

# Personal Care & Aroma Ingredients



BRIGHT SCIENCE. BRIGHTER LIVING.™



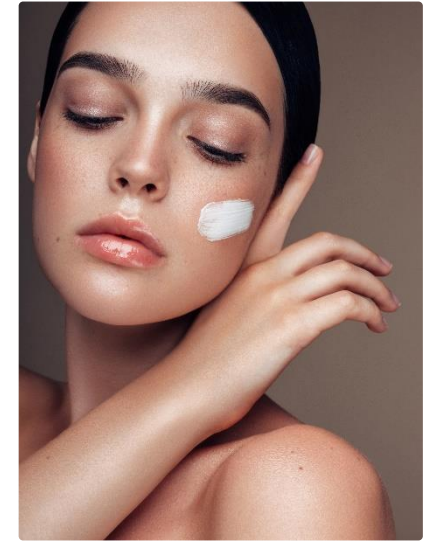
## Safe harbor statement

- This factbook may contain forward-looking statements with respect to DSM's future (financial) performance and position. Such statements are based on current expectations, estimates and projections of DSM and information currently available to the company. DSM cautions readers that such statements involve certain risks and uncertainties that are difficult to predict and therefore it should be understood that many factors can cause actual performance and position to differ materially from these statements. DSM has no obligation to update the statements contained in this factbook, unless required by law
- A more comprehensive discussion of the risk factors affecting DSM's business can be found in the company's latest Annual Report, which can be found on the company's corporate website, [www.dsm.com](http://www.dsm.com)



# Personal Care & Aroma Ingredients for home & personal care products

- **Personal Care & Aroma Ingredients** provides innovative solutions for sun, skin and hair care as well as for the fragrance and flavour industry. These solutions are used by many of the world's best-known consumer brands (€382m in sales in 2018)
- DSM's **extensive portfolio of key ingredients** includes peptides, natural bio-actives, UV filters, hair polymers, vitamins and (specialty) aroma ingredients (such as lavenders & ionones)
  - The product portfolio is complemented by a unique range of services in the areas of formulation, sensory, technical, quality and regulatory expertise
- The business is driven by global megatrends, local consumer beauty regime insights, and growth opportunities presented by emerging markets



# Personal Care & Aroma Ingredients

## Key Products



PARSOL®

Delivering the power of UV Protection. Crafted by our bright science, the PARSOL® portfolio offers the world's broadest range of high performing UV filters, and a globally recognized expertise on which our customers can build their brands



Natural  
ingredients

As well as being pioneers in the organic beauty market, DSM offers a wide-ranging portfolio of 55 natural ingredients certified at various levels from Organic to ISO 16128. This House of Naturals originates from edible vegetables, herbs, oils, milk, silk or marine algae. Some are extracted from natural botanical sources while others are produced sustainably using biotechnology



QUALI®-Vitamins

DSM's QUALI® vitamins help provide skin protection, lightening and other cosmetic benefits. DSM is leading an exciting revolution in vitamins. Bringing the power of vitamins to health and beauty and showing the incredible difference that quality vitamins can make to people's skin and hair



AMPHISOL®

Our dedicated AMPHISOL® portfolio offers a bedrock of emulsifiers for maximum formulation versatility in sun and skin care. We pay careful attention to the emulsifier and emulsion stability, enabling our customers to harness the power of robust emulsification to create creams with superior sensorial qualities



SYN®-Peptides

SYN®-Peptides offer specific skin benefits based on substantiated efficacy. The range is proven to be highly effective in the fight against ageing and our in-depth knowledge of peptide processing technology ensures quality and flexibility over the whole production process - providing tailored peptides for visible, targeted effects

# Personal Care & Aroma Ingredients

## Key Products

**ALPAFLOR®**

DSM's pioneering ALPAFLOR® portfolio offers a full range of high performing bioactives extracted from rare alpine plants that are cultivated organically in a pristine environment high in the Alps. Every step of our supply chain is traceable and is an excellent example of sustainability and fair trade in action

