

PRIFEX[®]

DELIVERING CUSTOMIZED CONVENIENCE

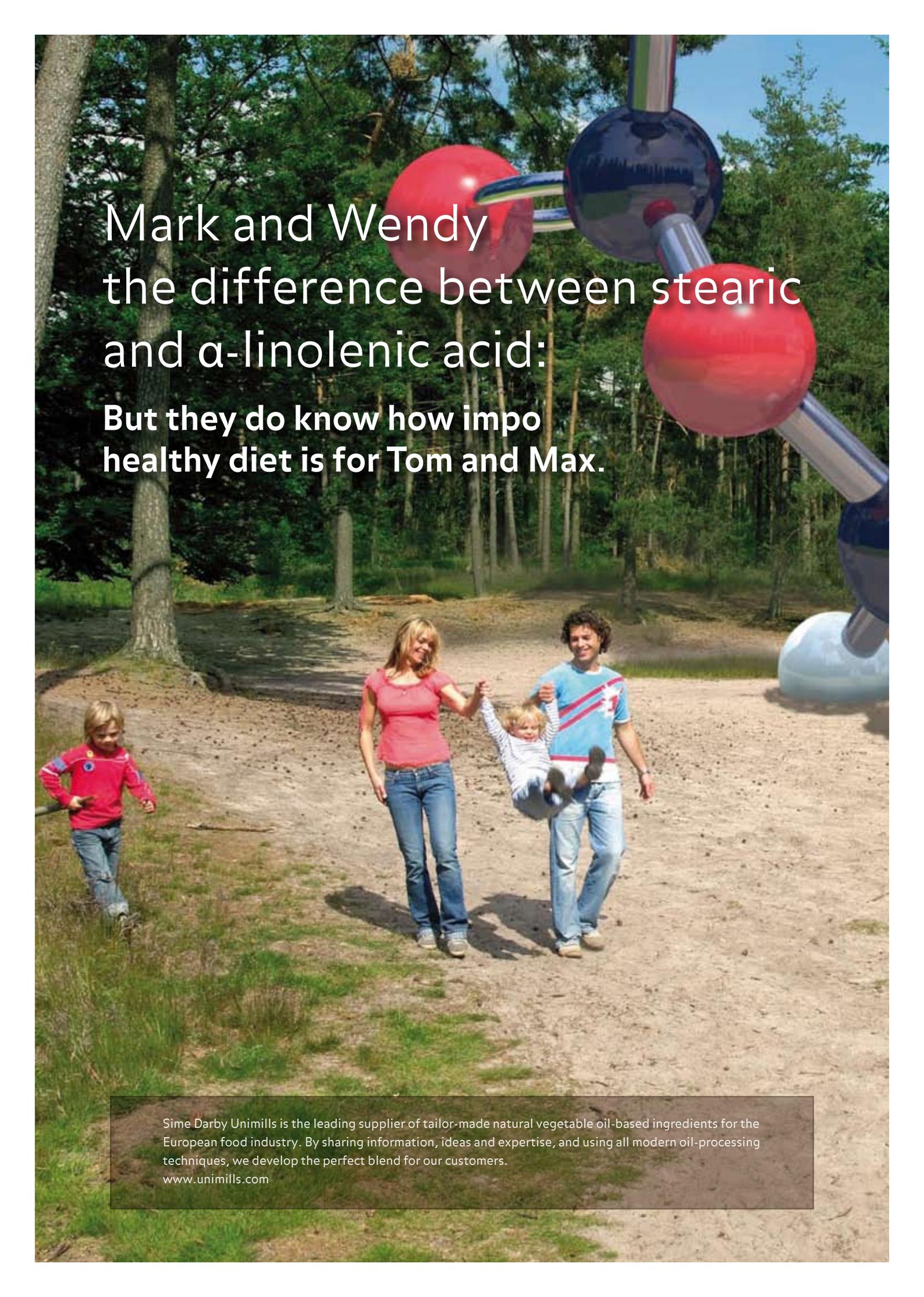


FLAKED FAT



UNI MILLS
Innovative partner. Vital to food.

