

# Fats & Oils Functionality

*Creamy, healthy, smooth, melting, ....  
get the best from fats & oils!*

*You want to develop excellent tasting low fat products, healthier fat blends, high value specialty ingredients, solve stability issues, or reduce costs?*

*NIZO food research offers the technologies and people to support your quick responses to changing market needs, consumers' growing health awareness, regulatory demands and trade branch agreements.*

*Team up with NIZO and together we will bring your products to the next level!*



## Your next level in...

### Reduced fat products

Fat has multiple, unique functions, contributing to the texture and flavour of a product. This is why taking fat out while maintaining high sensory quality is such a challenge. With NIZO you are able to:

- i. Identify the typical functions of fat in your product
- ii. Select or develop the most suitable fat replacement strategy



### Improved formulations

Processability and functionality in the end product are key concerns when modifying fat formulations. Use NIZO's food grade pilot facilities and test the performance of your ingredients in a wide range of food applications (e.g. cheese, spreads, ice cream, sauces).



### Why NIZO?

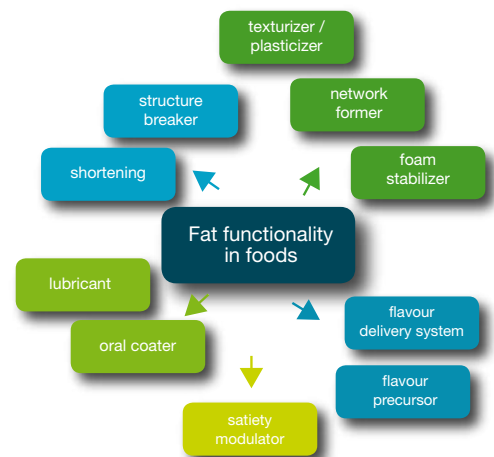
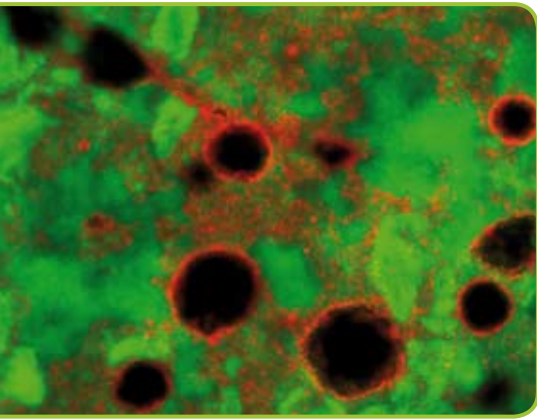
- 10+ years of in-depth study of fat functionality, crystallization, *in vivo* fat perception, and digestion
- uniquely scaled application facilities with industrial relevance
- 60+ years of experience with dairy fats, including patented NIZO butter process

### Healthy specialty ingredients

Minor fractions in fats and oils, e.g. specific fatty acids and phospholipids, often represent major value. Isolation and fractionation from side streams, providing proof of health benefits, or stabilization by using smart protection tools are just a few of the possibilities you can explore with NIZO.

***"Fat is an essential nutrient with unique functional properties. We'd better boost its strengths than condemn its use,"*** says Dr. Eva Düsterhöft, product manager at NIZO food research





## What we offer

### Fat replacement strategies

- Texture design & mouthfeel engineering
- Modulation of flavour release and perception
- Specialized *in-vivo* and *in vitro* analytics (e.g. tribology, CLSM, MS-Nose)
- Development of tailor-made fat replacers

### Encapsulation technologies

- Modification and encapsulation of sensitive compounds (e.g. PUFAs)
- Design of fat blends as effective coating materials
- Spray-drying/coating facilities (lab-, pilot-, industrial scale)

### Functionality-driven blend development

- Food grade facilities for fat blend production and testing in various food applications (mixing, homogenisation, deep-frying, baking)
- Industrially experienced application specialists

### Value creation out of specialty components

- Lab- and pilot facilities for isolation and fractionation of specialty components (membrane filtration, dry fractionation)
- Expertise in gut health & immunity, and satiety

### Characterization

- Analytics to unravel fat (blend) composition and origins, check authenticity and monitor shelf life: fatty acid, triglyceride and phospholipid composition, lipase activity
- Melting and crystallization, rheology, crystal size/type

### Track record

- Vegetable oil-based fat blends with excellent sensorial properties e.g. for low SAFA ice cream and cheese
- Proven anti-bacterial effects of specific fatty acids
- 'NIZO butter process': cultured butter from sweet cream
- Low fat cheese developments
- Proprietary technology for encapsulation and targeted release

### About NIZO food research

NIZO food research is a leading, independent contract research organization located in 'Food Valley', the Netherlands. Our services support your innovations (flavour, texture, health), cost management (process efficiency, ingredient replacement, test productions), and responsible entrepreneurship (food safety and quality, sustainability, evidence based health claims). **Creating benefits together is what we are after**

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