**VALVANCE®**

VALVANCE® is DSM's answer to consumer and customer demand for immediate, strongly perceived effects and for desirable formulations that couple cosmetic elegance with extra comfort. Specially designed with DSM's customary expertise to deliver on people's everyday beauty aspirations in skin care and sun care

**TILAMAR®**

Our 50-plus years of expertise in polymer technologies is dedicated to designing tailored, high quality TILAMAR® products that deliver outstanding hair care and styling benefits to help our customers stand out in their markets

**Skin Bioactives**

The agility of DSM, our people's expertise in skin biology and our advanced synthetic peptide and extraction technologies enable us to deliver in the targeted benefit areas and set new standards for improved skin appearance and ultimate skin sensation

**Aroma  
Ingredients**

Our bright science helps fragrance houses to continue innovating and producing products of the highest purity and quality that put a smile on consumers' faces. Targeted molecules include products already known to the industry, brand new molecules, or equally important intermediates, which support the industry's drive for success



# Personal Care & Aroma Ingredients

## Key markets

### Sun Care



DSM's PARSOL® portfolio offers the world's broadest range of high performing UV filters, and a globally recognized expertise on which DSM's customers can build their brands. DSM selects and combines UV filters in the most effective formulation, to deliver the required UV protection

### Hair Care



DSM's hair care formulations can be used in a variety of market application to create market leading products. DSM's hair care formulations include polymers alongside UV filters, skin bioactives and vitamins. Ingredients can be combined to create hybrid formulations that style, protect and provide care, so consumers get a product that fits in with their individual lifestyle and need

### Skin Care



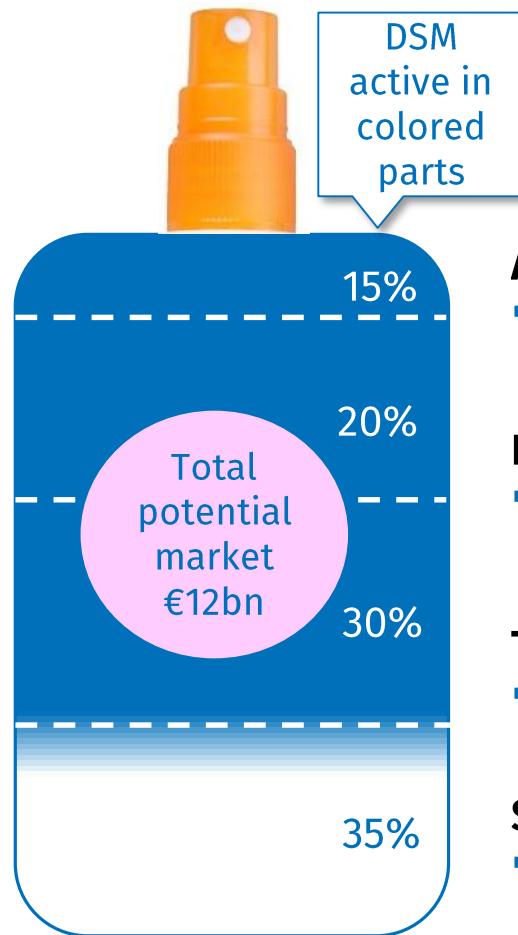
With 40 years of experience in skin care, DSM has developed a broad portfolio of claim substantiated skin actives – including our pioneering SYN®-Peptides, the unique, certified organic ALPAFLOR® line of alpine plant extracts with scientifically proven cosmetic efficacy, and vitamins from DSM's comprehensive portfolio optimized for cosmetic applications

### Aroma ingredients



Our bright science helps fragrance houses to continue innovating and producing products of the highest purity and quality. DSM constantly looks to expand its portfolio and develop innovative new products for the Fragrance customers. DSM's advanced chemical and biotechnological expertise, in combination with a unique technology and production infrastructure, are the cornerstones of DSM Aroma Ingredients Innovation capability

# Personal care ingredients market 2018



(x) = Growth rate 2018-2021 (CAGR, %)

## Active ingredients (3-6%)

- UV-filters, vitamins, skin care actives (natural extracts, synthetic peptides)

## Performance ingredients (3-4%)

- Hair conditioning & styling polymers, skin sensory modifiers & enhancers, pigments & dyes

## Technical ingredients (2-3%)

- (Co) emulsifiers, thickeners & rheology control agents, emollients, solubilizers, etc.

