PRODUCT SPECIFICATION

DATE OF ISSUE 26-06-2023
PRODUCTION: 30332409

ORGANIC SUNFLOWER LECITHIN (E322)
NATUURLIJK NATUURLIJK PRODUCT CODE: X1687, X1688, X1689, X1690

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special food ingredients

1. PRODUCT IDENTIFICATION

1.1 Supplier product information

Product name	**Organic sunflower lecithin powder**		
Production	**30332409**		
Product code	**Content**	**EAN**	**Packaging**
X1687	30g	8718309832094	Plastic jar and screw lock cap with warranty seal. Jar = 05 PP Cap = 02 PE-HD
X1688	80g	8718309832100	
X1689	350g	8718309832117	
X1690	5kg	8718309832124	Blue bag = 02 PE-HD in box with warranty seal.

1.2 Scientific product information

Single ingredient	
Main use	Emulsifier, stabiliser
Chemical name	Deoiled powdered organic sunflower lecithin

1.3 Legislative product information

CAS number	8002-43-5		
EU food additive	E322		
Country of Origin	Germany		
Certification	Organic	**Certification number**	103446
	Institute	Skal NL-BIO-01	

2. PRODUCT INFORMATION

2.1 Physical and Chemical properties

	Unit	**Specification**	**Method**
Appearance		powder	
Colour		yellow-brown	
Odour/taste		typical, not rancid	
pH		6-7	10g/L H^2O, 25°C
Ignition temperature	°C	> 400	
Acetone insoluble	%	98,3	based on AOCS Ja 4-46
Moisture	%	1,1	based on AOCS Ja 2b-87
Acid value	mg KOH/g	27,9	based on AOCS Ja 6-55

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Peroxide value	meq/kg	<0,2	based on AOCS Ja 8-87
Phospholipids	g/100g	73	
- phosphatidylcholines	g/100g	27	
- phosphatidylethanolamines	g/100g	11	
- phosphatidylinositol	g/100g	24	
- phosphatidic acid	g/100g	6	
2.2 Microbiological data			
Total plate count	Cfu/g	140	EP 2.6.12
Moulds, Yeasts	Cfu/g	70	Ep 2.6.12
E Coli	1 g	absent	Ep 2.6.13
Salmonella	25 g	absent	Ep 2.6.31
2.4 Nutritional Information			
2.4.1 Nutritional Values			
Energy	kJ/100g	3.150	
Energy	kcal/100g	750	
Protein	g/100g	0	
Carbohydrate:	g/100g	8	
Of which Sugars	g/100g	3	
Polyols	g/100g		
Starches	g/100g		
Others	g/100g		
Fat:	g/100g	91	
Of which Saturated	g/100g	11	
Mono-unsaturated	g/100g	9	
Poly-unsaturated	g/100g	30	
Transfatty acids	g/100g		
Cholesterol	mg/100g	0	
Water	g/100g	1	
Organic acid	g/100g		
Dietary fiber	g/100g		

2.4.2 Minerals			
Sodium chloride (NaCl)	mg/100g	0	
Phosphor (P)	mg/100g	3000	
3. FOOD INTOLERANCE			
3.1 Allergens			
Yes = √ / No = X	**Contains**		
Cereals containing gluten and products produced with these (wheat, rye, oats, spelt, barley)	X		
Coriander	X		
Crustaceans and Shellfish	X		
Eggs and egg products	X		
Fish and fish products	X		
Lupin and products thereof	X		
Milk and milk products (including Lactose)	X		
Molluscs and products thereof	X		
Mustard and mustard products	X		
Nuts and nut products (almonds, hazelnuts, walnuts)	X		
Peanuts and peanut products	X		
Sesame and sesame products	X		
Soybean and soybean products	X		
Sulphite (E221 – E228)	X		
Sulphur dioxide (>10mg/kg)	X		
3.2 Suitability for other diets:			
Coeliacs	√	Lactose intolerant	√
Vegetarian	√	Vegans	√

3.3 GMO Declaration:

Organic sunlower lecithin does not contain genetically modified organisms and is not produced using raw materials of a genetically modified origin. At no stage during production does the product comes into contact with genetically modified organisms.

4. STORAGE CONDITIONS

Storage conditions	In closed original packaging. Must be kept cool and dry in a well-ventilated place.
Shelf life	24 months after production, under the above mentioned conditions.

5. FOOD SAFETY

5.1 Hygiene:

This product is produced in a facility wit an on HACCP based food safety system.

5.2 Identifications of dangers:

Classification of the substance (Regulation (EC) No 1272/2008)	Not classified. (non-hazardous)

6. EXTENDED PRODUCT INFORMATION

6.1 Usage

Function in food
Phospholipids are the active ingredients of lecithin and have a two-part molecular structure. One part is lipophilic (high affinity to fat/non-polar phase). and the other is hydrophilic (high affinity to water/polar phase). The phospholipids tend to dissolve in fat and disperse in water. This surface activity is the basis for the majority of lecithin applications and allows the formation of both water-in-oil and oil-in-water emulsions.
Besides nutritional benefits, phospholipids have the following functional properties in food products: emulsification and stabilisation of oil-in-water or water-in-oil emulsions; release and anti-spattering effects; adjustment of the flow properties in chocolate masses; improvement of the wettability of instant products; as well as optimisation of the gluten network of baked goods.

