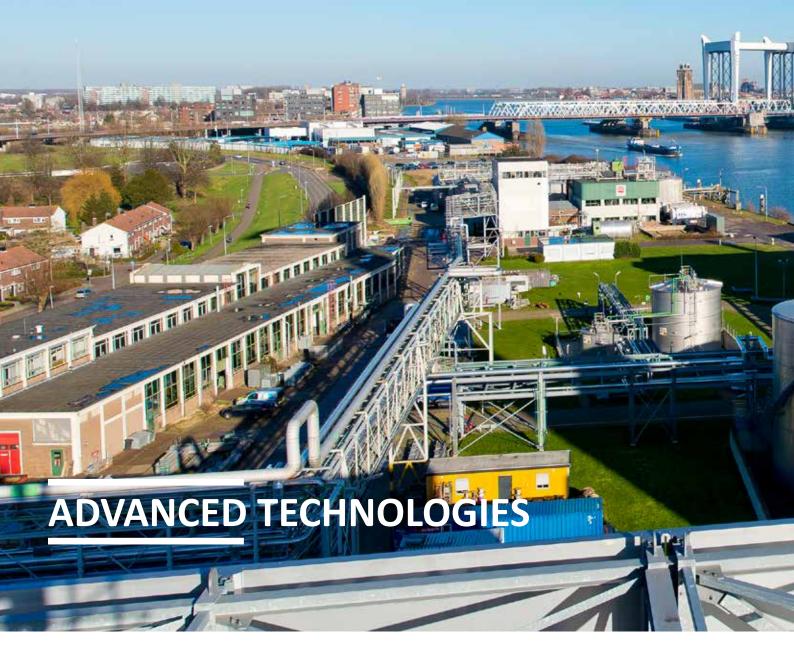
# PLANT-BASED LECITHIN INGREDIENTS FOR YOUR PRODUCTS

Native Fractionated Hydrolysed



Realising possibilities, together





## **History**

The production of our lecithins started 50 years ago in Zwijndrecht, The Netherlands. The processes and conditions of factory-scale fractionation and hydrolysis of lecithins in our factory were developed by Unilever's Chief chemist Mr. Hermann Pardun in the 60's and 70's.

Based on these technologies, our tailor-made lecithins are produced for Food, Feed, Pharmaceutical and Technical applications, in which they offer functional and commercial added value. Our hydrolyzed lecithin is an excellent oil-in-water emulsifier for ensuring good food and feed processing ability.



The fractionated lecithin ensures a high PC value which is beneficial for specific nutrition and pharmaceutical properties.

We are part of Sime Darby Oils, Malaysia's largest agri-business and global leader in palm oil production, with location in North America, Europe, the Middle East and Asia. We supply lecithin products globally in various packaging types, and ensure the highest product quality and shelf life.



#### **About Us**

We make the difference through the staff, a team of dedicated professionals, who value customers, deliver on promises, and aim for a challenging long term relationship.

We provide customers with the best value and consistent quality of lecithin products for the industry by actively exploring opportunities beyond boundaries. The strategic goal is to go one step further and to anticipate our customer demands.

Our products improve the ease of processing, reduce total production costs and improve the performance of the customer's product.



Our logistical solutions cut lead times and improve our responsiveness to our customers' actual demands. Our team is constantly challenging the ordinary with creative solutions.

We are an independent lecithin supplier sourcing from various crushers around the world, and offer a full portfolio of lecithins to our customers.

We are a technical partner in R&D and a single point of contact for customers for all their lecithin needs. We supply our customers from stock to reduce lead-times and to improve flexibility in delivery.



### **Global Shipment**

Lecithin is added in relative small quantities in many applications, but it has a significant impact on quality and functionality. Due to globalization, premium quality of lecithin has become a necessity for producers all around the globe.

Over the last years we have seen small local producers and large multinationals in all continents in search of specific lecithin that assist them in their emulsification and nutrition needs. This requires technology to produce premium quality lecithin and logistical expertise to ship globally.



We have international experience in supplying lecithin products across the world, and deliver our products in six continents today. We can help you with the arrangement of transport, take care of the needed international import and export documents, and we can offer a customized supply and storage solution.

We go beyond boundaries to supply you!



#### **Raw Material Supply**

Rising costs and the uncertainty regarding the availability of raw materials, makes an assured supply more complex than ever. We manage our raw materials efficiently and are constantly enhancing our supply chain operations around the world.

Our strategy is to have long-term contracts with our suppliers. We visit and audit them regularly, monitor the quality of raw materials, and see to it that they meet our corporate standards on sustainability. Also, we are exploring new resources of raw materials to ensure a constant supply of lecithin to our customers in future.