## Surfactants (0-1%)

- Fatty alcohols, FA sulphates/ ethoxylates/ ethersulphates, betaines, amphotacetates, etc.



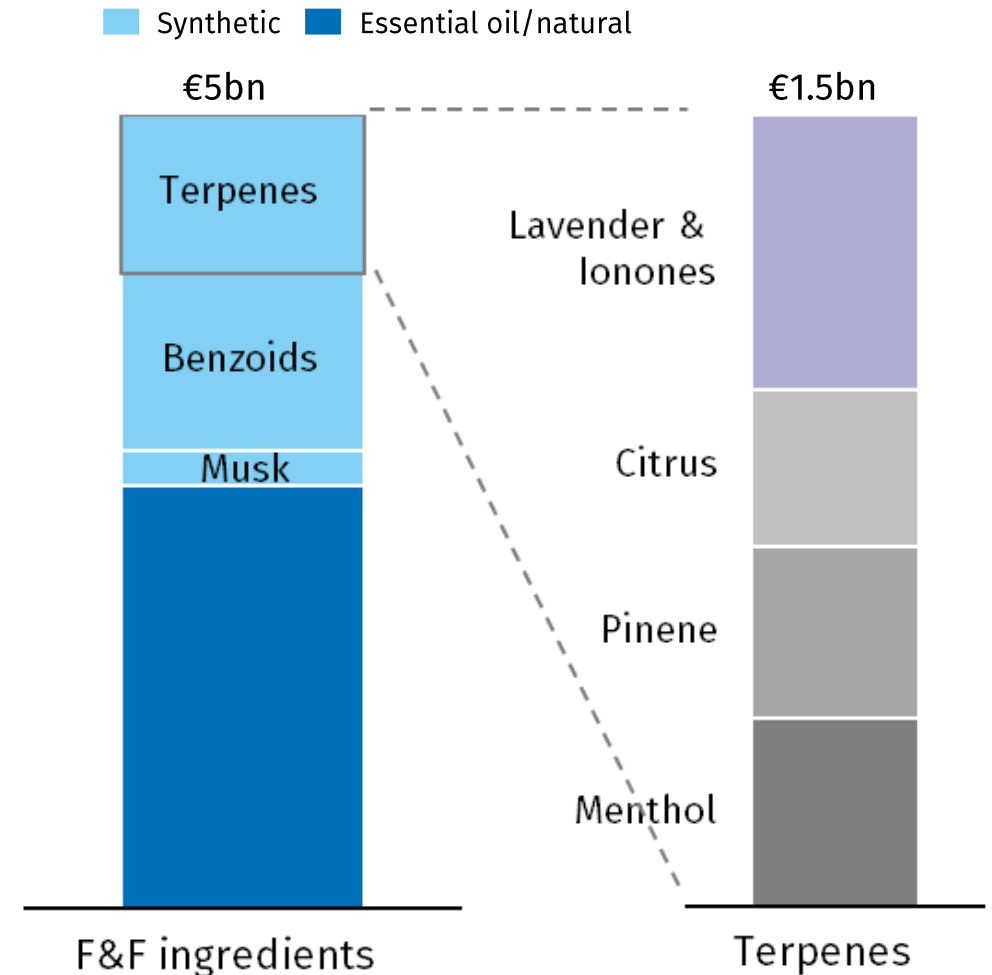
# Aroma ingredients market 2018

- DSM's aroma ingredients portfolio consists of **lavenders and ionones** that are sold to the world's leading fragrance and flavor companies
- These products find their use mainly in home and personal care products, fine fragrances as well as in the food industry
- Market growth for lavenders and ionones is expected to be **around 3-4% per year in 2018-2021** period
- DSM product range includes:

