20,075	24,096	17,116	24,413	2,710	3,326
Actuarial (gain) loss	33,808	(7,078)	(28,552)	134,377	2,895	2,868
Plan amendments	93	—	—	—	—	—
Adjustments for expense/tax contained in service cost	—	—	(1,287)	(1,515)	—	—
Plan participants' contributions	—	—	1,700	1,538	457	411
Benefits paid	(30,700)	(29,694)	(28,943)	(30,648)	(3,911)	(4,760)
Curtailments / settlements	—	—	(6,787)	(487)	—	—
Translation adjustments	—	—	105,596	(107,562)	—	—
Benefit obligation at end of year	\$ 602,783	\$ 577,332	\$ 973,061	\$ 895,566	\$ 82,714	\$ 79,845
Fair value of plan assets at beginning of year	\$ 525,964	\$ 500,311	\$ 792,138	\$ 790,614		
Actual return on plan assets	81,530	31,828	39,423	105,879		
Employer contributions	5,123	23,519	36,645	23,239		
Participants' contributions	—	—	1,700	1,538		
Benefits paid	(30,700)	(29,694)	(28,943)	(30,648)		
Settlements	—	—	(6,787)	(487)		
Translation adjustments	—	—	95,634	(97,997)		
Fair value of plan assets at end of year	\$ 581,917	\$ 525,964	\$ 929,810	\$ 792,138		
Funded status at end of year	\$ (20,866)	\$ (51,368)	\$ (43,251)	\$ (103,428)		

The amounts recognized in the balance sheet are detailed in the following table:

<i>(DOLLARS IN THOUSANDS)</i>	U.S. Plans		Non-U.S. Plans	
	2017	2016	2017	2016
Other assets	\$ 33,164	\$ 4,343	\$ 38,095	\$ —
Other current liabilities	(4,049)	(4,027)	(652)	(557)
Retirement liabilities	(49,981)	(51,684)	(80,694)	(102,871)
Net amount recognized	\$ (20,866)	\$ (51,368)	\$ (43,251)	\$ (103,428)

The amounts recognized in AOCI are detailed in the following table:

<i>(DOLLARS IN THOUSANDS)</i>	U.S. Plans		Non-U.S. Plans		Postretirement Benefits	
	2017	2016	2017	2016	2017	2016
Net actuarial loss	\$ 136,888	\$ 154,417	\$ 338,916	\$ 339,654	\$ 20,810	\$ 19,336
Prior service cost (credit)	194	141	(7,635)	(7,390)	(25,330)	(31,664)
Total AOCI (before tax effects)	\$ 137,082	\$ 154,558	\$ 331,281	\$ 332,264	\$ (4,520)	\$ (12,328)

	U.S. Plans		Non-U.S. Plans	
	2017	2016	2017	2016
<i>(DOLLARS IN THOUSANDS)</i>				
Accumulated Benefit Obligation — end of year	\$ 600,634	\$ 574,612	\$ 941,158	\$ 865,585
Information for Pension Plans with an ABO in excess of Plan Assets:				
Projected benefit obligation	\$ 54,030	\$ 65,101	\$ 542,843	\$ 895,566
Accumulated benefit obligation	54,030	65,101	510,939	865,585
Fair value of plan assets	—	9,389	461,496	790,218
Weighted-average assumptions used to determine obligations at December 31				
Discount rate	3.68%	4.20%	2.15%	2.14%
Rate of compensation increase	3.25%	3.25%	1.98%	1.97%

	U.S. Plans		Non-U.S. Plans		Postretirement Benefits
	<i>(DOLLARS IN THOUSANDS)</i>				
Estimated Future Benefit Payments					
2018	\$	33,992	\$	25,663	\$ 5,022
2019		35,378		25,925	5,115
2020		36,450		26,059	5,266
2021		37,192		26,736	5,259
2022		37,444		27,331	5,277
2023 - 2027		187,600		153,469	25,511
Contributions					
Required Company Contributions in Following Year (2018)	\$	4,121	\$	17,104	\$ 5,022

The Company considers a number of factors in determining and selecting assumptions for the overall expected long-term rate of return on plan assets. The Company considers the historical long-term return experience of its assets, the current and expected allocation of its plan assets and expected long-term rates of return. The Company derives these expected long-term rates of return with the assistance of its investment advisors. The Company bases its expected allocation of plan assets on a diversified portfolio consisting of domestic and international equity securities, fixed income, real estate and alternative asset classes. The asset allocation is monitored on an ongoing basis.

The Company considers a variety of factors in determining and selecting its assumptions for the discount rate at December 31. For the U.S. plans, the discount rate was based on the internal rate of return for a portfolio of high quality bonds rated Aa or higher by either Moody's or Standard & Poor's with maturities that are consistent with the projected future benefit payment obligations of the plan. For the Non-U.S. Plans, the discount rates were determined by region and are based on high quality long-term corporate bonds. Consideration has been given to the duration of the liabilities in each plan when selecting the bonds to be used in determining the discount rate. The rate of compensation increase for all plans and the medical cost trend rate for the applicable U.S. plans are based on plan experience.

The percentage of assets in the Company's pension plans, by type, is as follows:

	U.S. Plans		Non-U.S. Plans	
	2017	2016	2017	2016
Cash and cash equivalents	1%	—%	4%	2%
Equities	28%	36%	27%	27%
Fixed income	71%	64%	40%	56%
Property	—%	—%	4%	5%
Alternative and other investments	—%	—%	25%	10%

With respect to the U.S. plans, the expected return on plan assets was determined based on an asset allocation model using the current target allocation, real rates of return by asset class and an anticipated inflation rate. The target investment allocation is 20% equity securities and 80% fixed income securities.

The expected annual rate of return for the non-U.S. plans employs a similar set of criteria adapted for local investments, inflation rates and in certain cases specific government requirements. The target asset allocation, for the non-U.S. plans, consists of approximately: 40% – 70% in fixed income securities; 15% – 40% in equity securities; 5% – 20% in real estate; and 5% – 10% in alternative investments.

The following tables present the Company's plan assets for the U.S. and non-U.S. plans using the fair value hierarchy as of December 31, 2017 and 2016. The plans' assets were accounted for at fair value and are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The Company's assessment of the significance of a particular input to the fair value measurement requires judgment, and may affect the valuation of fair value assets and their placement within the fair value hierarchy levels. For more information on a description of the fair value hierarchy, see Note 15.

U.S. Plans for the Year Ended				
December 31, 2017				
<i>(DOLLARS IN THOUSANDS)</i>	Level 1	Level 2	Level 3	Total
Cash Equivalents	\$ —	\$ 7,138	\$ —	\$ 7,138
Fixed Income Securities				
Government & Government Agency Bonds	—	16,118	—	16,118
Corporate Bonds	—	100,478	—	100,478
Municipal Bonds	—	8,982	—	8,982
Assets measured at net asset value⁽¹⁾	—		—	447,847
Total	<u>\$ —</u>	<u>\$ 132,716</u>	<u>\$ —</u>	<u>\$ 580,563</u>
Receivables				\$ 1,354
Total				<u>\$ 581,917</u>

U.S. Plans for the Year Ended				
December 31, 2016				
<i>(DOLLARS IN THOUSANDS)</i>	Level 1	Level 2	Level 3	Total
Cash Equivalents	\$ —	\$ 1,673	\$ —	\$ 1,673
Fixed Income Securities				
Government & Government Agency Bonds	—	11,845	—	11,845
Corporate Bonds	—	90,843	—	90,843
Municipal Bonds	—	9,682	—	9,682
Asset Backed Securities	—	64	—	64
Assets measured at net asset value⁽¹⁾	—	—	—	410,533
Total	<u>\$ —</u>	<u>\$ 114,107</u>	<u>\$ —</u>	<u>\$ 524,640</u>
Receivables				\$ 1,324
Total				<u>\$ 525,964</u>

(1) Investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in the table above are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the Consolidated Balance Sheet. The total amount measured at net asset value includes approximately \$159.6 million and \$187.3 million in pooled equity funds and \$288.2 million and \$223.2 million in fixed income mutual funds for the years ended December 31, 2017 and 2016, respectively.

**Non-U.S. Plans for the Year Ended
December 31, 2017**

(DOLLARS IN THOUSANDS)

	Level 1	Level 2	Level 3	Total
Cash	\$ 33,146	\$ —	\$ —	\$ 33,146
Equity Securities				
U.S. Large Cap	86,921	19,710	—	106,631
U.S. Mid Cap	623	—	—	623
U.S. Small Cap	474	—	—	474
Non-U.S. Large Cap	84,898	17,117	—	102,015
Non-U.S. Mid Cap	577	—	—	577
Non-U.S. Small Cap	422	—	—	422
Emerging Markets	43,706	1,296	—	45,002
Fixed Income Securities				
U.S. Treasuries/Government Bonds	94	—	—	94
U.S. Corporate Bonds	—	39,647	—	39,647
Non-U.S. Treasuries/Government Bonds	129,494	7,492	—	136,986
Non-U.S. Corporate Bonds	26,212	128,121	—	154,333
Non-U.S. Asset-Backed Securities	—	34,350	—	34,350
Non-U.S. Other Fixed Income	2,116	—	—	2,116
Alternative Types of Investments				
Insurance Contracts	—	146,998	270	147,268
Hedge Funds	—	—	33,593	33,593
Other	—	29,133	—	29,133
Absolute Return Funds	3,314	21,191	—	24,505
Real Estate				
Non-U.S. Real Estate	—	—	38,895	38,895
Total	\$ 411,997	\$ 445,055	\$ 72,758	\$ 929,810

**Non-U.S. Plans for the Year Ended
December 31, 2016**

(DOLLARS IN THOUSANDS)

	Level 1	Level 2	Level 3	Total
Cash	\$ 12,726	\$ —	\$ —	\$ 12,726
Equity Securities				
U.S. Large Cap	72,438	17,102	—	89,540
U.S. Mid Cap	504	—	—	504
U.S. Small Cap	382	—	—	382
Non-U.S. Large Cap	69,442	10,606	—	80,048
Non-U.S. Mid Cap	514	—	—	514
Non-U.S. Small Cap	284	—	—	284
Emerging Markets	37,354	1,035	—	38,389
Fixed Income Securities				
U.S. Treasuries/Government Bonds	75	—	—	75
U.S. Corporate Bonds	—	28,843	—	28,843
Non-U.S. Treasuries/Government Bonds	121,987	57,116	—	179,103
Non-U.S. Corporate Bonds	26,412	183,020	—	209,432
Non-U.S. Asset-Backed Securities	—	27,114	—	27,114
Non-U.S. Other Fixed Income	1,969	—	—	1,969
Alternative Types of Investments				
Insurance Contracts	—	31,087	246	31,333
Hedge Funds	—	—	30,739	30,739
Other	—	16,904	—	16,904
Absolute Return Funds	2,443	—	—	2,443
Real Estate				
Non-U.S. Real Estate	—	—	41,796	41,796
Total	\$ 346,530	\$ 372,827	\$ 72,781	\$ 792,138

Cash and cash equivalents are primarily held in registered money market funds which are valued using a market approach based on the quoted market prices of identical instruments. Other cash and cash equivalents are valued daily by the fund using a market approach with inputs that include quoted market prices for similar instruments.

Equity securities are primarily valued using a market approach based on the quoted market prices of identical instruments. Pooled funds are typically common or collective trusts valued at their net asset values (NAVs).

Fixed income securities are primarily valued using a market approach with inputs that include broker quotes and benchmark yields.

Derivative instruments are valued by the custodian using closing market swap curves and market derived inputs.

Real estate values are primarily based on valuation of the underlying investments, which include inputs such as cost, discounted future cash flows, independent appraisals and market comparable data.

Hedge funds are valued based on valuation of the underlying securities and instruments within the funds. Quoted market prices are used when available and NAVs are used for unquoted securities within the funds.

Absolute return funds are actively managed funds mainly invested in debt and equity securities and are valued at their NAVs.

The following table presents a reconciliation of Level 3 non-U.S. plan assets held during the year ended December 31, 2017:

	Non-U.S. Plans		
	Real Estate	Hedge Funds	Total
<i>(DOLLARS IN THOUSANDS)</i>			
Ending balance as of December 31, 2016	\$ 42,042	\$ 30,739	\$ 72,781
Actual return on plan assets	2,494	2,854	5,348
Purchases, sales and settlements	(5,371)	—	(5,371)
Transfers in/out	—	—	—
Ending balance as of December 31, 2017	<u>\$ 39,165</u>	<u>\$ 33,593</u>	<u>\$ 72,758</u>

The following weighted average assumptions were used to determine the postretirement benefit expense and obligation for the years ended December 31:

	Expense		Liability	
	2017	2016	2017	2016
Discount rate	4.20%	4.20%	3.70%	4.20%
Current medical cost trend rate	8.00%	7.15%	7.75%	8.00%
Ultimate medical cost trend rate	4.75%	4.75%	4.75%	4.75%
Medical cost trend rate decreases to ultimate rate in year	2030	2023	2030	2030

The following table presents the sensitivity of disclosures to changes in selected assumptions for the year ended December 31, 2017:

<i>(DOLLARS IN THOUSANDS)</i>	U.S. Pension Plans	Non-U.S. Pension Plans	Postretirement Benefit Plan
	25 Basis Point Decrease in Discount Rate		
Change in PBO	16,777	49,150	N/A
Change in ABO	16,698	47,394	2,454
Change in pension expense	(148)	2,677	75
25 Basis Point Decrease in Long-Term Rate of Return			
Change in pension expense	1,249	1,941	N/A

The effect of a 1% increase in the medical cost trend rate would increase the accumulated postretirement benefit obligation and the annual postretirement expense by approximately \$0.3 million and less than \$0.1 million, respectively; a 1% decrease in the rate would decrease the obligation and expense by approximately \$0.4 million and less than \$0.1 million, respectively.

The Company contributed \$36.6 million to its non-U.S. pension plans in 2017. No contributions were made to the Company's qualified U.S. pension plans in 2017. The Company made \$3.5 million in benefit payments with respect to its non-qualified U.S. pension plan. In addition, \$3.9 million of payments were made with respect to the Company's other postretirement plans.

NOTE 15. FINANCIAL INSTRUMENTS

Fair Value

Accounting guidance on fair value measurements specifies a hierarchy of valuation techniques based on whether the inputs to those valuation techniques are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect the Company's market assumptions. These two types of inputs create the following fair value hierarchy:

- Level 1 — Quoted prices for *identical* instruments in active markets.