Bread
Lecithin improves the extensibility of the gluten, which has an impact on various aspects of the baking process. It is therefore especially suitable for weaker flours. It improves the workability of the dough, stabilizes the fermentation process because the dough becomes less porous, and improves gas retention, resulting in a larger loaf volume and a more uniform crumb structure. And it improves the sliceability of the baked bread. In addition, lecithin interacts with the wheat starch, slowing the retrogradation of the amylose and improving water binding, resulting in a longer shelf life. It is therefore also used in all kinds of bread improvers. The maximum dosage is 2 grams per kg of flour.

Biscuits and wafers
The quality of biscuits, wafers and other pastry products is improved by adding lecithin as it assures; a better homogenization of the different ingredients; a better emulsification of the fat; improved water binding. This results in better cohesion and a more uniform browning of the product. It will also reduce breakage. Wafers can be more easily removed from the waffle irons. The nutritional quality of the biscuit and wafer is also improved due to the reduction of

fat and oil. Because of the emulsifying properties, fat is more evenly distributed which results in a more efficient use of the fat or oil.

Frozen Doughs
In deep frozen doughs, lecithin improves the freezing and thawing stability. The growth of large ice crystals is inhibited. This reduces mechanical damage of the dough gluten network and protecting yeast cells.

Margarine or oil
Lecithin is widely used in margarine applications. In frying margarines, it is not only used as emulsifier, but also for its anti-spattering characteristics.
Lecithin promotes the browning due to its interaction with proteins; it improves the aroma, avoids sediment sticking to the pan, keeping particles dispersed and limits foam formation. In margarine for baking applications, lecithin improves the elasticity of the margarine and its baking properties.

Chocolate
Chocolate is a complicated disperse system with sugar crystals and cocoa particles dispersed in a continuous cocoa butter matrix. The phospholipids in lecithin attach to the hydrophilic surface of sugar and cocoa because of their bipolar molecular structure and reduce in such a way the internal friction between the solid particles of the chocolate mass. In consequence viscosity and yield point are reduced, thus saving expensive cocoa butter. As a rule of thumb it can be said that 0,5% lecithin addition can save approximately 6% of cocoa butter.

Caramels and gums
In soft caramels, fudges, toffees and gums not only viscosity is important but fat distribution and stickiness must also be considered. The anti-sticking effect of lecithin is wellknown in products where sugar and water are present. Lecithin avoids the increase of moisture at the surface of the product and prevents the recrystallization of the sugar. The emulsifying properties of the lecithin achieve a fine and homogeneous distribution of the fat.

Convenience food and instant products
Dry food powders are very convenient for the end user, provided the reconstitution into water, milk or juice is without problems. Reconstitution means wetting, sinking and dispersing of the powdered food product. In cases where the fat content (especially free surface fat) is too high or the particle structure is too fine then the addition of lecithin as a problem solver can be extremely helpful.
Instant products should be free flowing, rapidly soluble, easily wettable and quick to disperse when adding water or other liquids. Typical instant powders include dried milk products, cocoa and chocolate drinks, soups, and sauces, as well as protein powders. Common instantizing challenges are either poor wetting due to particle structure or presence of fat or rapid gelling at the surface, which coats the particle with an impermeable surface and prevents the powder from sinking.
The specific surface-active properties of lecithin improve the wettability characteristics of these powders significantly when coated with lecithin (dosage 0,1-2%). Lecithin also maintains the stability of the instantizing properties

Ice cream
It's the lecithin in egg yolks that makes them such good emulsifiers. However, lecithin can also be extracted from sunflower seeds. And this plant based lecithin emulsifies just as well as the lecithin in egg yolks without any of the eggy flavor and extra fat.
One large egg yolk contains about 1,5g of lecithin. So with mixtures that are between 0,2-0,5% lecithin by weight, you should be able to make an egg-less ice cream that's emulsified as well as it would be with egg yolks. Just mix it well with the rest of the dry ingredients.

6.2 Dictionary

NL	The Netherlands	Zonnebloem lecithine
GB	Great Britain (UK)	Sunflower lecithin
DE	Germany	Sonnenblumen lecithin
FR	France	Lécithine de tournesol
ES	Spain	Lecitina de girasol
PT	Portugal	Lecitina de girassol
IT	Italy	Lecitina di girasole
DK	Denmark	Solsikke lecithin
NO	Norway	Solsikke lecitin
SE	Sweden	Solroslecitin
FI	Finland	Auringonkukkalesitiini
IS	Iceland	Sólblóma lesitín
CZ	Czech Republic	Slunečnicový lecitin
SK	Slovak Republic	Slnečnicový lecitín
HU	Hungary	Napraforgó lecitin
HR	Croatia (Hrvatska)	Lecitin suncokreta
GR	Greece	Λεκιθίνη ηλίανθου
SI	Slovenia	Sončnični lecitin
PL	Poland	lecytyna słonecznikowa
RO	Romania	Lecitina de floarea soarelui
BG	Bulgaria	Слънчогледов лецитин
RU	Russian Federation	Лецитин подсолнечника
TR	Turkey	ayçiçeği lesitini

7. DISCLAIMER

Although we take great care in setting up this product specification, we cannot accept any liability for the completeness and fully accurateness of the information provided. The content of this Product Specification is completed to the best of our knowledge.

This document does not dismiss the user of his legal obligations with respect to food safety.

This product specification replaces any previously issued specifications.