- Ionones
  - Alpha-Ionone
  - Beta-Ionone
  - Methyl-Ionone
- Lavender
  - Linalool
  - Linalyl Acetate
  - Tetrahydrolinalool



## Overview of the aroma ingredients market (2018)

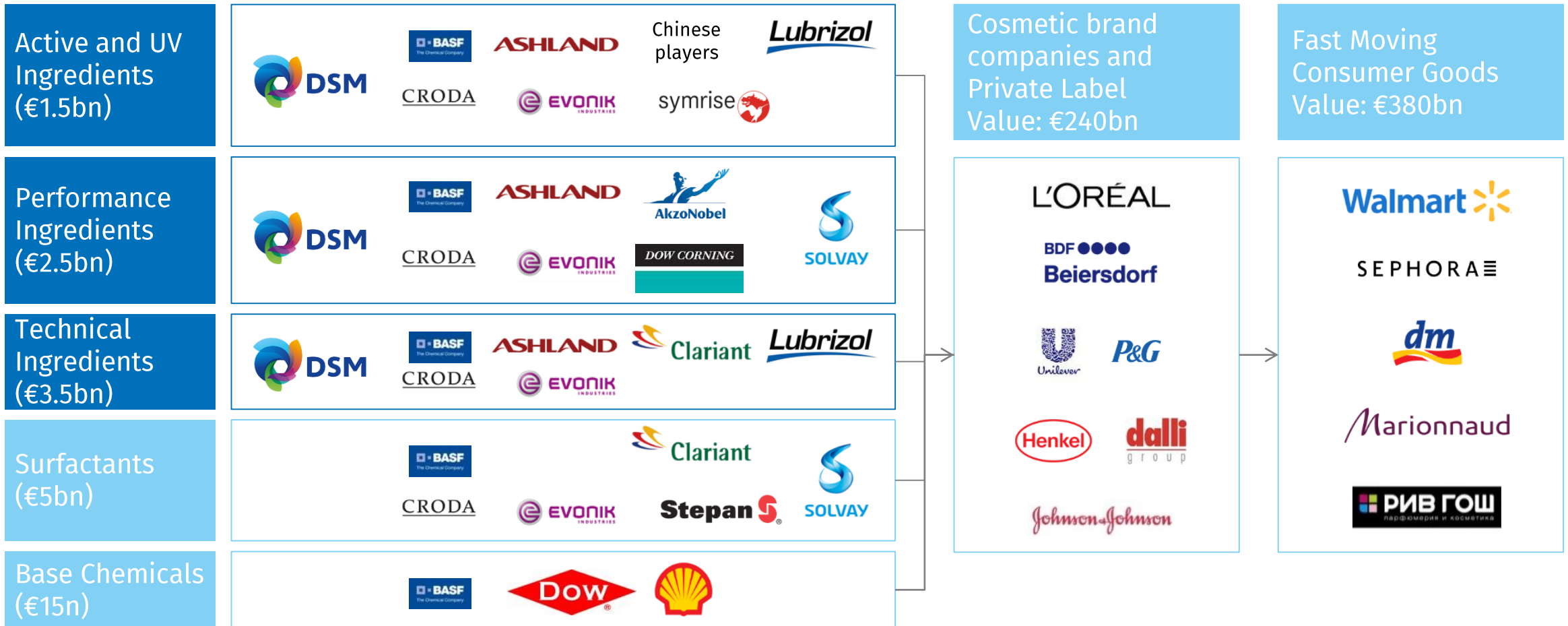