- Level 2 — Quoted prices for *similar* instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs and significant value drivers are observable in active markets.
- Level 3 — Valuations derived from valuation techniques in which one or more significant inputs or significant value drivers are unobservable.

This hierarchy requires the Company to use observable market data, when available, and to minimize the use of unobservable inputs when determining fair value. The Company determines the fair value of structured liabilities (where performance is linked to structured interest rates, inflation or currency risks) using the London Interbank Offer Rate (“LIBOR”) swap curve and forward interest and exchange rates at period end. Such instruments are classified as Level 2 based on the observability of significant inputs to the model. The Company does not have any instruments classified as Level 1 or Level 3, other than those included in pension asset trusts included in Note 14.

These valuations take into consideration the Company's credit risk and its counterparties' credit risk. The estimated change in the fair value of these instruments due to such changes in its own credit risk (or instrument-specific credit risk) was immaterial as of December 31, 2017.

The principal amounts and the estimated fair values of financial instruments at December 31 consisted of the following:

	2017		2016	
	Principal	Fair Value	Principal	Fair Value
<i>(DOLLARS IN THOUSANDS)</i>				
Cash and cash equivalents ⁽¹⁾	\$ 368,046	\$ 368,046	\$ 323,992	\$ 323,992
Credit facilities and bank overdrafts ⁽²⁾	7,993	7,993	13,599	13,599
Long-term debt: ⁽³⁾				
Senior notes - 2007	250,000	293,232	500,000	556,222
Senior notes - 2013	300,000	304,219	300,000	302,376
Euro Senior notes - 2016	594,400	627,782	520,650	546,006
Senior notes - 2017	500,000	525,906	—	—

- (1) The carrying amount of cash and cash equivalents approximates fair value due to the short maturity of those instruments.
- (2) The carrying amount of the Company's credit facilities and bank overdrafts approximates fair value as the interest rate is reset frequently based on current market rates as well as the short maturity of those instruments.
- (3) The fair value of the Company's long-term debt was calculated using discounted cash flows applying current interest rates and current credit spreads based on its own credit risk.

Derivatives

The Company periodically enters into foreign currency forward contracts with the objective of reducing exposure to cash flow volatility associated with its intercompany loans, foreign currency receivables and payables and anticipated purchases of certain raw materials used in operations. These contracts generally involve the exchange of one currency for a second currency at a future date, have maturities not exceeding twelve months and are with counterparties which are major international financial institutions.

During the years ended December 31, 2017 and 2016, the Company entered into several forward currency contracts which qualified as net investment hedges, in order to mitigate a portion of its net European investments from foreign currency risk. The effective portions of net investment hedges are recorded in other comprehensive income ("OCI") as a component of Foreign currency translation adjustments in the accompanying Consolidated Statement of Income and Comprehensive Income. Realized gains/(losses) are deferred in AOCI where they will remain until the net investments in the Company's European subsidiaries are divested. Seventeen of these forward currency contracts matured during the year ended December 31, 2017. The outstanding forward currency contracts have remaining maturities of less than one year.

Subsequent to the issuance of the Euro Senior Notes - 2016 during the first quarter of 2016, the Company designated the debt as a hedge of a portion of its net European investments. Accordingly, the change in the value of the debt that is attributable to foreign exchange movements is recorded in OCI as a component of Foreign currency translation adjustments in the accompanying Consolidated Statement of Income and Comprehensive Income.

During the year ended December 31, 2017 and 2016, the Company entered into several forward currency contracts which qualified as cash flow hedges. The objective of these hedges is to protect against the currency risk associated with forecasted U.S. dollar ("USD") denominated raw material purchases made by Euro ("EUR") functional currency entities which result from changes in the EUR/USD exchange rate. The effective portions of cash flow hedges are recorded in OCI as a component of Gains/(Losses) on derivatives qualifying as hedges in the accompanying Consolidated Statement of Income and Comprehensive Income. Realized gains/(losses) in AOCI related to cash flow hedges of raw material purchases are recognized as a component of Cost of goods sold in the accompanying Consolidated Statement of Income and Comprehensive Income in the same period as the related costs are recognized.

During 2015, the Company entered into interest rate swap agreements that effectively converted the fixed rate on a portion of its long-term borrowings to a variable short-term rate based on the LIBOR plus an interest markup. These swaps are designated as fair value hedges. Amounts recognized in Interest expense were immaterial for the years ended December 31, 2017, 2016 and 2015.

During the first quarter of 2016, the Company entered into and terminated two Euro interest rate swap agreements to hedge the anticipated issuance of fixed-rate debt. These swaps were designated as cash flow hedges. The effective portions of cash flow hedges are recorded in OCI as a component of Losses on derivatives qualifying as hedges in the accompanying Consolidated Statement of Comprehensive Income. The Company incurred a loss of €2.9 million (\$3.2 million) due to the termination of these swaps. The loss is being amortized as interest expense over the life of the Euro Senior Notes - 2016 as discussed in Note 9.

During the fourth quarter of 2016 and the first quarter of 2017, the Company entered into interest rate swap agreements to hedge the anticipated issuance of fixed-rate debt, which are designated as cash flow hedges. The various hedge instruments were settled upon issuance of the debt on May 18, 2017 and resulted in a loss of approximately \$5.3 million. As discussed in Note 9, the loss is being amortized as interest expense over the life of the Senior Notes - 2017.

During the first quarter of 2013, the Company entered into three interest rate swap to hedge the anticipated issuance of fixed-rate debt, which are designated as cash flow hedges. The effective portions of cash flow hedges are recorded in OCI as a component of Losses/gains on derivatives qualifying as hedges in the accompanying Consolidated Statement of Income and Comprehensive Income. During the second quarter of 2013, the Company terminated these swaps and incurred a loss of \$2.7 million, which it will amortize as Interest expense over the life of the Senior Notes - 2013 (discussed in Note 9).

The following table shows the notional amount of the Company's derivative instruments outstanding as of December 31, 2017 and December 31, 2016:

<i>(DOLLARS IN THOUSANDS)</i>	December 31,	
	2017	2016
Forward currency contracts	\$ 896,947	\$ 527,500
Interest rate swaps	\$ 150,000	\$ 412,500

The following tables show the Company's derivative instruments measured at fair value (Level 2 of the fair value hierarchy) as reflected in the Consolidated Balance Sheets as of December 31, 2017 and December 31, 2016:

<i>(DOLLARS IN THOUSANDS)</i>	December 31, 2017		
	Fair Value of Derivatives Designated as Hedging Instruments	Fair Value of Derivatives Not Designated as Hedging Instruments	Total Fair Value
Derivative assets ^(a)			
Foreign currency contracts	\$ 1,159	\$ 3,978	\$ 5,137
Derivative liabilities ^(b)			
Foreign currency contracts	\$ 7,842	\$ 4,344	\$ 12,186
Interest rate swaps	1,369	—	1,369
Total	\$ 9,211	\$ 4,344	\$ 13,555

<i>(DOLLARS IN THOUSANDS)</i>	December 31, 2016			
	Fair Value of Derivatives Designated as Hedging Instruments	Fair Value of Derivatives Not Designated as Hedging Instruments		Total Fair Value
Derivative assets^(a)				
Foreign currency contracts	\$ 13,765	\$ 7,737	\$ 21,502	
Interest rate swaps	335	—	335	
	<u>\$ 14,100</u>	<u>\$ 7,737</u>	<u>\$ 21,837</u>	
Derivative liabilities^(b)				
Foreign currency contracts	\$ 46	\$ 2,209	\$ 2,255	
Interest rate swaps	\$ 725	\$ —	\$ 725	
Total	<u>\$ 771</u>	<u>\$ 2,209</u>	<u>\$ 2,980</u>	

(a) Derivative assets are recorded to Prepaid expenses and other current assets in the Consolidated Balance Sheet.

(b) Derivative liabilities are recorded as Other current liabilities in the Consolidated Balance Sheet.

The following table shows the effect of the Company's derivative instruments which were not designated as hedging instruments in the Consolidated Statement of Income and Comprehensive Income for the years ended December 31, 2017 and December 31, 2016 (in thousands):

<i>(DOLLARS IN THOUSANDS)</i>	Amount of Gain (Loss) For the years ended December 31,		Location of Gain (Loss) Recognized in Income on Derivative
	2017	2016	
Foreign currency contract	\$ (10,057)	\$ 26,821	Other (income) expense, net

Most of these net gains (losses) offset any recognized gains (losses) arising from the revaluation of the related intercompany loans during the same respective periods.

The following table shows the effect of the Company's derivative instruments designated as cash flow and net investment hedging instruments, net of tax, in the Consolidated Statement of Income and Comprehensive Income for the years ended December 31, 2017 and December 31, 2016 (in thousands):

	Amount of Gain(Loss) Recognized in OCI on Derivative (Effective Portion)		Location of Gain (Loss) Reclassified from AOCI into Income (Effective Portion)	Amount of Gain (Loss) Reclassified from AOCI into Income (Effective Portion)	
	For the years ended December 31,			For the years ended December 31,	
	2017	2016		2017	2016
Derivatives in Cash Flow Hedging Relationships:					
Foreign currency contract	\$ (14,121)	\$ 1,591	Cost of goods sold	\$ 3,943	\$ 4,726
Interest rate swaps ⁽¹⁾	(3,811)	(3,388)	Interest expense	(789)	(595)
Derivatives in Net Investment Hedging Relationships:					
Foreign currency contract	(4,239)	3,230	N/A	—	—
Euro Senior notes - 2016	(47,672)	32,897	N/A	—	—
Total	<u>\$ (69,843)</u>	<u>\$ 34,330</u>		<u>\$ 3,154</u>	<u>\$ 4,131</u>

(1) Interest rate swaps were entered into as pre-issuance hedges.

The ineffective portion of the above noted cash flow hedges and net investment hedges was not material for the years ended December 31, 2017 and 2016.

The Company expects approximately \$3.9 million (net of tax), of derivative gains included in AOCI at December 31, 2017, based on current market rates, will be reclassified into earnings within the next twelve months. The majority of this amount will vary due to fluctuations in foreign currency exchange rates.

NOTE 16. ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

The following tables present changes in the accumulated balances for each component of other comprehensive income, including current period other comprehensive income and reclassifications out of accumulated other comprehensive income:

<i>(DOLLARS IN THOUSANDS)</i>	Foreign Currency Translation Adjustments	(Losses) Gains on Derivatives Qualifying as Hedges	Pension and Postretirement Liability Adjustment	Total
Accumulated other comprehensive loss, net of tax, as of December 31, 2016	\$ (352,025)	\$ 7,604	\$ (335,674)	\$ (680,095)
OCI before reclassifications	66,826	(14,782)	(7,941)	44,103
Amounts reclassified from AOCI	(12,217)	(a) (3,154)	13,881	(1,490)
Net current period other comprehensive income (loss)	54,609	(17,936)	5,940	42,613
Accumulated other comprehensive loss, net of tax, as of December 31, 2017	<u>\$ (297,416)</u>	<u>\$ (10,332)</u>	<u>\$ (329,734)</u>	<u>\$ (637,482)</u>

(a) Represents a foreign currency exchange gain from the release of a currency translation adjustment upon the liquidation of a foreign entity in 2017.

<i>(DOLLARS IN THOUSANDS)</i>	Foreign Currency Translation Adjustments	(Losses) Gains on Derivatives Qualifying as Hedges	Pension and Postretirement Liability Adjustment	Total
Accumulated other comprehensive (loss) income, net of tax, as of December 31, 2015	\$ (297,499)	\$ 9,401	\$ (325,342)	\$ (613,440)
OCI before reclassifications	(54,526)	2,334	(21,111)	(73,303)
Amounts reclassified from AOCI	—	(4,131)	10,779	6,648
Net current period other comprehensive income (loss)	(54,526)	(1,797)	(10,332)	(66,655)
Accumulated other comprehensive loss, net of tax, as of December 31, 2016	<u>\$ (352,025)</u>	<u>\$ 7,604</u>	<u>\$ (335,674)</u>	<u>\$ (680,095)</u>

<i>(DOLLARS IN THOUSANDS)</i>	Foreign Currency Translation Adjustments	(Losses) Gains on Derivatives Qualifying as Hedges	Pension and Postretirement Liability Adjustment	Total
Accumulated other comprehensive (loss) income, net of tax, as of December 31, 2014	\$ (173,342)	\$ 12,371	\$ (379,459)	\$ (540,430)
OCI before reclassifications	(124,157)	13,006	33,410	(77,741)
Amounts reclassified from AOCI	—	(15,976)	20,707	4,731
Net current period other comprehensive income (loss)	(124,157)	(2,970)	54,117	(73,010)
Accumulated other comprehensive (loss) income, net of tax, as of December 31, 2015	<u>\$ (297,499)</u>	<u>\$ 9,401</u>	<u>\$ (325,342)</u>	<u>\$ (613,440)</u>

The following table provides details about reclassifications out of AOCI to the Consolidated Statement of Comprehensive Income:

<i>(DOLLARS IN THOUSANDS)</i>	Year Ended December 31,			Affected Line Item in the Consolidated Statement of Comprehensive Income
	2017	2016	2015	
(Losses) gains on derivatives qualifying as hedges				
Foreign currency contracts	\$ 4,506	\$ 5,401	\$ 18,571	Cost of goods sold
Interest rate swaps	(789)	(595)	(274)	Interest expense
Tax	(563)	(675)	(2,321)	Provision for income taxes
Total	\$ 3,154	\$ 4,131	\$ 15,976	Total, net of income taxes
(Losses) gains on pension and postretirement liability adjustments				
Prior service cost	\$ 7,040	\$ 7,469	\$ 6,389	(a)
Actuarial losses	(24,699)	(21,103)	(36,167)	(a)
Tax	3,778	2,855	9,071	Provision for income taxes
Total	\$ (13,881)	\$ (10,779)	\$ (20,707)	Total, net of income taxes

(a) The amortization of prior service cost and actuarial loss is included in the computation of net periodic benefit cost. Refer to Note 14 to the Consolidated Financial Statements - Employee Benefits for additional information regarding net periodic benefit cost.

NOTE 17. CONCENTRATIONS OF CREDIT RISK

The Company does not have significant concentrations of risk in financial instruments. Temporary investments are made in a well-diversified portfolio of high-quality, liquid obligations of government, corporate and financial institutions. There are also limited concentrations of credit risk with respect to trade receivables because the Company has a large number of customers who are spread across many industries and geographic regions. The Company's larger customers are each spread across many sub-categories of its segments and geographical regions. The Company had one customer that accounted for more than 10% of its consolidated net sales in each year for all periods presented.