Our Bolec® and Sunlec® lecithin product ranges comply with the European food and feed legislation. Every product has been certified by:

- ISO 9001:2008
- ISO 14001:2004

• GMP +

- FSSC 22000
- Kosher & Halal
- Cert-ID

These certifications reflect the scrutiny in our sourcing efforts; you are guaranteed of the supply of premium quality lecithin.







Sunlec® sunflower lecithin is available in the following grades:

- Fluidized
- Hydrolyzed
- Fractionated
- Compounded

Sunflower seeds and their lecithin are Non-GMO by default and allergen-free. Sunlec® sunflower lecithins are therefore excellent replacers of soybean lecithins as allergen-free and GMO-free alternative. All our Sunlec® sunflower lecithins comply with relevant EU food and feed regulations.





Bolec® soybean lecithin is available in the following grades:

- Fluidized
- Hydrolyzed
- Fractionated
- Compounded

Available in GMO, GMO (PCR-ve) and Non-GMO (IP).

All our Bolec® soybean lecithins comply with relevant EU food and feed regulations.



## **Hydrolized Lecithin for Margarine and Spreads, Liquid Margarines**

- Improved anti-spattering through stronger water bonds in smaller droplets
- Produces stable low fat/salt emulsions as excellent O/W emulsifier
- Improved and more fine stabilized foam formation during shallow frying
- Better mouthfeel through improved melting profile of fat crystals
- Improved spreadibility through 30% smaller water droplets
- Easier to combine with other mono-glycerides due to molecule structure

## **Hydrolized Lecithin for Animal Nutrition**

- Healthier and faster growth of young animals
- Smaller micelles through up to 9,5 times more LPC than fluidized lecithin, while other
  lyso-phospholipids are also increased
- Improved fat absorption and digestibility through smaller micelles in gastrointestinal tract
- Superior wettability of milk replacers through enhanced hydrophilic properties
- Effective surfactant for dispersing solid particles containing metals and metal salts
- Promotion of health through improved mobilization of main nutrients



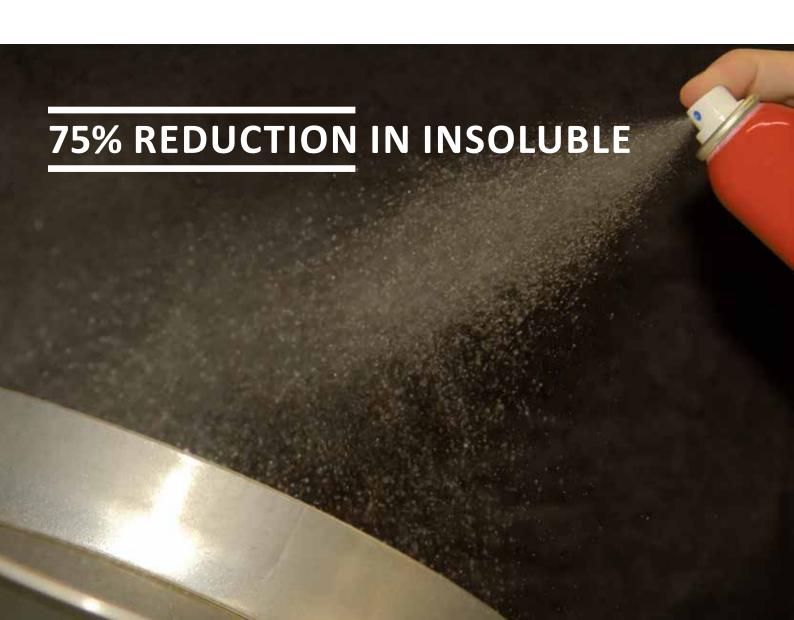


#### **Fractionated Lecithin for Nutrition and Dietetics**

- Improved stability of softgels by up to 130% more PC than fluidized lecithin
- Improved Heart & Health (supporting brain, liver, digestion and nerve systems)
- Faster physical recovery and growth through proper nutrient transportation, and absorption (metabolism)
- Reduced blood cholesterol levels through better dissolvability of cholesterol
- Improved learning and memory functions
- Improved structural integrity of cell membranes
- Excellent material for production of purified semi-synthetic and synthetic

## **Fractionated Lecithin for Release Agent**

- Improved sprayability by up to 75% reduction in Toluene Insoluble Matter
- Stable colour and less browning at high temperatures through absence of sugars and reduced PE/LPE levels
- Dissolves more clear in vegetable oils and solvents while stabilizing emulsions
- Easier product release from mould/pan/tray and reduction of waste and cleaning
- Food grade and fog reducing
- Safeguards against sediments when mixed in oil



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