# Personal Care & Aroma Ingredients

## Value chain Personal Care

Selected Specialty Ingredients segments

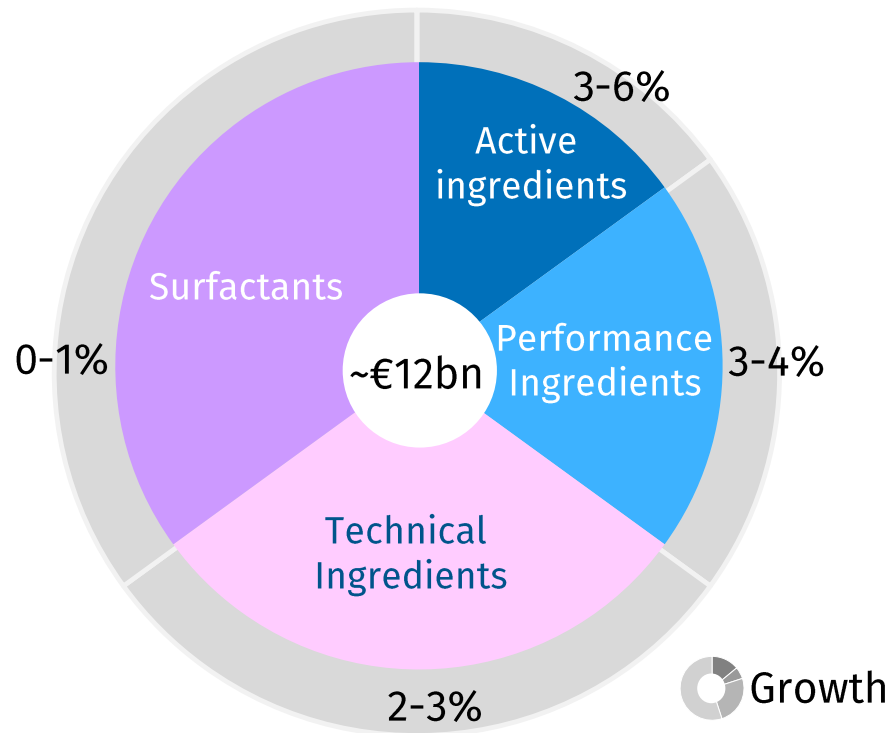


Leading position in selected key ingredients for cosmetic companies

# Personal Care & Aroma Ingredients

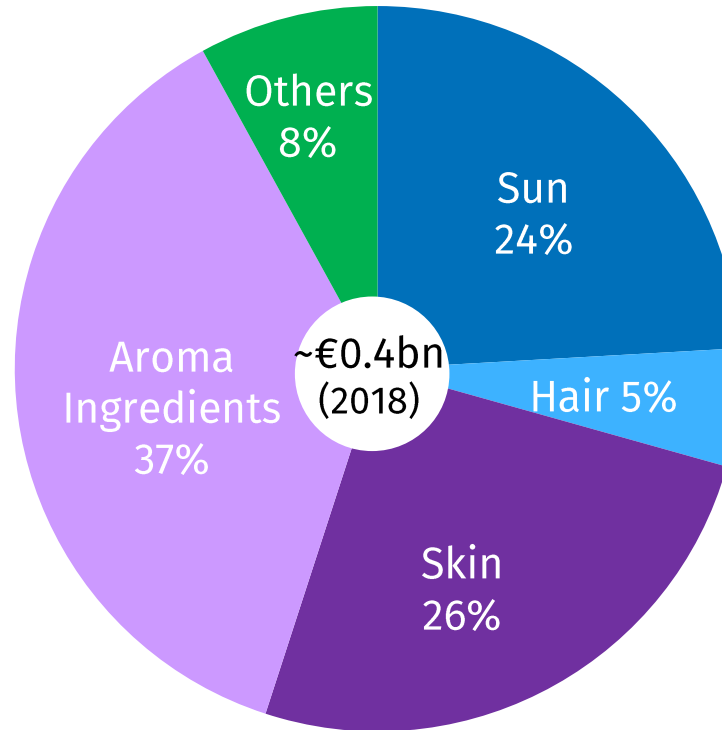