NOTE 18. COMMITMENTS AND CONTINGENCIES

Lease Commitments

Minimum rental payments under non-cancelable operating leases are \$36.2 million in 2018, \$33.9 million in 2019, \$30.8 million in 2020, \$29.3 million in 2021 and \$153.4 million in 2022 and thereafter through 2063. The corresponding rental expense was \$37.8 million, \$35.4 million and \$33.6 million for the years ended December 31, 2017, 2016 and 2015, respectively. None of our leases contain escalation clauses and they do not require capital improvement funding.

Guarantees and Letters of Credit

The Company has various bank guarantees and letters of credit which are available for use to support its ongoing business operations and to satisfy governmental requirements associated with pending litigation in various jurisdictions.

At December 31, 2017, the Company had total bank guarantees and standby letters of credit of approximately \$51.7 million with various financial institutions. Included in the above aggregate amount is a total of \$15.7 million for other assessments in Brazil for various income tax and indirect tax disputes related to fiscal years 1998-2011. There were no material amounts utilized under the standby letters of credit as of December 31, 2017.

In order to challenge the assessments in these cases in Brazil, the Company has been required to and has separately pledged assets, principally property, plant and equipment to cover assessments in the amount of approximately \$15.0 million as of December 31, 2017.

Lines of Credit

The Company has various lines of credit which are available to support its ongoing business operations. As of December 31, 2017, the Company had available lines of credit (in addition to the \$950.0 million of capacity under the Credit Facility as discussed in Note 9) of approximately \$105.4 million with various financial institutions. There were no material amounts drawn down pursuant to these lines of credit as of December 31, 2017.

Litigation

The Company assesses contingencies related to litigation and/or other matters to determine the degree of probability and range of possible loss. A loss contingency is accrued in the Company's consolidated financial statements if it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Because litigation is inherently unpredictable and unfavorable resolutions could occur, assessing contingencies is highly sensitive and requires judgments about future events. On at least a quarterly basis, the Company reviews contingencies related to litigation to determine the adequacy of accruals. The amount of ultimate loss may differ from these estimates and further events may require the Company to increase or decrease the amounts it has accrued on any matter.

Periodically, the Company assesses its insurance coverage for all known claims, where applicable, taking into account aggregate coverage by occurrence, limits of coverage, self-insured retentions and deductibles, historical claims experience and claims experience with its insurance carriers. The liabilities are recorded at management's best estimate of the probable outcome of the lawsuits and claims, taking into consideration the facts and circumstances of the individual matters as well as past experience on similar matters. At each balance sheet date, the key issues that management assesses are whether it is probable that a loss as to asserted or unasserted claims has been incurred and if so, whether the amount of loss can be reasonably estimated. The Company records the expected liability with respect to claims in Other liabilities and expected recoveries from its insurance carriers in Other assets. The Company recognizes a receivable when it believes that realization of the insurance receivable is probable under the terms of the insurance policies and its payment experience to date.

Environmental

Over the past 20 years, various federal and state authorities and private parties have claimed that we are a Potentially Responsible Party ("PRP") as a generator of waste materials for alleged pollution at a number of waste sites operated by third parties located principally in New Jersey and have sought to recover costs incurred and to be incurred to clean up the sites.

The Company has been identified as a PRP at eight facilities operated by third parties at which investigation and/or remediation activities may be ongoing. The Company analyzes its potential liability on at least a quarterly basis and accrues for environmental liabilities when they are probable and estimable. The Company estimates its share of the total future cost for these sites to be less than \$5 million.

While joint and several liability is authorized under federal and state environmental laws, the Company believes the amounts it has paid and anticipates paying in the future for clean-up costs and damages at all sites are not and will not have a material adverse effect on its financial condition, results of operations or liquidity. This assessment is based upon, among other things, the involvement of other PRPs at most of the sites, the status of the proceedings, including various settlement agreements and consent decrees and the extended time period over which payments will likely be made. There can be no assurance, however, that future events will not require the Company to materially increase the amounts it anticipates paying for clean-up costs and damages at these sites, and that such increased amounts will not have a material adverse effect on its financial condition, results of operations or cash flows.

China Facilities

Guangzhou Flavors plant

During 2015, the Company was notified by Chinese authorities of compliance issues pertaining to the emission of odors from several of its plants in China. As a result, the Company's Guangzhou Flavors plant in China was temporarily idled in 2015. The Company has made additional capital improvements in odor-abatement equipment at these plants to address these issues and is in the process of building a second Flavors plant in China, which is expected to begin operating in the first quarter of 2019.

During the fourth quarter of 2016, the Company was notified that certain governmental authorities have begun to evaluate a change in the zoning of the Guangzhou Flavors plant. The zoning, if changed, would prevent the Company from continuing to manufacture product at the existing plant. The ultimate outcome of any change that the governmental authorities may propose, the timing of such a change and the nature of any compensation arrangements that might be provided to the Company are uncertain.

The net book value of the existing plant was approximately \$68 million as of December 31, 2017.

Zhejiang Ingredients plant

In the first quarter of 2016, the Company received a request from the Chinese government to relocate its Fragrance Ingredients plant in Zhejiang, China (the plant is located in Hangzhou City in the Zhejiang province). Since then, the Company has been in discussions with the government regarding the timing of the requested relocation and the amount and nature of government compensation to be provided to the Company. In the fourth quarter of 2017, the Company concluded discussions with the government and, based on the agreements reached, expects to receive total compensation payments up to approximately \$50 million. The relocation compensation will be paid to the Company over the period of the relocation which is expected to be through the end of 2020. The Company received the first payment of \$15 million in the fourth quarter of 2017. Remaining payments will be paid to the Company based on specified milestones. The net book value of the current plant was approximately \$25 million as of December 31, 2017. The Company expects to relocate approximately half of production capacity of the facility by the middle of 2019 and the remainder of the production capacity of the facility by the middle of 2020.

Total China Operations

The total net book value of all five plants in China (one of which is currently under construction) was approximately \$151.4 million as of December 31, 2017.

If the Company is required to close a plant, or operate one at significantly reduced production levels on a permanent basis, the Company may be required to record charges that could have a material impact on its consolidated financial results of operations, financial position and cash flows in future periods.

Other Contingencies

The Company has contingencies involving third parties (such as labor, contract, technology or product-related claims or litigation) as well as government-related items in various jurisdictions in which it operates pertaining to such items as value-added taxes, other indirect taxes, customs and duties and sales and use taxes. It is possible that cash flows or results of operations, in any period, could be materially affected by the unfavorable resolution of one or more of these contingencies.

The most significant government-related contingencies exist in Brazil. With regard to the Brazilian matters, the Company believes it has valid defenses for the underlying positions under dispute; however, in order to pursue these defenses, the Company is required to, and has provided, bank guarantees and pledged assets in the aggregate amount of \$30.7 million. The Brazilian matters take an extended period of time to proceed through the judicial process and there are a limited number of rulings to date.

ZoomEssence

As previously disclosed, in March 2012, ZoomEssence, Inc. filed a complaint against the Company in the U.S. District Court for the District of New Jersey alleging trade secret misappropriation, breach of contract and unjust enrichment in connection with certain spray dry technology disclosed to the Company. ZoomEssence sought an injunction and monetary damages. In November 2014, the Company filed a counterclaim against ZoomEssence alleging trade secret misappropriation, breach of contract, breach of the implied covenant of good faith and fair dealing, unjust enrichment, misappropriation of confidential and proprietary information, common law unfair competition, tortious interference with contractual relations, and conversion. During the second quarter of 2017, the Company and ZoomEssence mutually agreed to settle all claims and counterclaims. The parties agreed to dismiss their claims against one another, with prejudice and without any admission of liability or wrongful conduct, to avoid any further expense and disruption from the litigation. The complaint was dismissed, with prejudice, on July 5, 2017. Under the settlement agreement, the Company made a one-time payment to ZoomEssence of \$56 million during the second quarter of 2017 and the parties exchanged full mutual releases. Accordingly, the Company recorded an additional charge of \$1.0 million during the second quarter of 2017.

FDA-Mandated Product Recall

The Company periodically incurs product liability claims based on product that is sold to customers that may be defective or otherwise not in accordance with the customer's requirements. In the first quarter of 2017, the Company was made aware of a claim for product that was subject to a product recall. As of December 31, 2017, the Company had recorded a total charge of approximately \$12.8 million with respect to this claim. In addition to the charge of \$1.8 million recorded in the first quarter of 2017, an additional \$3.5 million was recorded during the second quarter of 2017 and \$7.5 million recorded during the fourth quarter of 2017. Additionally, \$3.1 million was paid in the fourth quarter of 2017 to the customer relating to the product claim. The second quarter charge reflects additional information on specific volumes of affected products. The fourth quarter charge

reflects additional information received regarding business interruption loss, including the amount of product that was ultimately returned and the customer's direct manufacturing and other production costs, costs related to the customer's recall efforts, costs to dispose of the defective product, legal and administrative costs, and other claims that the customer made. The amounts accrued represents an accrual for the claim based on management's best estimate of losses. While it is probable that the Company will incur additional losses related to this claim, the amount of the ultimate claim that will be paid is not currently estimable until the Company has completed the evaluation of support provided and has completed appropriate discussions with claimants. While it is not currently possible to estimate the amount of losses, such losses when recorded will affect income from operations in future individual quarters. The Company does not believe that the ultimate settlement of the claim will have a material impact on its financial condition. Separately, the Company expects to pursue reimbursement of all or a portion of costs, once incurred, from its insurance company and/or the supplier; however, the nature, timing and amount of any such reimbursement cannot be determined at this time.

Other

The Company determines estimates of reasonably possible losses or ranges of reasonably possible losses in excess of related accrued liabilities, if any, when it has determined that either a loss is reasonably possible or a loss in excess of accrued amounts is reasonably possible and the amount of losses or range of losses is determinable. For all third party contingencies (including labor, contract, technology, tax, product-related claims and business litigation), the Company currently estimates that the aggregate range of reasonably possible losses in excess of any accrued liabilities is \$0 to approximately \$15 million. The estimates included in this amount are based on the Company's analysis of currently available information and, as new information is obtained, these estimates may change. Due to the inherent subjectivity of the assessments and the unpredictability of outcomes of legal proceedings, any amounts accrued or included in this aggregate amount may not represent the ultimate loss to the Company from the matters in question. Thus, the Company's exposure and ultimate losses may be higher or lower, and possibly significantly so, than the amounts accrued or the range disclosed above.

Spanish Capital Tax

The Spanish tax authorities alleged claims for a capital tax and the Appellate Court rejected one of the two bases upon which the Company based its capital tax position. On January 22, 2014, the Company filed an appeal and in order to avoid future interest costs in the event its appeal was unsuccessful, the Company paid €9.8 million (\$11.2 million, representing the principal amount) during the first quarter of 2014. On February 24, 2016, the Company received a favorable ruling on its appeal from the Spanish Supreme Court which overruled a lower court ruling. As a result of this decision, the Company reversed the previously recorded provision of €9.8 million (\$10.5 million) for the year ended December 31, 2015. During 2016, the Company recorded additional income of \$2.3 million related to the finalization of amounts received from the authorities. This amount has principally been reflected as a reduction of administrative expense.

(a)(3) EXHIBITS

**Exhibit
Number Description**

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- 3(i) [Restated Certificate of Incorporation of the Registrant, incorporated by reference to Exhibit 10\(g\) to Registrant's Quarterly Report on Form 10-Q \(File No. 001-04858\) filed on August 12, 2002.](#)
- 3(ii) [By-laws of the Registrant incorporated by reference to Exhibit 3\(ii\) to Registrant's Current Report on Form 8-K filed on August 1, 2017.](#)
- 4.1 [Note Purchase Agreement, dated as of September 27, 2007, by and among the Registrant and the various purchasers named therein, incorporated by reference to Exhibit 4.7 to Registrant's Current Report on Form 8-K \(File No. 001-04858\) filed on October 1, 2007.](#)
- 4.2 [Form of Series A, Series B, Series C and Series D Senior Notes incorporated by reference to Exhibit 4.8 to Registrant's Current Report on Form 8-K \(File No. 001-04858\) filed on October 1, 2007.](#)
- 4.3 [Indenture, dated as of April 4, 2013, between the Registrant and U.S. Bank National Association, as Trustee \(including the form of Notes\), incorporated by reference to Exhibit 4.1 to Registrant's Current Report on Form 8-K filed on April 4, 2013.](#)
- 4.4 [Indenture, dated as of March 2, 2016, between the Registrant and U.S. Bank National Association, as Trustee \(including the form of Debt Security\), incorporated by reference to Exhibit 4.1 to Registrant's Registration Statement on Form S-3 \(Registration No. 333-209889\) filed on March 2, 2016.](#)
- 4.5 [First Supplemental Indenture, dated as of March 14, 2016, between the Registrant and U.S. Bank National Association, as Trustee \(including the form of Notes\), incorporated by reference to Exhibit 4.7 to Registrant's Current Report on Form 8-K filed on March 14, 2016.](#)
- 4.6 [Second Supplemental Indenture, dated as of May 18, 2017, between the Registrant and U.S. Bank National Association, as Trustee \(including the form of Notes\), incorporated by reference to Exhibit 4.7 to Registrant's Current Report on Form 8-K filed on May 18, 2017.](#)
- *10.1 [Letter Agreement, dated as of May 26, 2014, between the Registrant and Andreas Fibig, incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on May 28, 2014.](#)
- *10.2 [Supplemental Retirement Plan, incorporated by reference to Exhibit 10.5 to Registrant's Annual Report on Form 10-K \(File No. 001-04858\) filed on February 27, 2008.](#)
- *10.3 [2010 Stock Award and Incentive Plan, as amended and restated as of May 6, 2015, incorporated by reference to Exhibit 10.8 to Registrant's Quarterly Report on Form 10-Q filed on May 12, 2015.](#)
- *10.4 [Form of U.S. Stock Settled Appreciation Rights Agreement under the 2010 Stock Award and Incentive Plan, incorporated by reference to Exhibit 10.29 to Registrant's Annual Report on Form 10-K \(File No. 001-04858\) filed on February 28, 2012.](#)
- *10.5 [Form of Restricted Stock Units Agreement - Non-Employee Director under the 2010 Stock Award and Incentive Plan, incorporated by reference to Exhibit 10.32 to Registrant's Annual Report on Form 10-K \(File No. 001-04858\) filed on February 28, 2012.](#)
- *10.6 [Form of Long-Term Incentive Plan Award Agreement under the 2010 Stock Award and Incentive Plan, incorporated by reference to Exhibit 10.30 to Registrant's Annual Report on Form 10-K filed on February 25, 2014.](#)
- *10.7 [Form of Restricted Stock Units Award Agreement under the 2010 Stock Award and Incentive Plan, incorporated by reference to Exhibit 10.1 to Registrant's Quarterly Report on Form 10-Q filed on May 6, 2014.](#)
- *10.8 [Form of Equity Choice Program Award Agreement under the 2010 Stock Award and Incentive Plan, incorporated by reference to Exhibit 10.2 to Registrant's Quarterly Report on Form 10-Q filed on May 6, 2014.](#)
- *10.9 [2015 Stock Award and Incentive Plan, as amended and restated February 7, 2017, incorporated by reference to Exhibit 10.13 to Registrant's Annual Report on Form 10-K filed on February 28, 2017.](#)
- *10.10 [Form of Annual Incentive Plan Award Agreement under the 2015 Stock Award and Incentive Plan, incorporated by reference to Exhibit 10.3 to Registrant's Quarterly Report on Form 10-Q filed on May 12, 2015.](#)
- *10.11 [Form of Long-Term Incentive Plan Award Agreement under the 2015 Stock Award and Incentive Plan, incorporated by reference to Exhibit 10.4 to Registrant's Quarterly Report on Form 10-Q filed on May 12, 2015.](#)
- *10.12 [Form of Equity Choice Program Award Agreement under the 2015 Stock Award and Incentive Plan, incorporated by reference to Exhibit 10.5 to Registrant's Quarterly Report on Form 10-Q filed on May 12, 2015.](#)

