Fact sheet: AkzoNobel **Specialty Chemicals**

March, 2017

AkzoNobel 📝

AkzoNobel's Specialty Chemicals business supplies customers worldwide with high quality ingredients for the manufacture of life's essentials. Our chemicals are used in paints, detergents, foods, plastics, cosmetics, construction, pulp and paper, pharmaceuticals, electronics, agriculture and for producing petroleum products.

2016 key results: Return on investment (ROI): **17.9%** Employees: 9,000 Sites worldwide: 80+

Executive Committee member: Thierry Vanlancker

Revenue: €4.8 billion FBIT: €629 million





Growth

We focus on continuous improvement and supplying sustainable solutions to grow with our customers. In 2016, we expanded production, launched innovative products and increased both volumes and profitability.







Expanding production

- Two new plants at our Ningbo multi-site in China ensure reliable production for our Polymer Chemistry and Surface Chemistry businesses
- In January 2017, our Los Reyes plant in Mexico was expanded to increase production of organic peroxides
- AkzoNobel and Atul recently agreed to jointly invest in a MCA plant in India in December 2016
- During 2016, we broke ground in Germany on a new site for the production of chlorine and hydrogen, in cooperation with Evonik

Recent product innovations

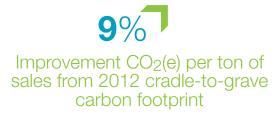
- Following the recent launch of Dissolvine M-40, detergent manufacturers have access to a biodegradable, sustainable alternative for phosphate builders without compromising on performance
- For outdoor cleaning products, Berol DR-B1 was launched in 2016 as a safe and sustainable ingredient suitable for both consumer and commercial applications that involve direct release
- Expancel has been approved as an ingredient in wine corks, further expanding the number of applications of these unique microspheres, which are minimal in weight, but can expand up to 60 times in volume





Sustainability

We continue to do more with less, reducing carbon emissions through a combination of improved energy efficiency, increased use of renewable energy and higher use of bio-based raw materials in production. Downstream, we focus on expanding our portfolio of eco-premium products, which have a significant sustainability benefit over common alternatives.







Recent developments

- Joint agreements for the development of wind parks <u>Krammer</u> and <u>Bouwdokken</u> in the Netherlands will provide sustainable electricity equivalent to the annual consumption of 140,000 households
- The <u>opening of a new biosteam facility</u> in Delfzijl, the Netherlands, will help reduce CO₂ emissions by 100,000 tons per year



Innovation

We believe that breakthrough solutions require collaboration across the value chain, and we continue to forge resilient partnerships through a model of open innovation.





Recent innovation initiatives

- Multiple partnerships are in place to expand innovations for bio-based chemicals, including a cooperation with <u>Photanol</u> for chemicals from photosynthesis; with <u>Itaconix</u> for bio-based polymers; with <u>Royal Cosun</u> for chemicals from sugar; and with <u>Avantium</u> for chemicals from wood
- Important steps towards the circular economy have been made in Germany, where AkzoNobel is part of a consortium of companies and universities looking to enable the conversion of CO₂ from steel production into chemicals
- In Rotterdam, the Netherlands, AkzoNobel is exploring the feasibility of converting waste into chemicals, together with Van Gansewinkel, Air Liquide, AVR and Enerkem
- The global challenge Imagine Chemistry resulted in over 200 submissions from start-ups and scientists to help solve real-life challenges for more sustainable chemistry



Business units

Polymer Chemistry

Polymer additives, organic peroxides, metal alkyls, HPMO

Key brands

Butanex.

Trigonox ®

Perkadox ®

Did you know?

The "bounce" in your shoe is provided by crosslinking plastics and rubbers, a technique made possible thanks to our organic peroxides.

Ethylene and Sulfur Derivatives

Ethylene oxide, ethylene amines, cellulosics, chelates and micronutrients, sulfur products

Key brands



Did you know?

Our ethylene amines make asphalt stronger and more durable, reducing the need for road work and keeping roads safe so you can sit back and enjoy the ride.

Industrial Chemicals

Salt, monochloroacetic acid (MCA), caustic/chlorine, chloromethanes

Key brands



10720

Did you know? Salt is not only an essential ingredient in our kitchen, but the chlorine derived from it also serves as the basis for a range of products, including PVC.

Pulp and Performance Chemicals

Sodium chlorate, hydrogen peroxide, Silica-based technologies and expandable microspheres

Key brands

eka



Levasil Colloidal Silica

Did you know?

Expancel is not only lightweight, but can grow up to 60 times in volume when heated, providing resilience to products ranging from wine corks to lightweight boats.

Surface Chemistry

Surfactants, ethoxylates, Special polymers

Key brands



Did you know?

AkzoNobel is the global market leader in film formers for hairsprays. This is the "glue" that holds your hair in place and helps maintain your hairstyle in high humidity.

About AkzoNobel

AkzoNobel creates everyday essentials to make people's lives more liveable and inspiring. As a leading global paints and coatings company and a major producer of specialty chemicals, we supply essential ingredients, essential protection and essential color to industries and consumers worldwide.

– CEO: Ton Büchner

- 46,000 people
- 80+ countries
- €14.2 billion in revenue

Revenue breakdown by Business Area in %



A Decorative Paints	27
B Performance Coatings	40
C Specialty Chemicals	33

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