## Sales overview

2018 Personal Care ingredients Market by segment (%)



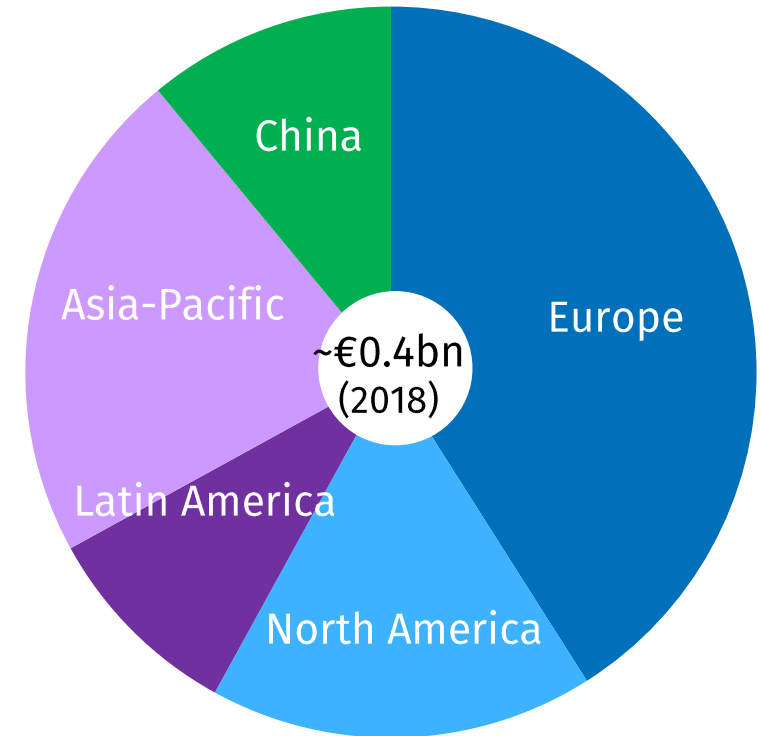
Market Growth 2-3%

DSM PC&A Sales by segment (%)



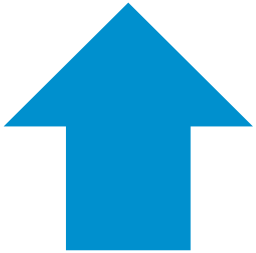
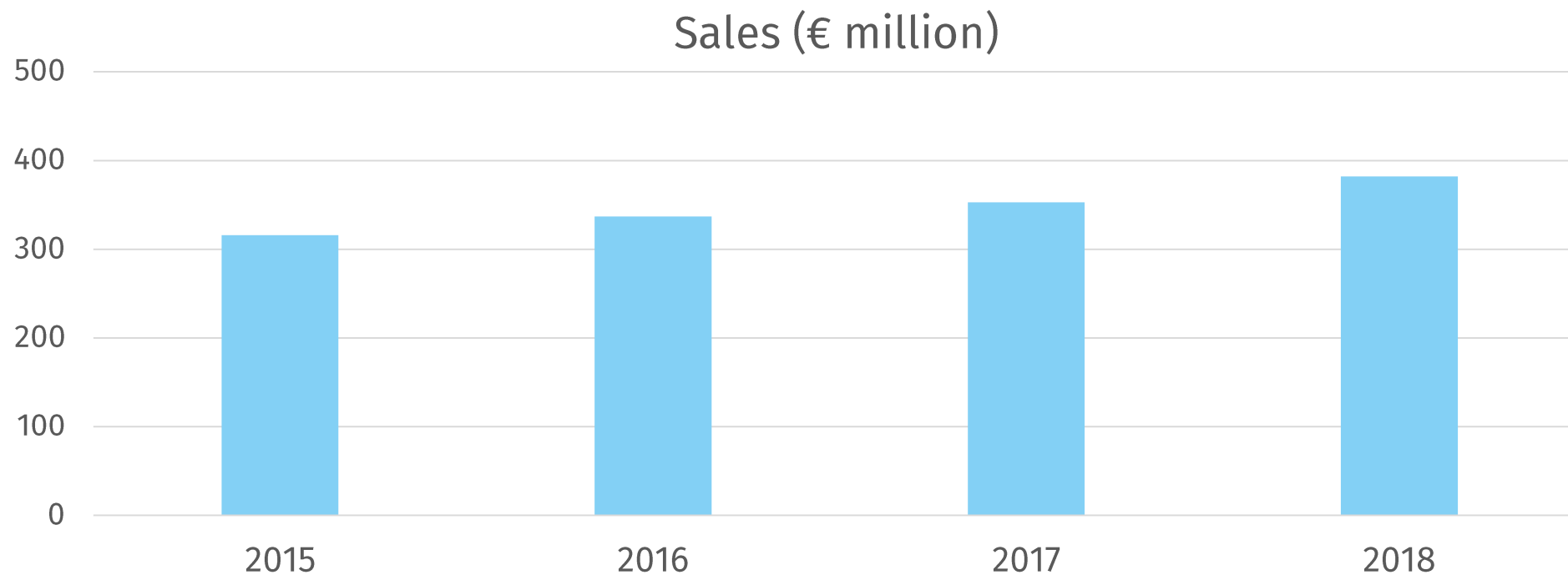
DSM Growth ~5%