**Exhibit
Number Description**

-
- *10.13 [Form of Restricted Stock Units Award Agreement under the 2015 Stock Award and Incentive Plan, incorporated by reference to Exhibit 10.6 to Registrant's Quarterly Report on Form 10-Q filed on May 12, 2015.](#)
 - *10.14 [Form of Non-Employee Director Restricted Stock Units Award Agreement under the 2015 Stock Award and Incentive Plan, incorporated by reference to Exhibit 10.7 to Registrant's Quarterly Report on Form 10-Q filed on May 12, 2015.](#)
 - *10.15 [Form of Equity Choice Program Award Agreement under the 2015 Stock Award and Incentive Plan, incorporated by reference to Exhibit 10.1 to Registrant's Quarterly Report on Form 10-Q filed on November 9, 2015.](#)
 - *10.16 [Form of Long-Term Incentive Plan Award Agreement under the 2015 Stock Award and Incentive Plan, incorporated by reference to Exhibit 10.25 to Registrant's Annual Report on Form 10-K filed on March 1, 2016.](#)
 - *10.17 [Amended and Restated Executive Severance Policy, as amended through and including November 1, 2017.](#)
 - *10.18 [Form of Director/Officer Indemnification Agreement, incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K \(File No. 001-04858\) filed on July 28, 2008.](#)
 - *10.19 [Credit Agreement, dated as of November 9, 2011, amended and restated as of December 2, 2016, among the Registrant, International Flavors & Fragrances \(Luxembourg\) S.à.r.l., International Flavors & Fragrances \(Nederland\) Holding B.V., International Flavors & Fragrances I.F.F. \(Nederland\) B.V. and International Flavors & Fragrances \(Greater Asia\) PTE. Ltd., as borrowers, the banks, financial institutions and other institutional lenders party thereto, and Citibank, N.A. as administrative agent, incorporated by reference to Exhibit 10.28 to Registrant's Current Report on Form 8-K filed on December 5, 2016.](#)
 - *10.20 [Form of Executive Death Benefit Program - Plan Agreement, incorporated by reference to Exhibit 10.27 to Registrant's Annual Report on Form 10-K \(File No. 001-04858\) filed on February 28, 2012.](#)
 - *10.21 [Deferred Compensation Plan, as amended and restated December 12, 2011, incorporated by reference to Exhibit 10.28 to Registrant's Annual Report on Form 10-K \(File No. 001-04858\) filed on February 28, 2012.](#)
 - *10.22 [Separation Agreement and General Release, dated as of October 11, 2016, between the Registrant and Alison Cornell, incorporated by reference to Exhibit 10.26 to Registrant's Annual Report on Form 10-K filed on February 28, 2017.](#)
 - 12 [Statement re: Computation of Ratios](#)
 - 21 [List of Principal Subsidiaries.](#)
 - 23 [Consent of PricewaterhouseCoopers LLP.](#)
 - 31.1 [Certification of Andreas Fibig pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)
 - 31.2 [Certification of Richard A. O'Leary pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)
 - 32 [Certification of Andreas Fibig and Richard A. O'Leary pursuant to 18 U.S.C. Section 1350 as adopted pursuant to the Sarbanes-Oxley Act of 2002.](#)
 - 101.INS XBRL Instance Document
 - 101.SCH XBRL Taxonomy Extensions Schema
 - 101.CAL XBRL Taxonomy Extension Calculation Linkbase
 - 101.DEF XBRL Taxonomy Extension Definition Linkbase
 - 101.LAB XBRL Taxonomy Extension Label Linkbase
 - 101.PRE XBRL Taxonomy Extension Presentation Linkbase

* Management contract or compensatory plan or arrangement

ITEM 16. FORM 10-K SUMMARY.

None.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Andreas Fibig</u> Andreas Fibig	Chairman of the Board, Chief Executive Officer and Director (Principal Executive Officer)	February 27, 2018
<u>/s/ Richard A. O'Leary</u> Richard A. O'Leary	Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	February 27, 2018
<u>/s/ Marcello V. Bottoli</u> Marcello V. Bottoli	Director	February 27, 2018
<u>/s/ Linda B. Buck</u> Linda B. Buck	Director	February 27, 2018
<u>/s/ Michael Ducker</u> Michael Ducker	Director	February 27, 2018
<u>/s/ David R. Epstein</u> David R. Epstein	Director	February 27, 2018
<u>/s/ Roger W. Ferguson, Jr.</u> Roger W. Ferguson, Jr.	Director	February 27, 2018
<u>/s/ John F. Ferraro</u> John F. Ferraro	Director	February 27, 2018
<u>/s/ Christina Gold</u> Christina Gold	Director	February 27, 2018
<u>/s/ Henry W. Howell, Jr.</u> Henry W. Howell, Jr.	Director	February 27, 2018
<u>/s/ Katherine M. Hudson</u> Katherine M. Hudson	Director	February 27, 2018
<u>/s/ Dale F. Morrison</u> Dale F. Morrison	Director	February 27, 2018
<u>/s/ Stephen Williamson</u> Stephen Williamson	Director	February 27, 2018

INTERNATIONAL FLAVORS & FRAGRANCES INC. AND SUBSIDIARIES
SCHEDULE II — VALUATION AND QUALIFYING ACCOUNTS AND RESERVES

(IN THOUSANDS)

For the Year Ended December 31, 2017					
	Balance at beginning of period	Additions charged to costs and expenses	Accounts written off	Translation adjustments	Balance at end of period
Allowance for doubtful accounts	\$ 9,995	\$ 3,798	\$ (1,496)	\$ 1,095	\$ 13,392
Valuation allowance on credit and operating loss carryforwards and other net deferred tax assets	152,752	35,646 ⁽¹⁾	—	19,085	207,483
For the Year Ended December 31, 2016					
	Balance at beginning of period	Additions (deductions) charged to costs and expenses	Accounts written off	Translation adjustments	Balance at end of period
Allowance for doubtful accounts	\$ 8,229	\$ 2,452	\$ (225)	\$ (461)	\$ 9,995
Valuation allowance on credit and operating loss carryforwards and other net deferred tax assets	339,395	(171,408) ⁽²⁾⁽⁴⁾	—	(15,235)	152,752
For the Year Ended December 31, 2015					
	Balance at beginning of period	Additions charged to costs and expenses	Accounts written off	Translation adjustments	Balance at end of period
Allowance for doubtful accounts	\$ 9,147	\$ 590	\$ 60	\$ (1,568)	\$ 8,229
Valuation allowance on credit and operating loss carryforwards and other net deferred tax assets	355,568	16,445 ⁽³⁾	—	(32,618)	339,395

- (1) The 2017 amount includes an adjustment to the 2016 foreign net operating loss carryforwards in the amount of \$58.8 million, as discussed in Note 10 of the Consolidated Financial Statements.
- (2) The 2016 amount includes an adjustment to the 2015 foreign net operating loss carryforwards in the amount of \$7.6 million, as discussed in Note 10 of the Consolidated Financial Statements.
- (3) The 2015 amount includes an adjustment to the 2014 foreign net operating loss carryforwards in the amount of \$10.0 million, as discussed in Note 10 of the Consolidated Financial Statements.
- (4) The Company executed a legal entity restructuring that resulted in a significant reduction of fully valued deferred tax assets.

INTERNATIONAL FLAVORS & FRAGRANCES INC.
INVESTOR INFORMATION

ANNUAL MEETING

The Annual Meeting of Shareholders will be held at the offices of the Company, 521 West 57th Street, New York, New York, on May 2, 2018 at 10:00 a.m., EDT.

IFF will be furnishing proxy materials to shareholders on the internet, rather than mailing printed copies of those materials to each shareholder. A Notice of Internet Availability of Proxy Materials will be mailed to each shareholder on or about March 19, 2018, which will provide instructions as to how shareholders may access and review the proxy materials for the 2018 Annual Meeting on the website referred to in the Notice or, alternatively, how to request a printed copy of the proxy materials be sent to them by mail.

TRANSFER AGENT AND REGISTRAR

American Stock Transfer & Trust Company
59 Maiden Lane
New York, New York 10038
800-937-5449
www.amstock.com

LISTED

New York Stock Exchange
Euronext Paris

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

PricewaterhouseCoopers LLP

WEBSITE

www.iff.com

INTERNATIONAL FLAVORS & FRAGRANCES INC.

Amended and Restated
Executive Severance Policy
(As amended through and including November 1, 2017)

Executive Severance Policy

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INTERNATIONAL FLAVORS & FRAGRANCES INC.

Executive Severance Policy

1. Purpose. The purpose of this International Flavors & Fragrances Inc. Executive Severance Policy (this "Policy") is to provide certain Severance Payments and Benefits (as defined below) to designated key executives and employees of the Company in the event of a termination of their employment in certain specified circumstances. This Policy does not create any contract of employment or right to employment for any period of time. Employment with the Company is at-will, unless otherwise specified in an effective employment agreement between the Company and the Employee, and may be terminated by either the Company or the Employee at any time for any reason consistent with the terms and conditions set forth herein and in any other applicable agreement. This Policy has been adopted in the form set forth herein effective as of November 1, 2017 (the "Effective Date"). This Policy is an amendment and restatement of the International Flavors & Fragrances Inc. Executive Severance Policy, which was last amended and restated effective as of February 7, 2017.

2. Definitions. The following definitions are applicable for purposes of this Policy (including in any Annex hereto), in addition to terms defined in Section 1 above:

(a) "2010 SAIP" means the Company's 2010 Stock Award and Incentive Plan, as it may be amended and/or restated from time to time.

(b) "2015 SAIP" means the Company's 2015 Stock Award and Incentive Plan, as it may be amended and/or restated from time to time.

(c) "Accounting Forfeiture Event" has the meaning specified in Section 9(b)(ii).

(d) "Accrued Obligations" means (i) the Employee's base salary otherwise payable through the Date of Termination, (ii) any incentive compensation and benefits which have become vested or payable prior to the Date of Termination in accordance with the terms of the applicable Company incentive compensation and benefit plans and applicable Award Agreements (as defined below) but which have not yet been paid to the Employee, and (iii) unreimbursed business expenses reimbursable under Company policies then in effect; provided, however, that in each of (i), (ii) and (iii), to the extent permissible under applicable law, the Company may offset such amounts against any obligations and liabilities of the Employee to the Company.

(e) "Affected Employee" has the meaning specified in Section 8(a).

(f) "Affiliate" means with respect to a specified Person, a Person that directly, or indirectly through one or more intermediaries, controls, is controlled by, or is under common control with, the specified Person.

(g) "AIP" means, for each Employee, the plan or arrangement of the Company providing cash-denominated bonuses for annual Company and/or business unit performance in which such Employee participates.

(h) "Award" shall mean any stock-based award or cash award permitted to be granted to an Employee under an SAIP or an AIP.

(i) "Award Agreement" means an agreement (whether in written or electronic form) evidencing an Award granted under an SAIP or an AIP.

(j) "Beneficiary" means a person or entity that an Employee designates in writing to the Company to receive payments or benefits hereunder in the event of the Employee's death. If no such person or entity is named or there is no surviving designated Beneficiary, such Employee's Beneficiary shall be the Employee's estate.

(k) "Benefit Continuation" shall mean, subject to the continued co-payment of premiums by the Employee, the continued participation for the Employee and his or her eligible dependents in the Company's Benefit Plans, upon the same terms and conditions in effect from time to time for active employees of the Company, as determined in good faith by the Committee.

(l) "Benefit Continuation Period" has the meaning specified in Section 6(b).

(m) "Benefit Plans" shall mean all medical and dental benefit plans of the Company and any group life insurance, group accident insurance and group disability insurance plans of the Company, in each case, as may be in effect from time to time.

(n) "Board" means the Board of Directors of the Company.

(o) "Cause" means, with respect to an Employee, the definition as such term is defined in any effective employment agreement with such Employee as of the Employee's Date of Termination, otherwise Cause means (i) the Employee's failure to perform his or her material duties in any material respect, which if such failure is reasonably susceptible to cure as reasonably determined in the sole discretion of the Committee, has continued after the Company has provided written notice of such failure and the Employee has not cured such failure within ten (10) days of receipt by the Employee of such written notice, (ii) willful misconduct or gross negligence by the Employee that has caused or is reasonably expected to result in material injury to the Company's business, reputation or prospects, (iii) the engagement by the Employee in illegal conduct or in any act of serious dishonesty which could reasonably be expected to result in material injury to the Company's business or reputation or which adversely affects the Employee's ability to perform his or her duties, (iv) the Employee being indicted or convicted of (or having pled guilty or nolo contendere to) a felony or any crime involving moral turpitude, dishonesty, fraud, theft or financial impropriety, or (v) a material and willful violation by the Employee of the Company's rules, policies or procedures. Notwithstanding the foregoing, a Tier I Employee shall not be deemed to

have been terminated for Cause unless and until there shall have been delivered to the Employee a copy of the resolution duly adopted by the affirmative vote of the majority of the membership of the Board of Directors of the Company so finding.