A Sime Darby Plantation Company

A family of four is playing in a park. A woman in a pink shirt and blue jeans is holding a young child in a white shirt. A man in a blue shirt with red and white stripes is holding the same child. Another child in a pink shirt is running in the background. In the foreground, a large, colorful molecular model sculpture is visible, featuring red and blue spheres connected by silver rods. The background consists of a dense forest of tall trees under a clear blue sky.

Mark and Wendy
the difference between stearic
and α -linolenic acid:

But they do know how impo
healthy diet is for Tom and Max.

Sime Darby Unimills is the leading supplier of tailor-made natural vegetable oil-based ingredients for the European food industry. By sharing information, ideas and expertise, and using all modern oil-processing techniques, we develop the perfect blend for our customers.
www.unimills.com

Prifex® Flaked fats

Prifex® is our brand of flaked fats at the forefront of food processing delivering customized convenience to a wide range of food products. Prifex® Flaked fats are easy to handle, have a long shelf-life and are convenient to use. Typical applications for flakes are those that need easy mixing and dispersal of the fat without lumps or stickiness. From pizza doughs, to dry soups, to chewing gum, Prifex® Flaked fat is the product of choice for your application. Imagine a golden pizza crust with the heady aroma of toasted cheese and the delicate hint of garlic flavour, all delivered courtesy of Prifex® Flaked fats.



How do Prifex® Flaked fats deliver customized convenience? By providing customized flaked fats that are convenient to handle, easy to mix in powder formulations without sticking and smearing, have stable melting characteristics and have a shelf-life of up to one year. In addition, our advanced dosing technology, Prifex® Flaked fats can deliver natural ingredients such as flavours, vitamins and natural colorants like β -carotene to a broad range of food products.

Although customers have a wide selection of flaked fats to choose from, there are always applications that need flakes with special functionalities. Unimills can meet this need by delivering flaked fats customized to the most specific application.



Jessica enjoys her healthy lifestyle with healthy food she trusts.

Making the right selection

Ingredient selection is key to producing high quality products. Making a pizza dough or a chewing gum product is all about using the right Prifex® Flaked fat. To meet the needs of consumers, food manufacturers want smart solutions to improve the health characteristics of their food product. Yet, at the same time, they want to keep all of those excellent taste and melting textures. With our experience and manufacturing abilities, we are ready to support you in selecting the right Prifex® Flaked fats for your specific application.

Prifex® Products

Prifex® 100 series	Traditional flaked fats containing fully hardened fats
Prifex® 200 series	Traditional flaked fats containing fully hardened fats with added natural ingredients
Prifex® 300 series	Premium soft flaked fats based on natural unhardened fats
Prifex® 400 series	Premium delivery system of natural flavours, vitamins and colours based on natural unhardened fats



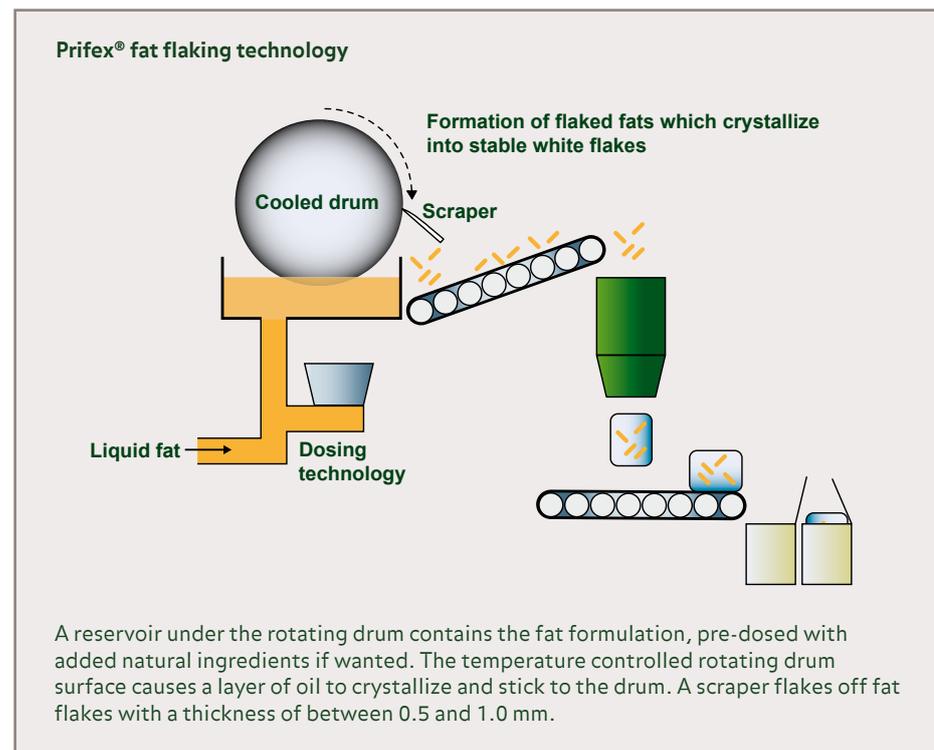
Formation of stable white Prifex® Flaked fats at the cooled drum.