DSM PC&A Sales by region (%)



## Personal Care & Aroma Ingredients

€0.4bn sales (2018)



8%  
CAGR organic growth  
2016-2018



# Sustainability GEMS

## PRODUCTS

### Quali®-E vitamin

The lowest carbon footprint.



### ALPAFLOR®

Organic and fair trade farming, green chemistry, traceability from seed to bioactive, certified.



### PENTAVITIN®

100% renewable, low carbon footprint, 100% natural origin, certified.



### Panthenol

CEFIC award for production process: energy efficiency, reduced emissions, reduced and reused waste.



## PROGRAMS AND TOOLS

### Quali®-E footprint calculator



### The House of Naturals



### Skin Cancer Prevention initiative



### DSM SUNSCREEN OPTIMIZER™



DSM Personal Care & Aroma Ingredients, Sustainability, 2019

# Personal Care & Aroma Ingredients

Continuous innovation – TILAMAR® Boost 150

**TILAMAR® Boost 150**  
**INVISIBLE ACTION FOR VISIBLE VOLUME WITH AN EXTRA TOUCH OF CARE**

- Unique and innovative **mechanism of action**

**VISIBLE**

SHAMPOO BOTTLE + WATER → WASHING STEP → RINSING STEP → GOOD WET COMBING PROPERTIES → DRYING → HIGH VOLUME PERFORMANCE

SEMI-DILUTE → DILUTE


**INVISIBLE** Polymer deposition via coacervate formation

LAMELLAR STRUCTURE → HEXAGONAL STRUCTURE

surfactant polymer → hair

Lamellar phases (L) transforming to hexagonal phases (H) while drying

- Proven volume and care benefits** via **instrumental and hair dresser tests** (up to **300%** volume boosting vs shampoo base when combined with conditioning polymer!)
- Easy to add** in your existing formulation



IN-COSMETICS AWARDS 2014

DSM

## TILAMAR® Boost 150

Achieving the ultimate volume is one of THE top trends in hair care – and one of the TOP desired benefits by consumers. But, it's one of the most complicated to achieve, especially together with care properties! Based on 50 years of expertise in materials science, we have identified, out of 500 trials, a unique hyperbranched polymer offering both incredible volume and care properties with its unique mode of action

# Personal Care & Aroma Ingredients

## Continuous innovation – PARSOL® ZX

### PARSOL® ZX

#### MINERAL FUSION FOR BROAD PROTECTION

- PARSOL® ZX's particle size ensures:
  - ✓ SPF & UVA best performance
  - ✓ blue light protection
  - ✓ optimized sensory
- 3 new all-mineral formulations with high pigment load but also for daily care of make-up