(p) A “Change in Control” shall be deemed to have occurred if, after the Effective Date, there shall have occurred any of the following:

(i) any Person (as defined below) becomes the “beneficial owner,” as such term is defined in Rule 13d-3 under the Exchange Act (as defined below), directly or indirectly, of securities of the Company representing 40% or more of the combined Voting Power (as defined below) of the Company’s then outstanding Voting Securities (as defined below), other than beneficial ownership by the Company, any employee benefit plan of the Company or any Person organized, appointed or established pursuant to the terms of any such benefit plan;

(ii) individuals who at the Effective Date constitute a majority of the Board (the “Incumbent Directors”) cease to constitute a majority of the Board for any reason; provided, however, that any individual becoming a director subsequent to the Effective Date whose election or nomination for election to the Board was approved by a vote of at least two-thirds of the Incumbent Directors then on the Board (either by a specific vote or by approval of the proxy statement of the Company in which such person is named as a nominee for director without objection to such nomination) shall be an Incumbent Director; provided, however, that no individual shall be an Incumbent Director if such individual is initially elected or nominated as a director of the Company as a result of an actual or threatened election contest with respect to directors or as a result of any other actual or threatened solicitation of proxies by or on behalf of any person other than the Board; or;

(iii) The consummation of:

A. A merger, consolidation, reorganization or similar transaction with or into the Company or in which securities of the Company are issued, as a result of which the holders of the outstanding Voting Securities of the Company immediately before such event own, directly or indirectly, immediately after such event less than 60% of the combined Voting Power of the outstanding Voting Securities of the parent entity resulting from, or issuing its Voting Securities as part of, such event;

B. A complete liquidation or dissolution of the Company; or

C. The sale or other disposition of all or substantially all of the assets of the Company (on a consolidated basis) to any Person other than (x) the Company, (y) an employee benefit plan

(or a trust forming a part thereof) maintained by the Company or (z) a Person whose Voting Securities immediately following such sale or disposition will be owned by the holders of the outstanding Voting Securities of the Company immediately prior thereto, in substantially the same proportions.

Notwithstanding the foregoing, no payment of any payment or benefit under this Policy that constitutes “non-qualified deferred compensation” within the meaning of Section 409A of the Code (as defined below) shall be made solely upon the occurrence of a Change in Control to the extent such Change in Control does not also qualify as a “change in control event” within the meaning of Treasury Regulation §1.409A-3(i)(5)(i) and such payment or benefit shall be paid on its otherwise scheduled payment date(s).

(q) “CIC Benefit Continuation Period” has the meaning specified in Section 7(f).

(r) “CIC Severance Factor” means, unless otherwise provided in the Employee’s effective employment agreement with the Company as of the Date of Termination, the multiple for each Employee as set forth in Annex I hereto.

(s) “COBRA” means the continuation coverage requirements for “group health plans” under Title X of the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, and as codified in Code Section 4980B and ERISA Sections 601 through 608, each as amended from time to time, including rules thereunder and successor provisions and rules thereto.

(t) “Code” means the Internal Revenue Code of 1986, as amended from time to time, and all regulations, interpretations, and administrative guidance issued thereunder.

(u) “Code Section 409A” means Section 409A of the United States Internal Revenue Code of 1986, as amended from time to time, and the Treasury Regulations promulgated thereunder.

(v) “Committee” means the Compensation Committee of the Board or such other committee as the Board may designate to perform administrative functions under this Policy.

(w) “Company” means International Flavors & Fragrances Inc., a New York corporation, and all of its Affiliates, collectively, (and any successors or assigns thereto).

(x) “Confidential Information” has the meaning specified in Section 9(a)(iii).

(y) “Covenant Forfeiture Event” has the meaning specified in Section 9(b)(i).

(z) “Date of Termination” means, unless otherwise agreed by the Company, (i) if the Employee’s employment is terminated by the Company for Cause, or by the Employee for Good Reason (where applicable) and there is an ability to cure, the date that is one day after the last day of any applicable cure period, (ii) if the Employee’s employment is terminated by reason of death, the date of death of the Employee, (iii) if the Employee’s employment is terminated by reason of disability then the date upon which the Employee becomes Disabled or (iv) if the Employee’s employment is terminated for any other reason, the date on which a notice of termination is given or the date set forth in such notice, which, in the event of a termination by the Employee without Good Reason, shall not be less than 60 days after such notice.

(aa) “Delay Period” has the meaning specified in Section 12(c).

(bb) “Disabled” or “Disability” means, unless otherwise set forth in the Employee’s employment agreement with the Company, a condition that entitles an Employee to long term disability benefits under any applicable Company disability plan, any successor plan, or as defined under any applicable local laws, rules, or regulations.

(cc) “Effective Date” means the date set forth in the first paragraph of this Policy.

(dd) “Employee” has the meaning specified in Section 3.

(ee) “Entity” has the meaning specified in Section 10(a).

(ff) “Equity Choice Award” means an equity choice program award under a SAIP.

(gg) “Excess Benefit Plan” means the Company’s Supplemental Retirement Plan and any other supplemental pension plans sponsored or maintained by the Company as may be in effect from time to time.

(hh) “Excess Compensation” has the meaning specified in Section 9(b)(ii)(A).

(ii) “Exchange Act” means the Securities Exchange Act of 1934, as amended.

(jj) “Excise Tax” has the meaning specified in Section 8.

(kk) “Forfeiture Event” has the meaning specified in Section 9(b)(ii).

(ll) “Good Reason” means, with respect to an Employee, where applicable, the definition as such term is defined in any effective employment agreement with such Employee as of the Employee’s Date of Termination, otherwise Good Reason means the occurrence of any of the following events, unless the Employee has consented in writing thereto:

(i) a material decrease in the Employee's base salary, target bonus under an AIP, LTIP or Equity Choice Award, other than as part of an across-the-board reduction applicable to all similarly situated employees of the Employee's employer;

(ii) a material diminution in the Employee's authority, duties or responsibilities;

(iii) a relocation of the Employee's primary work location more than 50 miles from the Employee's primary work location at the time of such requested relocation;

(iv) the failure of the Company to obtain the binding agreement of any successor to the Company expressly to assume and agree to fully perform the Company's obligations under this Policy, as contemplated in the last sentence of Section 13(a) hereof;

provided, that within 90 days after the initial occurrence of any of the events or the initial existence of any of the conditions set forth in (i) through (iii) above the Employee delivers written notice to the Company of his or her intention to terminate his or her employment for Good Reason which specifies in reasonable detail the circumstances claimed to give rise to the Employee's right to terminate employment for Good Reason, and the Company fails to correct such conduct or condition after a period of 30 days following receipt of such notice. For purposes of this Policy, "Good Reason" is (i) intended to constitute an "involuntary separation" within the meaning of Treasury Regulation § 1.409A-1(n)(2), and (ii) applies to Tier II Employees only within two (2) years after a Change in Control as set forth in Section 7.

(mm) "Independent Advisors" has the meaning specified in Section 8(c)(i).

(nn) "Initial Payment Period" has the meaning specified in Section 12(c).

(oo) "Limit" has the meaning specified in Section 12(c).

(pp) "LTIP" means a long-term performance incentive plan of the Company under an SAIP.

(qq) "Person" means an individual, corporation, partnership, limited liability company, association, trust, other entity, group or organization including a governmental authority.

(rr) "PPACA" means the Patient Protection and Affordable Care Act of 2010 and the related regulations and guidance promulgated thereunder, or such other legislation that may be adopted to replace PPACA.

(ss) "Reduced Amount" has the meaning specified in Section 8(a).

(tt) “Release” has the meaning specified in Section 9(c)(i).

(uu) “Release Period” has the meaning specified in Section 9(c)(i).

(vv) “Restatement Clawback Period” has the meaning specified in Section 9(b)(ii).

(ww) “SAIP” shall mean each plan, policy, program or arrangement maintained by the Company pursuant to which equity-based awards or cash awards may be granted to Employees, as may be amended and/or restated from time to time.

(xx) “Severance Factor” means, unless otherwise provided in the Employee’s effective employment agreement with the Company as of the Date of Termination, the multiple for each Employee as set forth in Annex I hereto.

(yy) “Severance Continuation Period” means, unless otherwise provided in the Employee’s effective employment agreement with the Company as of the Date of Termination, a period of a number of months following the Date of Termination for each Employee during which certain Severance Payments and Benefits will be provided pursuant to this Policy, as set forth in Annex I hereto.

(zz) “Severance Payments and Benefits” means all benefits provided or payments made by the Company to or for the benefit of an Employee under this Policy.

(ll) “Supplemental Retirement Plan” means the International Flavors & Fragrances Inc. Supplemental Retirement Plan.

(aaa) “Voting Power” means the number of votes available to be cast (determined by reference to the maximum number of votes entitled to be cast by the holders of Voting Securities, or by the holders of any Voting Securities for which other Voting Securities may be convertible, exercisable, or exchangeable, upon any matter submitted to shareholders where the holders of all Voting Securities vote together as a single class) by the holders of Voting Securities.

(bbb) “Voting Securities” means any securities or other ownership interests of an entity, which entitle or which may entitle, Persons holding such securities or other ownership interests to vote on matters submitted to such holders generally (whether or not entitled to vote in the general election of directors), or securities or other ownership interests which are convertible into, or exercisable in exchange for, such Voting Securities, whether or not subject to the passage of time or any contingency.

3. Eligibility. Each key executive or employee of the Company who has been designated in writing by the Committee (each an “Employee”) shall be eligible for the Severance Payments and Benefits and other provisions of this Policy if his or her termination of employment qualifies hereunder. Each Employee shall be designated in writing by the Committee as either (i) the Chief Executive Officer, (ii) a Tier I Employee or (iii) a Tier II

Employee. Employees shall include persons employed outside the United States, if designated by the Committee and subject to Section 13(h) of this Policy. Unless expressly indicated in this Policy, the Chief Executive Officer shall be a Tier I Employee for all purposes under this Policy. For the avoidance of doubt, for purposes of Section 7 herein, an "Employee" shall be each key executive or employee of the Company who has been designated in writing as a Tier I Employee (including the Chief Executive Officer) or Tier II Employee by the Committee as of the date of a Change in Control.

4. Administration. Subject to Section 13(e) hereof, this Policy shall be interpreted, administered and operated by the Committee, which shall have complete authority, subject to the express provisions of this Policy, to interpret this Policy, to prescribe, amend and rescind rules and regulations relating to this Policy, and to make all other determinations necessary or advisable for the administration of this Policy. The Committee may delegate any of its duties hereunder to a subcommittee, or to such person or persons from time to time as it may designate. All decisions, interpretations and other actions of the Committee shall be final, conclusive and binding on all parties who have an interest in this Policy. No member of the Committee, nor any Person acting pursuant to authority delegated by the Committee, shall be liable for any action, omission, or determination relating to this Policy, and the Company shall, to the fullest extent permitted by law, indemnify and hold harmless each member of the Committee and each Person to whom any duty or power relating to the administration or interpretation of this Policy has been delegated, against any cost or liability arising out of any action, omission or determination relating to this Policy, unless, in either case, such action, omission, or determination was taken or made by such member or other Person acting pursuant to authority delegated by the Committee in bad faith and without reasonable belief that it was in the best interests of the Company.

5. Termination of Employment for any Reason. Subject to the terms and conditions contained herein, in the event of any termination of an Employee's employment with the Company for any reason:

(a) The Company shall pay the Employee the Accrued Obligations, payable on the dates such amounts would have been payable under the Company's policies if the Employee's employment had not terminated, but in no event more than 60 days after Employee's Date of Termination, or sooner if required by applicable law.

(b) Except as expressly provided in Section 6 or Section 7 (in the event that either section is applicable), any outstanding Awards (including, for the avoidance of doubt, any AIP, LTIP, restricted stock unit, stock appreciation right, restricted stock and Equity Choice Awards) held by the Employee as of the Date of Termination shall be governed by the terms and conditions of the applicable Award Agreements, SAIP and AIP.

(c) Except as expressly provided in Section 7 (in the event such section is applicable), the Employee's benefits and rights under any of the Company's Benefit Plans, tax-qualified retirement or pension plans and any Excess Benefit Plan shall be determined in accordance with the applicable provisions of such plans, as may be in effect at the Employee's Date of Termination.

In the event of a termination of employment by the Company for Cause, a termination of employment as a result of the Employee's death, Disability or retirement, or the voluntary resignation by Employee other than for Good Reason (where applicable), Employee shall not be entitled to receive any compensation, payments or benefits except as specified in Section 5(a)-(c).

6. Termination of Employment Prior to or More than Two Years After a Change in Control by (i) the Company either Without Cause or (ii) a Tier I Employee for Good Reason. In addition to the payments and benefits set forth in Section 5, in the event the Employee's employment with the Company is terminated prior to a Change in Control or more than two (2) years after a Change in Control either (i) by the Company without Cause or (ii) by a Tier I Employee for Good Reason, the Employee shall also be entitled to receive the following payments and benefits, subject to the terms and conditions contained herein including without limitation Sections 9 and 10:

(a) An amount equal to the product of the Employee's Severance Factor times the sum of (i) the Employee's annual base salary as of the Date of Termination and (ii) the Employee's target annual incentive under the AIP for the year in which the Date of Termination occurs prorated based on the number of the Employee's active days of employment with the Company during the performance period in which the Employee's Date of Termination occurs, payable in equal installments in accordance with the Company's normal payroll practices starting on the first payroll period following the Employee's Date of Termination and continuing until the expiration of the Employee's Severance Continuation Period.

(b) For a period commencing on the Employee's Date of Termination until the earlier of (i) the expiration of the Employee's Severance Continuation Period, (ii) the date of the Employee's commencement of eligibility for benefits under a new employer's welfare benefit plans, and (iii) the Employee attaining age 65 (such period, the "Benefit Continuation Period"), the Employee shall be eligible for Benefit Continuation. Benefit Continuation shall be provided concurrently with any health care benefit required under COBRA. Notwithstanding the foregoing, if the Company's providing Benefit Continuation under this Section 6(b) would violate the nondiscrimination rules applicable to non-grandfathered plans, or would result in the imposition of penalties under the PPACA, the Committee shall have the right to amend this Section 6(b) in a manner it determines, in its sole discretion, to comply with the PPACA. For the avoidance of doubt, in no event shall an Employee's employment be deemed to have been terminated without Cause or for Good Reason as a result of the Employee's death, Disability or retirement.