Making Prifex® Flaked fats

Prifex® Flaked fats are made from natural vegetable fats with a melting point above 45 °C, which crystallize into stable, solid white flakes. Our flaking technology allows for the use of various natural vegetable fats to make flaked fats. A careful selection of the fatty acid composition and raw materials is needed to get the required functionalities.

The basis of our flaking technology is the careful selection and monitoring of the optimal liquid fat level in the reservoir as well as the drum speed and temperature. Of equal importance is the controlled removal of the crystallisation heat to reach a stable fat crystal form. To prevent cross-contamination between different products in the dosing plant, the equipment design allows for complete and easy cleaning.

The new cost-effective flavour delivery technology offers accurate and homogeneous dosing of these natural ingredients into an increasing number of food applications.

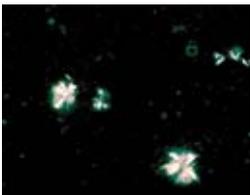
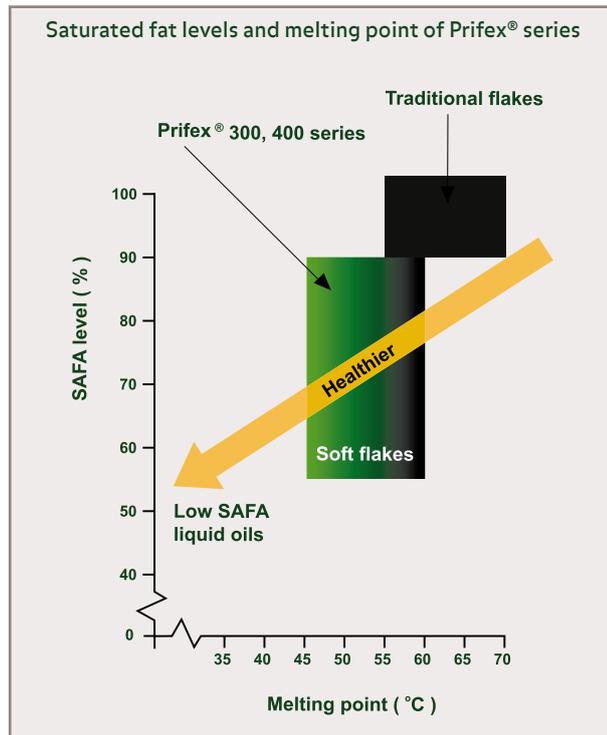




Innovation

We are market and technology leader in Europe on flaked fats with more than 25 years experience in manufacturing high-quality flaked fats. The latest innovations include flaked fats from unhardened fats with 30% less saturated fat than traditional flakes.

There is increasing focus on the health and nutritional benefits of the food we eat. We are aware that healthy food makes an important contribution to our lifestyle. The Prifex® 300 and 400 series help to meet this demand with flakes that have lower saturated fat levels and are only based on natural unhardened fats.



Microscopy of Palm oil crystal spherulite.

The Prifex® innovations even allow for an effective delivery of natural colorants, vitamins and flavours to foods. Flaked fats are used in a wide range of applications where there is a need for easy mixing and dispersal of fat without lumps or stickiness. All these applications use are based on one or more of the following unique characteristics of flaked fats:

1. Has the capacity to process powdered foods without smearing and sticking during high shear mixing.
2. Delivery system for natural vitamins, flavour and colour ingredients for food products.
3. Easy handling and dosing of relative small amounts of fats if liquid bulkfats cannot be handled.



Applications

There is an ever-growing range of applications for Prifex® Flaked fats in the market, such as liquid margarine, pizza dough, chewing gum, instant soup, peanut butter, chocolate spreads and paper coating wax.



