

Emulsifier

Sunvolec VR

Product Code: 20030158

Version JJU

Description

SUNVOLEC VR is a amber viscous product with mild characteristic odor and taste of vegetable Sunflower oil. It contains a mixture of four main phospholipids (PC, PE, PL & PA).

Ingredients

- Natural phospholipids mix from Sunflower oil: Active substance; vegetable; E 322; 53-55%
- Sunflower Oil: Carrier; vegetable; 43-45%
- Rapeseed Fatty Acids: Carrier; vegetable; 2-5%

Product Specifications

(Measured on each lot)

Insoluble in Acetone (%)	Min. 53.0	Acidity (mg KOH/g)	Max. 30
Insoluble in Hexane (%)	Max. 0.3	Water content (%)	Max. 1.0
Viscosity (Ps,@25°C)	Max. 60	Peroxide Value (meqO2/kg)	Max. 5.0

Other Characteristics

Additional descriptive data (Tests are run sporadically)

Gardner colour Max. 12

Microbiology

Total plate count (CFU/g)	Max. 3000	Salmonella (/25g)	Absent
Yeast and moulds (CFU/g)	Max. 100	Escherichia coli (CFU/g)	Max. 10
Coliforms (CFU/g)	Max. 10	Staphylococcus aureus (CFU/g)	Max. 10

Contaminants

Aflatoxin B1 (µg/kg)	Max. 5.0	Cadmium (mg/kg)	Max. 0.10
Sum of Aflatoxins (B1, B2, G1, G2) (µg/kg)	Max. 10.0	Mercury (mg/kg)	Max. 0.20
Heavy Metals as Pb (mg/kg)	Max. 10	Cadmium (mg/kg)	Max. 0.10
Arsenic (mg/kg)	Max. 0.20	Pesticide Residues (mg/kg)	Meets regulations
Lead (mg/kg)	Max. 0.20		

Use Information

Used as W/O emulsifier, stabilizer, dispersant, viscosity modifier and as release agent and antifoam agent. It finds applications in the manufacturing of margarine, bread, pastry, chocolate, confectionary, biscuits, lotions, shampoo, dietetic and pharmaceutical products, among others. Dosage will depend on each particular application, use levels for a W/O emulsion are 1-5% of the fat. We suggest to carry out tests at different concentrations to determine most appropriate level for each specific case.

Emulsifier

Sunvolec VR

Product Code: 20030158

Version JJU

Source and Manufacturing

SUNVOLEC VR is produced in a non-chemical, purely physical process under GMP, Codex Alimentarius conditions from sunflower. FSSC 22000 certified. These principles safeguard the high quality of SUNVOLEC VR.

Additional Ingredient Statements

Product is BSE/TSE free, Ethanol free, and Residual Solvent free. It does not contain any meat or animal derived products, Gluten, Lactose, nor Alcohol, and has not been irradiated. It does not require labeling declaration as being potential allergen. It does not contain palm oil and it is not palm oil derived. No animal or animal derivatives are used. It complies with Nagoya protocol. The product is suitable for use to Organic Farming as Food additives according to European legislation.
This product is PCR negative.

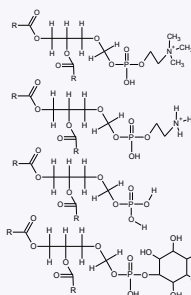
Chemical Composition

Phosphatidylcholine (PC): 15 - 18%

Phosphatidylethanolamine (PE): 12 - 15%

Phosphatidic Acid (PA): 5 - 8%

Phosphatidylinositol (PL): 1 - 3%

 $C_{10}H_{21}NO_8P$ MW 314 $C_9H_{18}NO_8P$ MW 299 $C_5H_9O_8P$ MW 227 $C_9H_{21}O_{17}P_3$ MW 494

Slight variations of typical composition due to variability of vegetable oil feedstocks from tocopherols origin can occur.

Solubility

Soluble in alcohol, ether, chloroform, mineral oils and fatty acids. Insoluble in acetone and water.

Packaging and Storage

Available in 20 kg plastic jerrycans, or 200 kg metal drums.

SUNVOLEC VR shall be stored in sealed containers, at room temperature and dry conditions, given that the product is sensitive to light, oxygen, high temperatures or alkaline environment. Keep container tightly closed; once opened use content quickly.

If stored appropriately in unopened containers SUNVOLEC VR has a shelf life of 18 months.

Emulsifier

Sunvolec VR

Product Code: 20030158

Version JJU

Regulatory Information

SUNVOLEC VR meets the Monograph requirements of the current National Formulary (NF, Lecithin) and USP-FCC (Lecithin, pp166-167); as of those of the European Community (E322, Lecithin).
 The U.S. FDA has recognized Lecithin as safe (GRAS) as a food for human consumption (21 CFR, Part 184.1400); when used according to FDA's good manufacturing practices. GRAS Notice GRN 939 includes Sunflower lecithin in the GRAS Notice Inventory. The U.S. EPA approved Lecithin under 40 CFR Part 180, Tolerances and Exceptions for minimal risk active and inert ingredients, Subsection e.
 EU chemical legislation (Reg. EC 1881/2006).
 Kosher and Halal certified.
 Please ask for our Regulatory statement for further information on the global registration status of the product.

Nutritional Information

Calories (kcal/100g)	780	Sodium (mg/100g)	0.5
Total Carbohydrate (%)	6.8	Potassium (mg/100g)	930
Protein (%)	0	Calcium (mg/100g)	130
Total fat (%)	93	Lead (mg/100g)	0
Dietary Fiber (%)	0	Sugars / Added Sugars	0 / 0
Humidity (%)	0.2	Starch	0
Ashes (%)	6.1	Cholesterol (mg/100g)	0
<u>Fatty Acids</u>		Vitamin A	0
Saturated (%)	18	Vitamin C	0
Monounsaturated (%)	14	Vitamin D	0
Polyunsaturated (%)	61	Vitamin E (mg/100g)	8
Trans Fat (%)	0	Other	0

Overview

- Ingredients: Natural phospholipids mix from Sunflower oil E322; Sunflower oil: Rapeseed fatty acids
- Appearance: Amber viscous product with mild characteristic odor and taste of vegetable Sunflower oil
- Function: Tensioactive
- Phospholipids: Min. 53%
- Origin: Vegetable; sunflower
- Use level 1 - 5%
- Regulatory Status Europe, US, Japan, China, Australia, Canada
- Certifications: FSSC 22000, Kosher, Halal
- Shelf life: 18 months

DISCLAIMER

This Product Data Sheet contains information based on our laboratory analysis. Advanced Organic Materials S.A. assumes no responsibility with regards to the suitability of the products for any specific purposes intended by the user. Recommendations for use and application of the product are given for information purposes. These suggestions do not release customers for conducting the necessary tests as suitability of the product is dependent on the characteristics of the intended process. The user of the product is solely re-sponsible for compliance with all laws and regulations applied to the use of the product, including intellectual property rights of third parties.

The information represent typical values, analytical methods are available at customers request.