UNIPHY P95 SF

Natural Phytosterol 95% Non-GMO SUNFLOWER

PRODUCT DATA SHEET

DESCRIPTION

UniPhy P95 SF is a white to off-white color powder with mild odor & characteristic taste of vegetable oil. It is obtained from 100% Non-Allergen & Non-GMO Sunflower source which has high content of **Beta-Sitosterol** along with Stigmasterol and Campesterol& small amounts of other sterols.

INGREDIENTS

Natural Phytosterols – Sunflower Source

ASSAY

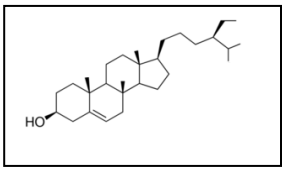
UniPhy P95 SF contains not less than 950 mg/g of total Phytosterols.

CHEMICAL PROPERTIES

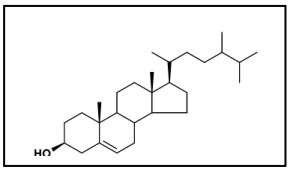
β −Sitosterol (%)	Campesterol (%)	Stigmasterol (%)	Brassicasterol (%)
50 - 75	**5 - 25**	**15 - 30**	**0 - 1**

(All values are on 100% Basis of total Phytosterol content)

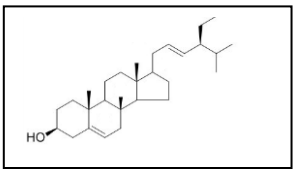
Slight variations of typical composition due to variability of vegetable oil feedstock's can occur



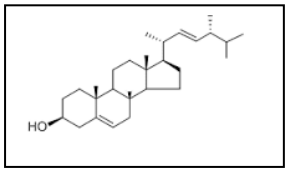
β –Sitosterol ($C_{29}H_{50}O$)
Molecular Weight 414.72
CAS No. 83-46-5



Campesterol ($C_{28}H_{48}O$)
Molecular Weight 400.69
CAS No. 474-62-4



Stigmasterol ($C_{29}H_{48}O$)
Molecular Weight 412.67
CAS No. 83-48-7



Brassicasterol ($C_{28}H_{46}O$)
Molecular Weight 398.67
CAS No. 474-67-9

CURRENT EU LEGISLATION COMPLIANCE

1: EC REG. EU 835/2011
2: EC REG. EU 1881/2006
3: EC REG. EU 231/2012
4: EC REG. EU 396/2005
5: EC REG. EU 2073/2005
6: EC REG. EU 1259/2011
7: EC REG. EU 1169/2011
8: EC REG. EU 834/2007
9: EC REG. EU 889/2008
10: EU Dir. 2009/32

PRODUCT CHARACTERISTICS

Quality Control Data (Measured on each Lot)		**Additional Technical Data** (Measured on each Lot)	
Total Sterols (%)	Min. 95	Melting Point (°C)	135 – 145
Loss on Drying (%)	Max. 5	Bulk Density (g/cm^3)	0.3 – 0.5
Moisture (%)	Max. 3	Acidity (ml 0.1N NaOH/g)	Max. 0.2 ml

Contaminants*		**Microbiology***	
Residual Solvents	Meets Current USP	Total plate count (cfu/g)[5]	≤ 1000
Heavy Metals (ppm)	≤ 5.0	Yeast & Moulds (cfu/g)[5]	≤ 100
Arsenic (ppm)[2,3]	≤ 0.2	Coliforms (cfu/g)[5]	≤ 10
Lead (ppm)[2,3]	≤ 0.1	Salmonella (cfu/10g)[5]	Negative
Mercury (ppm)[2,3]	≤ 0.1	Escherichia coli (cfu/10g)[5]	Negative
Cadmium (ppm)[2,3]	≤ 0.2	Staphylococcus aureus (cfu/10g)[5]	Negative

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Pesticide Residues (ppm)[4]	Meets Current USP		
Sulphated Ash (%)[3]	≤ 0.1		
Benzo (a) pyrene (ppb)[1]	≤ 2.0		
Sum PAH(4) (ppb)[1]	≤ 10.0		
Dioxins*			
Sum of dioxins (WHO-PCDD/F-TEQ) (ppt)[2,6]	≤ 0.75		
Sum of dioxins and dioxin like PCBS (WHO-PCDD/F-PCB-TEQ) (ppt)[2,6]	≤ 1.25		
Sum of PCB28, PCB52, PCB101, PCB153 & PCB180 (ICES-6)(ppb)[2,6]	≤ 40.0		