(c) If a Tier I Employee's employment with the Company is properly terminated by the Tier I Employee for Good Reason, any outstanding Awards under the 2010 SAIP shall be governed by the terms and conditions of the 2010 SAIP and applicable Award Agreements as if the Tier I Employee had been terminated by the Company without Cause.

7. Termination Within Two Years After a Change in Control by (i) the Company either Without Cause or (ii) Employee for Good Reason . In addition to the payments and benefits set forth in Section 5, in the event the Employee's employment with the Company is terminated within two (2) years after a Change in Control either (i) by the Company without Cause or (ii) by the Employee for Good Reason, the Employee shall also be entitled to receive the following payments and benefits, subject to the terms and conditions contained herein including without limitation Sections 9 and 10:

(a) An amount equal to the product of the Employee's CIC Severance Factor times the sum of (i) the Employee's annual base salary as of the Date of Termination and (ii) the greater of (x) the Employee's target annual incentive opportunity under the AIP for the year in which the Date of Termination occurs and (y) the average annual incentive award paid to Employee under the AIP for the three (3) completed fiscal years immediately preceding the year in which the Date of Termination occurs (or, if the Employee was not employed by the Company or eligible for an Award under the AIP for the last three (3) completed fiscal years, such lesser number of completed fiscal years during which the Executive was eligible for an Award under the AIP), payable in a lump sum within 15 days following the Employee's Date of Termination.

(b) A lump-sum cash payment equal to the Employee's target annual incentive Award under the AIP for the year in which the Date of Termination occurs, with such Award prorated based on the number of the Employee's active days of employment with the Company during the performance period in which the Employee's Date of Termination occurs, payable within 15 days following the Employee's Date of Termination, and such payment shall be in full settlement of the Employee's rights under the AIP Award for the year in which the Date of Termination occurs.

(c) Unless otherwise provided in the applicable Award Agreement, with respect to each LTIP Award outstanding as of the Employee's Date of Termination:

(i) For each performance segment that ended prior to the Employee's Date of Termination, the Employee shall receive an LTIP Award payment equal to the LTIP Award payment, if any, the Employee would have been entitled to receive for such performance segment had the Employee's employment with the Company not been terminated, determined in accordance with the LTIP Award and the applicable Award Agreement; and

(ii) For each performance segment in which the Employee's Date of Termination occurs, the Employee shall receive an LTIP Award payment equal to the product of (x) the Employee's target LTIP Award for the performance segment during which the Employee's Date of Termination occurred and (y) a fraction, the numerator of which is the number of days during such performance segment preceding the Employee's Date of Termination and the denominator of which is the total number of days in such performance segment;

with each of (i) and (ii) payable within 15 days following the Employee's Date of Termination.

(d) Unless otherwise provided in Sections 7(b) and 7(c) herein, any outstanding Awards (including, for the avoidance of doubt, any restricted stock unit, stock appreciation right, restricted stock and Equity Choice Awards) held by the Employee as of the Date of Termination shall be governed by the terms and conditions of the applicable SAIP, it being understood that with respect to (i) Awards granted pursuant to the 2010 SAIP, this shall be Section 9(a)(ii) of the 2010 SAIP and (ii) with respect to Awards granted pursuant to the 2015 SAIP, this shall be Section 11(a) of the 2015 SAIP. The foregoing notwithstanding, if an Employee's employment with the Company is properly terminated by the Employee for Good Reason, any outstanding Awards granted under the 2010 SAIP (other than the AIP and LTIP Awards) shall be treated as set forth in Section 9(a)(ii) of the 2010 SAIP as if the Employee had been terminated by the Company without Cause.

(e) The Employee will be deemed to be fully vested in any benefits he or she has accrued, if any, under the Supplemental Retirement Plan, with the time or times at which benefits are payable under the Supplemental Retirement Plan unchanged; provided, however, that with respect to any "grandfathered" accrued obligations or to the extent permitted under Code Section 409A, the Company may elect to satisfy all obligations to the Employee and his beneficiaries under the Supplemental Retirement Plan by a lump sum payment of the present value of the accrued benefit under the Supplemental Retirement Plan.

(f) For a period commencing on the Employee's Date of Termination until the earlier of (i) the expiration of the Employee's Severance Continuation Period, (ii) the date of the Employee's commencement of eligibility for benefits under a new employer's welfare benefit plans, and (iii) the Employee attaining age 65 (such period, the "CIC Benefit Continuation Period"), the Employee shall be eligible for Benefit Continuation. Benefit Continuation shall be provided concurrently with any health care benefit required under COBRA. Notwithstanding the foregoing, if the Company's providing Benefit Continuation under this Section 7(f) would violate the nondiscrimination rules applicable to non-grandfathered plans, or would result in the imposition of penalties under the PPACA, the Committee shall have the right to amend this Section 7(f) in a manner it determines, in its sole discretion, to comply with the PPACA.

8. Effect of Federal Excise Tax. This Section 8 specifies certain adjustments to the Severance Payments and Benefits an Employee may receive under this Policy if the Company determines that any Severance Payment or Benefit would subject such Employee to an obligation to pay an excise tax imposed by Section 4999 of the Internal Revenue Code of 1986, as amended (or any similar tax that may be imposed) or any interest or penalties related to such excise tax (such excise tax, together with any such interest and penalties, are hereinafter collectively referred to as the "Excise Tax").

(a) Cut-Back to Maximize Retained After-Tax Amounts. In the event the Company determines that any Severance Payment or Benefits would, in whole or part when aggregated with any other right, payment or benefit to or for the Employee (such Employee, the "Affected Employee") under all other agreements, arrangements or plans of the Company, cause any Severance Payment and Benefit or any other payments or benefits to be subject to the Excise Tax, then the Severance Payments and Benefits and all such rights, payments and benefits shall, at the Company's discretion, either (i) be paid in full or (ii) be reduced (or appropriately adjusted) to an amount that is one dollar less than the smallest amount that would give rise to the Excise Tax (the "Reduced Amount"), but only if such Reduced Amount would be greater than the net after-tax proceeds (taking into account the Excise Tax) of the unreduced Severance Payments and Benefits and all such other rights, payments and benefits.

(b) Implementation Rules. If the Severance Payments and Benefits must be reduced as provided in Section 8(a), any reduction in payments and/or benefits required by this provision will occur in the following order: (1) reduction of cash payments; (2) reduction of vesting acceleration of equity awards; and (3) reduction of other benefits paid or provided. In the event that acceleration of vesting of equity awards is to be reduced, such acceleration of vesting will be cancelled in the reverse order of the date of grant for the equity awards. If two or more equity awards are granted on the same date, each award will be reduced on a pro-rata basis. The Employee shall be advised of the determination as to which compensation will be reduced and the reasons therefor, and the Employee and his or her advisors will be entitled to present information that may be relevant to this determination. In no event shall such reduction be effected through a delay in the timing of any Severance Payment and Benefit that is subject to Code Section 409A (or that would become subject to Code Section 409A as a result of such delay).

(c) For purposes of determining whether any of the Severance Payments or Benefits will be subject to the Excise Tax and the amount of such Excise Tax:

(i) All Severance Payments and Benefits shall be treated as "parachute payments" within the meaning of Section 280G(b)(2) of the Code, and all "excess parachute payments" within the meaning of Section 280G(b)(1) of the Code shall be treated as subject to the Excise Tax, unless, and except to the extent that, in the written opinion of independent compensation consultants, counsel or auditors of nationally recognized standing ("Independent Advisors") selected by the Company, the Severance Payments and Benefits (in whole or in part) do not constitute parachute payments, or such excess parachute payments (in whole or in part) represent reasonable compensation for services actually rendered within the meaning of Section 280G(b)(4) of the Code in excess of the base amount within the meaning of Section 280G(b)(3) of the Code or are otherwise not subject to the Excise Tax.

(ii) The value of any non-cash benefits or any deferred payment or benefit shall be determined by the Independent Advisors in accordance with the principles of Sections 280G(d)(3) and (4) of the Code.

(d) For purposes of determining the amount of the reductions in Severance Payments and Benefits pursuant to Section 8(b), the Affected Employee shall be deemed (i) to pay federal income taxes at the applicable rates of federal income taxation for the calendar year in which the compensation would be payable; and (ii) to pay any applicable state and local income taxes at the applicable rates of taxation for the calendar year in which the compensation would be payable, taking into account any effect on federal income taxes from payment of state and local income taxes.

9. Conditions to Receipt of Severance Payments and Benefits: Forfeiture and Repayment Obligations.

(a) Conditions to Receipt of Payments; Employee Obligations. The following requirements must be met by the Employee as a condition to the right to receive, continue to receive, or retain any Severance Payments or Benefits under this Policy:

(i) The Employee, acting directly or indirectly, shall not, during the period of the Employee's employment and the twelve month period following the Employee's Date of Termination, become employed by, render services for, serve as an agent or consultant to, or become a partner, member, principal, shareholder or other owner of any of the following entities: Firmenich, S.A., Givaudan, S.A., V. Mane Fils, S.A., Robertet, S.A., Symrise A.G., Takasago International Corporation, Wild Flavors GmbH, Sensient Technologies Corporation or any of their respective Affiliates, or any other entity that is competitive with the Company, as determined by the Committee in its sole discretion from time to time.

(ii) The Employee, acting directly or indirectly, shall not, during the Employee's period of employment and the twenty-four month period following the Employee's Date of Termination, (1) solicit, induce, divert, employ or retain, or interfere with or attempt to influence the relationship of the Company, with any Person or entity that is or was, during the last twelve (12) months of the Employee's employment with the Company, (i) an employee of the Company or (ii) a Person engaged to provide services to the Company; or (2) interfere with or attempt to influence the relationship of the Company with any customer, supplier or other Person with whom the Company does business.

(iii) The Employee shall not, at any time, directly or indirectly (a) disclose any Confidential Information (as defined below) to any Person (other than, only with respect to the period that the Employee is employed by the Company, to an employee or outside advisor of the Company who requires such information to perform his or her duties for the Company) or (b) use, sell or otherwise transfer, any Confidential Information for Employee's own benefit or

the benefit of any third party. “Confidential Information” shall mean (without limiting any definition of the term “confidential information” set forth in any effective Employment Agreement or Security Agreement), confidential, proprietary or commercially sensitive information relating to the Company or its employees, board members, customers, vendors, or other business partners and its businesses, operations, or affairs, including, without limitation, information relating to products, formulations, protocols, processes, designs, formulae, ideas, know-how, test methods, evaluation techniques, patents, trade secrets, scientific or technical data, regardless of the form in which it is maintained or provided, orally or in writing, whether prepared by the Company, a third party or Employee, together with all analyses, compilations, notes and other documents relating thereto.

(iv) The Employee shall cooperate with the Company by making himself or herself available to testify on behalf of the Company in any action, suit, or proceeding, whether civil, criminal, administrative, or investigative, and shall not otherwise fail to assist the Company in any such action, suit, or proceeding by providing information and meeting and consulting with members of management of, other representatives of, or counsel to, the Company, as reasonably requested.

(v) The Employee shall not have, during the period of employment, engaged in willful misconduct or violation of a Company policy that is materially detrimental to the Company or in any action or inaction that would constitute grounds for being terminated for Cause, as determined by the Committee in its sole discretion.

(vi) The Employee shall, upon termination of employment with the Company, execute any documentation reasonably requested by the Company and return to the Company all property of the Company, its customers and vendors in Employee’s possession or control including, without limitation, all materials, work product or documents containing or pertaining to Confidential Information, and including without limitation, any Company car, all computers (including laptops), cell phones, keys, PDAs, Blackberries, iPhones, Androids, iPads, credit cards, printers, facsimile machines, televisions, card access to any Company building, customer lists, reports, files, e-mails, work papers, memoranda, notes, formulae, tapes, programs, records and software, computer access codes or disks, instructional manuals, and other similar materials or documents used, received or prepared or supervised by Employee in connection with Employee’s work for the Company. Employee shall not retain any copies, duplicates, reproductions or excerpts of any of the aforementioned materials or documents and shall not at any time use, recreate or reproduce any said materials or documents.

(b) Forfeiture and Repayment Obligations.

(i) Due to Employee Failure to Comply with Obligations. If an Employee fails to comply with any of the obligations set forth in Section 9(a)

(a “Covenant Forfeiture Event”), the Employee will forfeit or repay, as the case may be, all Severance Payments and Benefits, whether vested or unvested, paid or unpaid, in each case, that were settled, paid or provided to the Employee under this Policy, and the Company shall have no further obligation to pay, grant, settle, make, provide or continue to make or provide any Severance Payments and Benefits to the Employee under this Policy.

(ii) Due to an Accounting Restatement or Misstatement. If the Company is required to prepare an accounting restatement, or if the Company determines that it has misstated its financial results, whether or not as a result of misconduct on the part of the Employee (an “Accounting Forfeiture Event” and, together with a Covenant Forfeiture Event, a “Forfeiture Event”), then, the Employee shall forfeit or repay the Excess Compensation (as defined below) in respect of Severance Payments and Benefits, whether vested or unvested, paid or unpaid, that was granted, settled, provided or paid during the period commencing on the first day of the 12-month period covered by such misstated financial statement through the later of (x) the date of the filing of a restatement where an accounting restatement is required to be filed; (y) the date of the discovery of the misstated financials where any accounting restatement is not required to be filed; or (z) any later date as may be required by applicable law, including the Dodd–Frank Wall Street Reform and Consumer Protection Act (the “Restatement Clawback Period”).

(A) For purposes of this Section 9(b)(ii), the term “Excess Compensation” means, the difference between (x) the fair market value of the cash or stock paid to or received by the Employee as part of its Severance Payments and Benefits less (y) the fair market value of the cash or stock that would have been paid to or received by the Employee had the financial statements requiring the misstatement or restatement been properly stated, in all cases as determined by the Committee in its sole discretion.