Pizza dough

Consumers prefer a pizza with a light crispy crust, aerated with large bubbles to give the right look, crispiness and mouth feel. Manufacturers of thick pizza crusts want a laminated structure like a croissant without the need to use a dough lamination process. Liquid bulk fats and powders cannot provide this functionality. The limited use of the new innovative Prifex®, added at the end of the dough mixing cycle, creates large air bubbles, which some pizza eaters refer to as 'flaky crust'. The product of choice is the new Prifex® 301, based on natural unhardened fats; it contains 25 % less saturated fats than fully hardened flakes.



Chewing gum

The use of flaked fats in chewing gum helps to keep the gum soft and flexible and delivers optimal flavour release during chewing. Flaked fats allow the manufacture of a good sticky gum base, as the flakes' high melting point prevents liquid formation during gum moulding. Using limited amounts of the Prifex® 121 or Prifex® 125 in the gum base gives the desired flexibility and flavour release properties to the chewing gum.



Liquid margarine

Consumers increasingly prefer the use of liquid margarines to cooking oil, as they are more convenient to use at home. Delico® is the European leading brand in hardstocks for margarines and spreads. Our hardstock can be delivered in bulk for liquid margarines. Some liquid margarine manufacturers prefer to use solid flaked fats as hardstock to create a stable network in liquid margarines. For them, we offer Prifex® 124 to form a stable homogeneous liquid margarine convenient for use. In addition, we have developed Prifex® 300, based on natural unhardened fats for stabilizing liquid margarines, with the lowest possible saturated fat level.



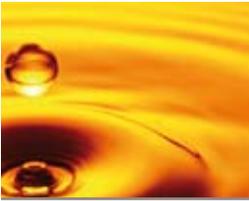
Instant soup

The base of most instant soup formulations is a dry mixture of all ingredients. For this process, it is critical to have a solid fat that does not stick and smear during high shear mixing. We developed two specific Prifex® formulations for this application. The traditional Prifex® 125, based on hardened fats, with a melting point of 55°C has a very long shelf-life and good functionality. The new innovative Prifex® 303, based on natural unhardened fats has a melting point of 53 °C and a saturated fat level that is 30% lower.

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Our approach

Our reputation for high-quality flaked fats is based on our in-depth knowledge and experience of processing oils and fats gained over almost 100 years. We believe that the best products are created through an approach of transparency and partnership. Transparency is a key element of success with the aim to innovate and manufacture ingredients effectively and responsibly.

At our site in Zwijndrecht, The Netherlands, we have all modern oil-processing techniques such as interesterification, double-fractionation and enzymatic re-arrangement. We are a leading producer of lecithin products modified by enzymatic hydrolysis or alcohol fractionation. We can add lecithin, flavours or natural colourants to the final oil blend. Sharing information, ideas and expertise, allows us to develop the perfect blend or recipe for our customers with shorter lead times and higher success rates.



Our responsibility is to ensure that each step from palm seedling to your product is sustainable.

Strategic thrusts

First and foremost, consumers look for products they enjoy. However, today's consumers are increasingly aware of health and environmental issues. Their enjoyment of a product increasingly depends on the knowledge that the product has been produced in an ethical, environmentally friendly and sustainable way. They want to eat good food and feel good about the choices they make. The Prifex® range delivers on this desire.

Most of our tropical raw materials come from sustainable sources: the estates of our Sime Darby plantations in Malaysia and Indonesia. Sime Darby, our parent company, is a founding member of the Roundtable on Sustainable Palm Oil (RSPO). We see it as our responsibility to source our raw materials from sustainable sources and to help all our customers to switch over to sustainable palm oil based products. As a company we believe that we can only have a successful future if we make sure it's a sustainable one.

We adhere to strict quality assurance standards, from raw material sources to final products. We have adopted various food standards such as HACCP, ISO, BRC and IFS.

Our strategic thrusts of Innovation and Responsibility are embedded in Prifex® fat formulations. By applying these thrusts to every aspect of our work, we are committed to meeting your needs and the needs of your customers, the consumers.



*Developing
Sustainable
Futures*

Contact

If you would like to learn more about how you could use our expertise to successfully co-develop your products, please contact our sales department or product development experts:

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