*** All contaminants/ Microbiology/ Dioxins are checked for every 40 lots of finished product on the basis of composite sample.**

STANDARD

UniPhy P95 SF is produced according to GMP, Codex Alimentations, certified Halal, Kosher from 100% Non-GMO& Non-Allergen Sunflower oilseed source. The U.S. FDA has recognized Plant Sterols as safe (GRAS) GRN #398 Vegetable oil and Tall Oil derived Phytosterol and Phytosterol ester formulations; and are GRAS exempt for the requirement for pre-market approval (21 CFR, Part 170.36) for certain food categories. UniPhy P95 SF is TSE & BSE free; does not contain any meat products or alcohol, and has not been irradiated. The FDA will allow following claim for products containing plant sterols: Foods containing at least 0.4 g per serving of plant sterols, eaten twice a day with meals for a daily total intake of at least 0.8 g, as part of a diet low in saturated fat.

SOLUBILITY

UniPhy P95 SF is soluble in acetone, ethyl acetate & isopropanol. It is insoluble in water.

STORAGE CONDITION

UniPhy P95 SF must be stored in closed containers at ambient temperature in dry condition. Avoid over exposure to sunlight, alkaline environment or high temperature.

SHELF LIFE

24 Months from manufacturing date in original package.

PACKAGING

UniPhy P95 SF is available in 25 Kg Carton Box with inner food grade liners.

CERTIFICATIONS

NUTRITIONAL INFORMATION

Calories (kcal/100g)	2	Dietary Fiber (%)	0
Total Carbohydrate (%)	0	Humidity (%)	1.8
Protein (%)	0	Ashes (%)	0
Monounsaturated (%)	0.1	Starch	0
Polyunsaturated (%)	0.1	Cholesterol (mg/100g)	0
Trans Fat (%)	0	Vitamin C	0
Sodium (mg/100g)	0.7	Vitamin E (mg/100g)	0.3
Potassium (mg/100g)	0.8	Phytosterols (%)	Min. 95
Calcium (mg/100g)	0	Total fat (%)	0.2

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APPLICATIONS

UniPhy P95 SF has various applications in Food, Pharmaceutical, Cosmetic and Personal Care industry.

In Food industry, it is primarily used as Functional Food ingredient to reduce LDL cholesterol (Bad Cholesterol) level in blood. Phytosterols are structurally almost similar to Cholesterol; hence upon its intake it competes with cholesterol absorption and uptake in the small intestine thereby reducing the supply of cholesterol in the blood stream.

Several studies conducted by leading Research Organizations worldwide have concluded that the effective doses of Phytosterols for reduction of cholesterol are between 1.5 to 3g/day, leading to decrease in 8% to 15% of LDL-cholesterol. Since high blood total cholesterol and low-density lipoprotein (LDL) cholesterol levels are the main risk factors for coronary heart disease (CHD) and other diseases related to atherosclerosis, thus reducing cholesterol levels reduces the risk of CHD as well.

UniPhy P95 SF is currently used as anti-cholesterol additive in various functional foods like yogurt, margarines, fat spreads, soft spreadable cheese, mayonnaise, salad dressings, low fat dairy products, milk, fermented milk products, snack and energy bars, frying oils, breakfast cereals etc. It can also be used in other potential products like Baked pastry products, breads, egg noodles, pasta, custard, ice cream, frozen desserts, muesli bars, soups, meat products, rice, beverages, cereal grains and flours, food flavorings etc.

In Pharmaceutical industry, Phytosterols are used as Pre-cursor or starting raw material in the production of 4AD (4-Androstenediol) Hormone & other therapeutic steroid hormones by microbial transformation.

Phytosterols functions in cosmetics include skin-conditioning agents, hair conditioning agents, viscosity increasing agents & as skin protectant. UniPhy P95 SF is preferably used in anti-aging creams and sun-care lotions. Oils and creams containing Phytosterols exhibit strong UV-protection. Furthermore, their anti-inflammatory effects make them an ideal ingredient for use in products intended for the treatment of atopic eczema and the protection of baby skin. Added to shampoos and hair conditioners at a concentration of around 1%, UniPhy P95 SF can give a velvety shine and increase the compatibility of the hair after drying.

UniPhy P95 SF also adds texture and gloss to decorative cosmetics, such as lipsticks, face powders and mascara.

Dosage will depend on each particular product application. We suggest carrying tests at different concentrations to determine most appropriate level for each specific case.

Disclaimer