(iii) For the avoidance of doubt, Severance Payments and Benefits subject to the forfeiture and repayment obligations under this Section 9 shall include any unvested Award, and any amounts paid to Employee on settlement or vesting of an Award but shall not include (A) any earned and unpaid base salary payable through the Employee’s Date of Termination, (B) any unreimbursed business expenses reimbursable under Company policies then in effect, and (C) any amount paid by Employee to the Company as a condition of or in connection with settlement of a forfeited Award.

(iv) Any policy of the Company providing for forfeiture or recoupment of compensation, including Section 10 of the 2010 SAIP and Section 32 of the 2015 SAIP, shall apply by its terms and shall not be deemed limited in any way by this Section 9 or any other provision of this Policy.

(v) Any clawback or recoupment provisions required by law, including under the Dodd-Frank Wall Street Reform and Consumer Protection Act or any rules or regulations thereunder, shall apply to the Severance Payments and Benefits paid or payable under this Policy.

(vi) Any Severance Payments and Benefits (A) subject to repayment or reimbursement by the Employee under this Section 9 must be repaid or reimbursed to the Company, in the manner and on such terms and conditions as shall be required by the Company by written notice to the Employee, and (B) subject to forfeiture will be forfeited immediately upon written notice to Employee from the Company.

(vii) For the avoidance of doubt, nothing in any agreement with the Company, or in any Company policy, including this Policy, shall be deemed to prohibit or restrict an Employee from lawfully communicating truthful information, or cooperating with, or otherwise assisting in an investigation by any governmental agency or self-regulatory organization regarding a possible violation of law or responding to any inquiry from any such organization, and an Employee's doing so shall not constitute a Forfeiture Event. If an Employee communicates any Confidential Information to a governmental agency or self-regulatory agency pursuant to this Section, Employee shall notify the agency of the confidentiality of such Confidential Information and ask the agency to also protect the confidentiality of such Confidential Information.

(viii) In accordance with the Defend Trade Secrets Act of 2016, an Employee will not be held criminally or civilly liable under any federal or state trade secret law for disclosure of a trade secret that: (A) is made (1) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney, and (2) solely for the purpose of reporting or investigating a suspected violation of law; or (B) is made in a complaint or other document that is filed under seal in a lawsuit or other proceeding. If an Employee files a lawsuit for retaliation by the Company for reporting a suspected violation of law, the Employee may disclose the Company's trade secrets to his or her attorney and use the trade secret information in the court proceeding if the Employee (a) files any document containing the trade secret under seal, and (b) does not disclose the trade secret, except pursuant to court order.

(c) Employee Obligation to Execute Release and Termination Agreement.

(i) The Company's obligations under this Policy to make and provide any Severance Payments and Benefits is also conditioned upon the Employee signing the Exiting Employee Acknowledgement/Certification, any other documentation reasonably requested by the Company, and a release and termination agreement (the "Release"), in a form acceptable to, and to be provided by the Company, and such Release becoming effective, enforceable and

irrevocable within 60 days following the Employee's Date of Termination or such earlier date as may be set forth in the Release (such period, the "Release Period").

(ii) Any Severance Payment or Benefit that is subject to Code Section 409A that would otherwise have been made to an Employee but that is conditioned upon the execution and effectiveness of the Release shall be paid or provided on the first business day following the Release Period subject to the execution and effectiveness of the Release; provided that any in-kind benefits provided pursuant to this Policy shall continue in effect after the Date of Termination pending the execution and delivery of the Release; provided that if the Release is not executed and delivered within the Release Period, the Employee shall reimburse the Company for the full cost of providing such in-kind benefits during the Release Period.

(d) Agreement Does Not Prohibit Competition or Certain Other Activities. An Employee is not prohibited from engaging in an activity identified in Section 9(a)(i) solely as a result of such provision. Rather, the non-occurrence of the Forfeiture Events set forth in Section 9(a)(i) is a condition to the Employee's right to realize and retain value from his or her Severance Payments and Benefits, and the consequence under this Policy if the Employee engages in an activity giving rise to any such Forfeiture Event are the forfeitures specified herein. The Company and the Employee shall not be precluded by this provision or otherwise from entering into other agreements concerning the subject matter of Section 9.

(e) No Limitation of Rights. Any forfeiture or repayment under this Section 9 is in addition to, and not in lieu of, any other remedies or rights that may be available to the Company under applicable law, including, without limitation, the right to (i) terminate the Employee, (ii) adjust the future compensation of the Employee, or (iii) take such other action to enforce the Employee's obligations to Company as the Company may deem appropriate in view of the facts and circumstances surrounding the particular situation.

(f) Committee Discretion. The Committee shall have the authority, in its sole discretion, to interpret and construe the provisions of this Section 9 and to make all determinations with respect hereto, including the determination of whether a Forfeiture Event has occurred, the timing of such Forfeiture Event and the amount and form of any forfeiture or reimbursement to be made to the Company by an Employee. The Committee may consider such factors as it deems relevant in making such determinations, including the factors contributing to the Forfeiture Event, harm or potential harm to the Company, the nature and severity of an Employee's behavior or conduct, legal and tax considerations and other facts and circumstances relating to a particular situation. All interpretations, constructions and determinations made by the Committee hereunder shall be final and binding on the Company and the Employee and the determinations of the Committee need not be uniform with respect to all Employees or situations. The Committee may waive in whole or in part the Company's right of

recapture or impose additional conditions on any Severance Payment or Benefit granted, settled, paid or provided to an Employee under this Policy.

10. Other Provisions Applicable to Severance Payments and Benefits.

(a) Limitation of Benefits In Case of Certain Business Dispositions. Notwithstanding anything in this Policy to the contrary, unless the Committee in its sole discretion provides otherwise, an Employee shall not be entitled to any Severance Payments or Benefits upon a termination of employment prior to or more than two years after a Change in Control under Section 6, in the event such termination of employment results from the sale or spin-off of an Affiliate, the sale of a division, other business unit or facility (each an “Entity”) in which the Employee was employed immediately prior to such sale, and the Employee has been offered employment with the purchaser of such Entity on substantially the same terms and conditions, as determined by the Committee in its sole discretion, under which the Employee worked prior to the sale, whether or not such Employee accepts or rejects such offer of employment. Such terms and conditions shall include an agreement or plan binding on such purchaser or Entity providing that, upon any termination of the Employee’s employment with the purchaser or spun-off Entity of the kinds described in Sections 6 and 7, within two years following such sale or spin-off, the purchaser or spun-off entity shall pay and provide to such Employee payments and benefits comparable to those the Employee would have received under the applicable provisions of Sections 6 and 7 if the Employee had been terminated in like circumstances at the time of such sale and provided Severance Payments and Benefits.

(b) Deferrals Included in Salary and Bonus. All references in this Policy to salary and annual incentive amounts mean those amounts before reduction pursuant to any deferred compensation plan or agreement.

(c) Payments and Benefits to Beneficiary Upon Employee’s Death. In the event of the death of an Employee, all payments and benefits hereunder due to such Employee shall be paid or provided to his or her Beneficiary.

(d) Transfers of Employment. Anything in this Policy to the contrary notwithstanding, a transfer of employment from the Company to an Affiliate or vice versa shall not be considered a termination of employment for purposes of this Policy.

(e) Right of Setoff. The Company may, to the extent permitted by applicable law, deduct from and set off against any amounts the Company may owe to the Employee from time to time, including amounts payable in connection with any Severance Payment or Benefit, amounts payable in connection with any Award, owed as wages, fringe benefits, or other compensation owed to the Employee, such amounts as may be owed by the Employee to the Company, including but not limited to amounts owed under Section 9, although the Employee shall remain liable for any part of the Employee’s payment obligation not satisfied through such deduction and setoff. By accepting the Severance Payments and Benefits under this Policy, the Employee agrees to any deduction or setoff under this Section 10(e).

11. Other Plans and Policies; Non-Duplication of Payments or Benefits.

(a) Superseded Agreements and Rights. This Policy constitutes the entire understanding between the Company and the Employee relating to Severance Payments and Benefits to be paid or provided to the Employee by the Company, and supersedes and cancels all prior agreements and understandings with respect to the subject matter of this Policy, other than (i) as expressly set forth in this Policy, (ii) as determined in writing by the Committee, or (iii) as expressly provided in a plan, program or arrangement of the Company which is established following the Effective Date and in which the Employee is a participant.

(b) Non-Duplication of Payments and Benefits. The Employee shall not be entitled to any Severance Payment or Benefit under this Policy which duplicates a payment or benefit received or receivable by the Employee under any employment or severance agreement, or any other plan, program or arrangement of the Company or any severance required by applicable law, regulation, sound business practices and customs; provided, however, that with respect to a benefit or payment that is expressly required to be provided by applicable law, regulation, sound business practices and customs, to the extent permissible under applicable law, the Company may offset the amount of any such benefits or payments against the Severance Payments or Benefits due under this Policy.

12. Special Rules for Compliance with Code Section 409A. This Section 12 serves to ensure compliance with applicable requirements of Code Section 409A. If the terms of this Section 12 conflict with other terms of this Policy, the terms of this Section 12 shall control.

(a) Termination of Employment Defined. For purposes of this Policy, a “termination of employment” means a separation from service within the meaning of Treasury Regulation § 1.409A-1(h), except for a termination of employment providing for payments or benefits that are “grandfathered” or excluded from being a deferral of compensation under Code Section 409A.

(b) Separate Payments. Any payment of Severance Payments and Benefits shall be deemed a separate payment for all purposes, including for purposes of Code Section 409A.

(c) Six-Month Delay Rule. In the event that any Severance Payments or Benefits constitute “nonqualified deferred compensation” within the meaning of Code Section 409A and as of the date of the Employee’s “separation from service,” Employee is a “specified employee” (within the meaning of that term under Code Section 409A(a)(2)(B), or any successor provision thereto), then, if the amount of any Severance Payments and Benefits, or any other payments and benefits due pursuant to any other agreement with or plan, program, payroll practice of the Company to be paid within the first six months following the date of such separation from service (the “Initial Payment Period”) exceed the amount referenced in Treas. Regs. Section 1.409A-1(b)(9)(iii)(A) (the “Limit”), then: (i) any portion of the Severance Payments and Benefits that is payable or can be provided during the Initial Payment Period that does not exceed the

Limit shall be paid or provided at the times set forth in this Policy; (ii) any portion of the Severance Payments and Benefits that is a “short-term deferral” within the meaning of Treas. Regs. Section 1.409A-1(b)(4)(i) shall be paid or provided at the times set forth in in this Policy; and (iii) any portion of the Severance Payments and Benefits that exceeds the Limit and is not a “short-term deferral” (and would have been payable during the Initial Payment Period but for the Limit) shall not be paid or provided, to the extent making or providing such payment or benefit during the Initial Payment Period would result in additional taxes or interest under Code Section 409A of the Code, until the date which is the earlier of (i) the expiration of the six (6)-month period measured from the date of such “separation from service,” and (ii) the date of Employee’s death (the “Delay Period”) and this Policy shall hereby be deemed amended accordingly. Upon the expiration of the Delay Period, all payments and benefits delayed pursuant to this section (whether they would have otherwise been payable in a single sum or in installments in the absence of such delay) shall be paid or reimbursed to Employee in a lump sum, and any remaining payments and benefits due under this Policy shall be paid or provided in accordance with the normal payment dates specified for them herein.

(d) Continued Benefits. To the extent required by Code Section 409A, any reimbursement or in-kind benefit provided under this Policy shall be provided in accordance with the following: (i) the amount of expenses eligible for reimbursement, or in-kind benefits provided during each calendar year cannot affect the expenses eligible for reimbursement, or in-kind benefits to be provided, in any other calendar year; (ii) any payments in lieu of the benefits shall be paid no later than the end of Employee’s taxable year next following Employee’s taxable year in which the benefit or expense was due to be paid; and (iii) any right to reimbursements or in-kind benefits under this Plan shall not be subject to liquidation or exchange for another benefit.

(e) No Acceleration. The timing of payments and benefits under this Policy may not be accelerated to occur before the time specified for payment hereunder, except to the extent permitted under Treasury Regulation § 1.409A-3(j)(4) or as otherwise permitted under Code Section 409A without the Employee incurring a tax penalty.

(f) Limitation on Offsets. If the Company has a right of offset that could apply to a payment that constitutes a deferral of compensation under Code Section 409A, such right may only be exercised at the time the payment would have been made to the Employee and may be exercised only as an offset against an obligation that arose within 30 days before and within the same year as the payment date if application of such offset right against an earlier obligation would not be permitted under Code Section 409A.

(g) General Compliance. In addition to the foregoing provisions, the terms of this Policy, including any authority of the Company and rights of the Employee which constitute a deferral of compensation subject to Code Section 409A (and which is not grandfathered or excluded from being deemed such a deferral), shall be limited to those terms permitted under Code Section 409A without resulting in a tax penalty to Employee, and any terms not so permitted under Code Section 409A shall be modified and limited to

the extent necessary to conform with Code Section 409A but only to the extent that such modification or limitation is permitted under Code Section 409A and the regulations and guidance issued thereunder. The Company and its employees and agents make no representation and are providing no advice regarding the taxation of the payments and benefits under this Policy, including with respect to taxes, interest and penalties under Code Section 409A and similar liabilities under state and local tax laws. No indemnification or gross-up is payable under this Policy with respect to any such tax, interest, or penalty under Code Section 409A or similar liability under state or local tax laws applicable to any Employee.

13. Miscellaneous

(a) Assignment; Non-transferability. No right of an Employee to any payment or benefit under this Policy shall be subject to assignment, anticipation, alienation, sale, transfer, assignment, pledge, encumbrance, attachment, or garnishment by creditors of the Employee or of any beneficiary of the Employee. The terms and conditions of this Policy shall be binding on the successors and assigns of the Company.

(b) Withholding. The Company shall have the right to deduct from all payments hereunder any taxes required by law to be withheld therefrom.

(c) No Right to Employment. Nothing in this Policy shall be construed as giving any person the right to be retained in the employment of the Company, nor shall it affect the right of the Company to dismiss an Employee without any liability except as provided in this Policy.