**Mineral Protection into the Blue SPF 30**  
Sun protection cream based on only mineral UV-filter with optimized sensory



**Mineral fusion CC cream SPF 30**  
For people who want UV mineral based formulation but with some light make-up effect to look at their best



**Mineral fusion BB cream SPF 30**  
For people who want UV mineral based formulation but with some light make-up effect to look at their best



### PARSOL® ZX

When it comes to sun care, consumers are familiar with mineral UV-filters, such as Zinc Oxide. This is interesting because we know that high familiarity often correlates with high levels of trust. With PARSOL® ZX Zinc Oxide grade, DSM has combined high SPF protection, excellent UVA performance and blue light protection in one mineral UV-filter



# Personal Care & Aroma Ingredients

*Continuous innovation – PEPHA®-AGE*

## PEPHA®-AGE

**STIMULATES SKIN'S OWN DEFENSE AGAINST BLUE LIGHT**

- ✓ Proven efficacy against blue light induced **skin hyperpigmentation** (-30%) and irritation (-25%)
- ✓ **Prevents the skin premature aging** by reducing ROS level (-35%) and carbonylated proteins (-60%)
- ✓ Protects the fibroblasts viability and boosts the **collagen synthesis** (+34%)

### Skin benefits:

- ✓ Reduces skin damage caused by sun light
- ✓ Offers even skin tone
- ✓ Minimizes the appearance of ageing after exposure to blue light and UV



## PEPHA®-AGE

Many consumers have started to make the link between blue light and potential harm to skin, but there is still a need for more information and scientific evidence. Specialized in the development and manufacturing of active ingredients of natural origin, pioneering researchers at DSM have already identified potential in the sustainable freshwater alga *Scenedesmus rubescens*, a unique cell with developed self-defense capabilities. In the form of the bioactive PEPHA®-AGE, the algae has been shown to stimulate skin's own defense against the negative impact of blue light and UV radiation. Now, to prove its efficacy further, DSM has carried out two new studies

# Personal Care & Aroma Ingredients

*Continuous innovation – EPIBIOME BEAUTY™*

## EPIBIOME BEAUTY™

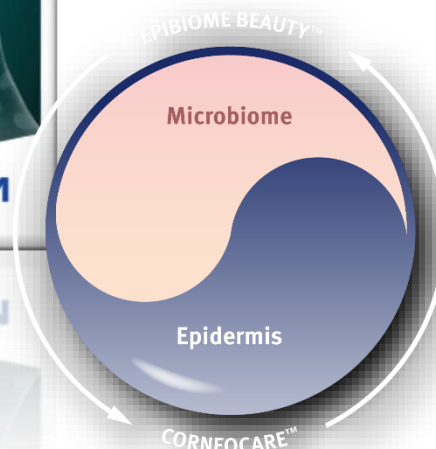
**THE NEW LEVEL OF SKIN WELL-BEING!**

- EPIBIOME™ BEAUTY combines our expertise in CORNEOCARE®, which builds a strong epidermal barrier, with the skin microbiome.
- For the first time in one clinical study, DSM scientists demonstrated the seen and unseen- the complex relationship between normal, dry or oily skin, and its microbiome.
- In total, more than 200 different bacteria species were identified - predominantly
  - ✓ CUTIBACTERIUM ACNES - an important gatekeeper that influences sebum production.
  - ✓ STAPHYLOCOCCUS EPIDERMIDIS - a keystone for healthy skin.
  - ✓ CORYNEBACTERIUM KROPPESTEDTII - a novel target for the control of skin redness



## EPIBIOME BEAUTY™

DSM is a key player in microbiome gut health solutions. We offer a wide range of products within the probiotic, prebiotic, and enzyme sectors. We are also recognized industry leaders in epidermal science, especially in relation to the skin barrier – the home of the skin's microbiota. By combining our expertise and knowledge in microbiology and epidermal science, we can create new innovative skin microbiome solutions





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