



LECITHIN



A Sime Darby Plantation Company



Lecithin: The natural emulsifier

Lecithin is the collective term used for a group of substances, also known as phospholipids or phosphatides, that are present in all animal and plant cells. Phosphatides have strong surface-active properties, which means they reduce surface tension at the interface between oil and water. If you add a lecithin to a product, therefore, you ensure a stable emulsion process, as the lecithin will disperse the oil into incredibly small droplets during the homogeneous water phase. Without the addition of lecithin, the oil and water would separate after stirring.

However, because not all lecithin is the same, it is essential you select the right type of lecithin for your product. In addition to our high quality native Sunlec® sunflower lecithin and Bolec® identity-preserved soya lecithin, we also offer lecithin products enhanced using two sophisticated processes: Enzymatic hydrolysis and alcohol fractionation.

Enzymatic hydrolysis improves the emulsifying properties of lecithin by increasing the interaction between proteins in complex food systems. This dramatically improves lecithin's resistance to stress conditions such as heat, salt and certain pH levels.

Alcohol fractionation redistributes the phosphatides according to their respective hydrophilic and lipophilic properties. After the alcohol fractionation process has been completed, two different fractions are formed: Alcohol-soluble and alcohol-insoluble. These different fractions offer a range of benefits in manufacturing of different food products.



Our approach

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. 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 strategic thrusts of Innovation and Responsibility are embedded in all our lecithin products. 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.



LECITHIN APPLICATIONS

Below is a list of just some of the different applications and benefits of our lecithins. The most suitable type of lecithin for each application is marked with a **○**

	Native lecithin	Hydrolyzed lecithin	Fractionated lecithin
Margarine	○	○	○
	Decreases spattering, improves emulsification, flavor, texture and shelf life. Our products also offer bubble-size control and a rich gravy color. Combinations of monoglycerides and (hydrolyzed) lecithins reduce spattering, burning and sedimentation problems. PC-enriched lecithin offers a higher PC/PE ratio, and is especially suitable for milk protein and low-salt-content margarine.		
Bakery products	○	○	
	Enhance shelf life, volume, texture and moisture retention. Can be used as gluten-chemistry modifiers, emulsifiers and as stabilizers for fats, antioxidants and wetting agents. They prevent retro gradation and can be removed from processing equipment easily.		
Chocolate/ confectionery	○	○	○
	Reduces viscosity, lowers the yield point and cuts down on the cocoa butter requirement. The type of lecithin used is determined by the type of chocolate. PC-enriched lecithins strongly decrease viscosity and are therefore particularly useful in hollow figures and chocolate coatings. In compound coatings, PC-enriched lecithins offer improved moisture tolerance, enable better viscosity control, protect sugar molecules from aggregation with water and eliminate the tendency of chocolate coatings to bleed and crack. When used in soft caramels, they increase consistency and offer better machinability.		
Dietetic and pharmaceutical	○		○
	Phospholipids (PC) may have a positive effect on cardiovascular and liver health, memory, physical performance and cognitive development. Phospholipids are easier for the body to absorb and have a better bio-availability than choline salts.		
Mayonnaise/ salad dressings		○	
	Low pH-values generally hinder the emulsifier from forming stable emulsions, especially if other destabilizing factors like thermal treatment or high salt content are present. Adding an additional amount of a de-oiled lyso-lecithin to lipoproteins helps to maintain a stable consistency even in thermally disadvantageous process conditions.		
Instant noodles	○	○	
	Enable shorter mixing times and smooth, non-sticky dough. They also offer better rehydration and ensure that released fat is kept emulsified.		
Chewing gum	○		
	Improves softness and moisture retention, and reduces stickiness during production.		
Frozen food		○	
	Ensures the separation of individual items and the formation of smaller ice crystals.		
Release agents	○		○
	Lecithin oil combinations are widely used as release agents or separating agents in cooking equipment. Ethanol fractionation increases PC and decreases PE, which is one of the reaction partners for browning products. Fractionated lecithins also dissolve clearly in vegetable oils and do not tend to leave sediment.		
Instant drinks/ milk powder	○	○	○
	Can be used as instantizers, emulsifiers, antioxidants, dispersing agents, wetting agents and as nutritional supplements. Moderately PC-enriched products also have much less influence on taste because of relatively low dosage levels.		
Cocoa powder	○		
	Improves the wettability of cocoa powder.		

This is just a small selection of applications of our lecithin products. We offer a whole range of other food and non-food applications available - contact us to find out more.



*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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