(d) Legal Fees. The Employee shall pay all legal fees and related expenses incurred in seeking to obtain or enforce any payment, benefit or right provided by this Policy; provided, however, that if the Employee prevails on at least one material claim that forms part of a dispute with the Company regarding the enforceability of any provision of the Policy, the Company shall reimburse the Employee for all reasonable attorneys' fees and related expenses ("Legal Fees") incurred by the Employee in connection with such dispute, provided that the Employee shall have submitted an invoice for such Legal Fees at least 10 days before the end of the calendar year next following the calendar year in which an award to Employee on at least one material claim is rendered. In no event shall the payments by the Company of Legal Fees be made later than the end of the calendar year next following the calendar year in which such Legal Fees were incurred. The amount of such Legal Fees that the Company is obligated to pay in any given calendar year shall not affect the Legal Fees that the Company is obligated to pay in any other calendar year, and an Employee's right to have the Company pay such Legal Fees may not be liquidated or exchanged for any other benefit.

(e) Amendment and Termination. The Board may amend or terminate this Policy at any time; provided, however, (i) during the two years following a Change in Control, this Policy may not be amended or terminated in any manner materially adverse to an Employee without the written consent of such Employee, and (ii) at any other time,

this Policy may not be amended or terminated in any manner materially adverse to an Employee except with 60 day's notice to the affected Employee (immediately after which such amendment or termination becomes effective as to all affected Employees), and no such amendment or termination shall be effective to limit any right or benefit relating to a termination during the two years after a Change in Control under Section 7 if a Change in Control has occurred prior to the lapse of such 60-day notice period.

(f) Governing Law; Arbitration. THE VALIDITY, CONSTRUCTION, AND EFFECT OF THIS POLICY AND ANY RULES AND REGULATIONS RELATING TO THIS POLICY SHALL BE DETERMINED IN ACCORDANCE WITH THE LAWS (INCLUDING THOSE GOVERNING CONTRACTS) OF THE STATE OF NEW YORK, WITHOUT GIVING EFFECT TO PRINCIPLES OF CONFLICTS OF LAWS, AND APPLICABLE FEDERAL LAW. If any provision hereof shall be held by a court or arbitrator of competent jurisdiction to be invalid and unenforceable, the remaining provisions shall continue to be fully effective. Any dispute or controversy arising under or in connection with this Policy shall be settled exclusively by arbitration in New York, New York by one arbitrator in accordance with the rules of the American Arbitration Association in effect at the time of submission to arbitration. Judgment may be entered on the arbitrator's award in any court having jurisdiction. For purposes of settling any dispute or controversy arising hereunder or for the purpose of entering any judgment upon an award rendered by the arbitrator, the Company and the Employee hereby consent to the jurisdiction of any or all of the following courts: (i) the United States District Court for the Southern District of New York, or (ii) any of the courts of the State of New York located in New York County. The Company and the Employee hereby waive, to the fullest extent permitted by applicable law, any objection which it may now or hereafter have to such jurisdiction and any defense of inconvenient forum. The Company and the Employee hereby agree that a judgment upon an award rendered by the arbitrator may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

(g) No Duty to Mitigate. No employee shall be required to mitigate, by seeking employment or otherwise, the amount of any payment that the Company becomes obligated to make under this Policy, and, except as expressly provided in this Policy, any Severance Payment or Benefit to be paid or provided to an Employee pursuant to this Policy shall not be reduced by reason of the Employee's obtaining other employment or receiving similar payments or benefits from another employer.

(h) Awards to Employees Outside the United States. The Committee may modify the terms and conditions of participation of any Employee who is then resident or primarily employed outside the United States or is subject to taxation by a non-U.S. jurisdiction in any manner deemed by the Committee to be necessary or appropriate in its sole discretion in order that such terms and conditions shall conform to the laws, regulations, sound business practices or customs of the country in which the Employee is then resident or primarily employed.

(i) Notices. All notices shall be in writing and shall be deemed duly given (a) on the date of delivery if delivered personally, (b) on the date sent by electronic mail or other electronic means, (c) on the date of delivery via a recognized overnight courier service (delivery receipt requested), or (d) on the fifth business day following the date of mailing, if mailed by first class mail and registered or certified mail, return receipt requested, postage prepaid to the party to receive such notice (irrespective of whether such registered or certified mail is signed for by the receiving party), at the business address in the case of the Company, and at the address on file with the Company, in the case of the Employee.

Title	Severance Factor	Severance Continuation Period	CIC Severance Factor
Tier I Employees • Chief Executive Officer • All Other Tier I Employees	2 1.5	24 months 18 months	3 2
Tier II Employees	1	12 months	1.5

Annex I

Computation of Ratios of Earnings to Fixed Charges

(Amounts in thousands except Ratio of Earnings to Fixed Charges)

	Fiscal Year				
	2017	2016	2015	2014	2013
Earnings:					
<i>Add:</i>					
Income before taxes	\$ 537,045	\$ 523,717	\$ 539,101	\$ 549,061	\$ 485,210
Fixed charges	82,133	68,838	63,158	63,098	64,194
Amortization of capitalized interest	5,000	4,723	4,198	3,734	3,087
<i>Less:</i>					
Capitalized interest	(4,176)	(4,035)	(5,893)	(5,572)	(6,629)
Total Earnings available for fixed charges	\$ 82,957	\$ 593,243	\$ 600,564	\$ 610,321	\$ 545,862
Fixed Charges:					
Interest expense	\$ 65,363	\$ 52,989	\$ 46,062	\$ 46,067	\$ 46,767
Capitalized interest	4,176	4,035	5,893	5,572	6,629
Portion of rental expense which represents interest factor ⁽¹⁾	12,594	11,814	11,203	11,459	10,798
Total Fixed charges	\$ 82,133	\$ 68,838	\$ 63,158	\$ 63,098	\$ 64,194
Ratio of Earnings to Fixed Charges	7.55%	8.62%	9.51%	9.67%	8.5%

⁽¹⁾ Represents one-third of rental expense, which we deem to be a reasonable estimate of the portion of our rental expense that is attributable to interest.

LIST OF SUBSIDIARIES OF INTERNATIONAL FLAVORS & FRAGRANCES INC.

(the "Company")

Name of Entity	Jurisdiction
International Flavors & Fragrances S.R.L.	Argentina
Bush Boake Allen Australia Pty Ltd	Australia
IFF Australia Holdings Pty Ltd	Australia
International Flavours & Fragrances (Australia) Pty Ltd	Australia
Lucas Meyer Cosmetics Australia Pty Ltd	Australia
Southern Cross Botanicals Pty Ltd	Australia
IFF Essências e Fragrâncias Ltda.	Brazil
Bush Boake Allen do Brasil Indústria e Comércio Ltda.	Brazil
Fragrance Resources Asia Pacific Ltd.	British Virgin Islands
International Flavors & Fragrances (Canada) Ltd.	Canada
Lucas Meyer Cosmetics Canada Inc.	Canada
Les Laboratories Bio ForeXtra Inc. 51% of the voting stock of Les Laboratories Bio ForeXtra Inc. is owned directly by the Company.	Canada
David Michael & Company (Canada) 1986 Ltd.	Canada
Bush Boake Allen Chile S.A.	Chile
IFF Sabores y Fragancias de Chile Ltda.	Chile
International Flavors & Fragrances I.F.F. (Chile) Limitada	Chile
International Flavors & Fragrances (Hangzhou) Co., Ltd. 90% of the voting stock of International Flavors & Fragrances (Hangzhou) Co., Ltd. is owned indirectly by the Company.	China
IFF Flavors & Fragrances (Hangzhou) Trading Co., Ltd.	China
International Flavors & Fragrances (Zhejiang) Co., Ltd.	China
International Flavors & Fragrances (China) Ltd.	China
David Michael Hong Kong Limited	China
David Michael (Beijing) Flavor Co. Ltd.	China
International Flavors & Fragrances (Zhangjiagang) Co., Ltd.	China
Fragrance Resources (Shanghai) Co. Ltd.	China
IFF Bio-Technology (Nanjing) Co., Ltd.	China
International Flavors and Fragrances Colombia S.A.S.	Colombia
MISR Company for Aromatic products (S.A.E.)	Egypt
A. Boake, Roberts And Company (Holding), Limited	England
International Flavours & Fragrances (CIL) Limited	England
Bush Boake Allen Enterprises Limited	England
Bush Boake Allen Limited	England
Bush Boake Allen (Pension Trustees) Limited	England
Bush Boake Allen Pension Investments Limited	England
Bush Boake Allen Holdings (U.K.) Limited	England
IFF Augusta Limited	England
IFF Augusta II Limited	England
International Flavours & Fragrances (GB) Holdings Limited	England
International Flavours & Fragrances I.F.F. (Great Britain) Limited	England
International Flavors & Fragrances IFF (France) SAS	France
International Flavors & Fragrances France Holding I SAS	France

Name of Entity	Jurisdiction
International Flavors & Fragrances France Holding II SAS	France
International Flavors & Fragrances France Holding III SAS	France
Lucas Meyer Cosmetics	France
Institut Européen de Biologie Cellulaire	France
David Michael Europe S.A.S.	France
Fragrance Resources SAS	France
International Flavors & Fragrances IFF (Deutschland) GmbH	Germany
IFF Fragrance GmbH	Germany
IFF Worldwide (Gibraltar) Limited	Gibraltar
International Flavors & Fragrances (Hong Kong) Limited	Hong Kong
Essence Scientific Research Private Limited	India
Fragrance Holdings Private Limited	India
International Flavours & Fragrances India Private Limited 93.36% of the voting stock of International Flavours & Fragrances India Private Limited is owned indirectly by the Company.	India
P.T. Essence Indonesia	Indonesia
IFF Capital Services	Ireland
IFF Financial Services	Ireland
Irish Flavours and Fragrances Limited	Ireland
Aromatics Holdings Limited	Ireland
International Flavors & Fragrances Irish Acquisition Company Limited	Ireland
International Flavors and Fragrances Ingredients Ltd	Israel
BKF Vision Ltd	Israel
K-Vision Consulting and Investments Ltd	Israel
M.P. Equity Holdings Ltd	Israel
International Flavors and Fragrances I.F.F. (Israel) Ltd.	Israel
International Flavors e Fragrances IFF (Italia) S.r.l.	Italy
International Flavors & Fragrances (Japan) Ltd.	Japan
IFF (Korea) Inc.	Korea
International Flavors & Fragrances (Luxembourg) S.à r.l.	Luxembourg
International Flavors & Fragrances Ardenne S.à r.l.	Luxembourg
International Flavors & Fragrances (Malaysia) Sdn. Bhd.	Malaysia
International Flavours & Fragrances (Mauritius) Ltd	Mauritius
Bush Boake Allen Controladora, S.A. de C.V.	Mexico
IFF Mexico Manufactura, S.A. de C.V.	Mexico
International Flavors & Fragrances (Mexico), S. de R.L. de C.V.	Mexico
Bush Boake Allen Benelux B.V.	Netherlands
International Flavors & Fragrances (Nederland) Holding B.V.	Netherlands
International Flavors & Fragrances I.F.F. (Nederland) B.V.	Netherlands
IFF Luxar C.V.	Netherlands
IFF Worldwide C.V.	Netherlands
Daivd Michael Netherlands B.V.	Netherlands
International Flavours & Fragrances (NZ) Limited	New Zealand
Bush Boake Allen (New Zealand) Limited	New Zealand
International Flavors & Fragrances (Philippines), Inc.	Philippines
International Flavors & Fragrances (Poland) Sp. z o.o.	Poland

Name of Entity	Jurisdiction
International Flavors & Fragrances I.F.F. (Rus)	Russia
International Flavors & Fragrances (Greater Asia) Pte. Ltd	Singapore
Lucas Meyer Cosmetics Asia Pte. Ltd.	Singapore
International Flavors and Fragrances IFF (South Africa)	South Africa
International Flavors & Fragrances I.F.F. (España), S.A.	Spain
IFF Latin American Holdings (España), S.L.	Spain
IFF Benicarló, S.L.	Spain
International Flavors & Fragrances I.F.F. (Norden) AB	Sweden
International Flavours & Fragrances (Thailand) Limited	Thailand
IFF Aroma Esans Sanayi Ve Ticaret Anonim Şirketi	Turkey
IFF Turkey Aroma Ve Esans Ürünleri Satiş Ticaret Anonim Şirketi	Turkey
International Flavors & Fragrances (Middle East) FZ-LLC	United Arab Emirates
International Flavors & Fragrances (Vietnam) Limited Liability Company	Vietnam
Bush Boake Allen Zimbabwe (Private) Limited	Zimbabwe
International Flavors & Fragrances (Zimbabwe) (Private) Ltd.	Zimbabwe
Aromor Flavors and Fragrances Inc.	Delaware
Asian Investments, Inc.	Delaware
Tastepoint Inc.	Delaware
IFF Augusta Holdings LLC	Delaware
IFF Chemical Holdings Inc.	Delaware
IFF Delaware Holdings, LLC	Delaware
International Flavors & Fragrances (Caribe) Inc.	Delaware
Lucas Meyer Cosmetics USA, Inc.	Delaware
International Flavors & Fragrances Holdings, LLC	Delaware
Fragrance Resources Inc.	New Jersey
IFF International Inc.	New York
van Ameringen-Haebler, Inc.	New York
Henry H. Ottens Manufacturing Co., Inc.	Pennsylvania
David Michael & Co., Inc.	Pennsylvania
LHFS, LLC	Pennsylvania
Bush Boake Allen Inc.	Virginia
Columbia PhytoTechnology LLC	Washington

The companies listed above constitute all subsidiaries of the Company as of December 31, 2017. Except as otherwise indicated, such subsidiaries are wholly owned, directly or indirectly, by the Company.

¹ 51% of the voting stock of Les Laboratoires Bio ForeXtra Inc. is owned directly by the Company.

² 90% of the voting stock of International Flavors & Fragrances (Hangzhou) Co., Ltd. is owned indirectly by the Company.

³ 93.36% of the voting stock of International Flavours & Fragrances India Private Limited is owned indirectly by the Company.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-209889) and Form S-8 (No. 333-126421, No. 333-120158, No. 333-102825, No. 333-61072, No. 333-51436, No. 333-50752, No. 033-54423, No. 333-171297, and No. 333-203902) of International Flavors & Fragrances Inc. of our report dated February 27, 2018, relating to the financial statements, financial statement schedule and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

New York, New York

February 27, 2018

CERTIFICATION

I, Andreas Fibig, certify that:

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

Date: February 27, 2018

By:	/s/ Andreas Fibig
Name:	Andreas Fibig
Title:	Chairman of the Board and Chief Executive Officer

CERTIFICATION

I, Richard A. O'Leary, certify that:

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

Date: February 27, 2018

By: /s/ Richard A. O'Leary

Name: Richard A. O'Leary

Title: Executive Vice President and Chief Financial Officer

