

 VVF (India) Limited	VVF (India) Limited Address: 109, Sion (East), Mumbai 400 022, India Telephone: 91-22-40282000; Fax: 91-22-24073771 Website: www.vvfltd.com; E-mail: oleochemical@vvfltd.com

SAFETY DATA SHEET

Product Name : Palmitic acid (Palmitic 98 , Palmitic 99)	
Version: 2.01	Date: Jan 1, 2015

1. CHEMICAL PRODUCT IDENTIFICATION	
1.1 Product Name	Palmitic acid
1.2 Common Chemical Name	Palmitic acid, Hexadecanoic acid
1.3 Product code (Supplier)	Palmitic 98 , Palmitic 99
1.4 Relevant identified uses of the mixture	<p>Palmitic acid is used to produce soaps, cosmetics, and release agents. These applications utilize sodium palmitate, which is commonly obtained by saponification of palm oil. To this end, palm oil, rendered from palm tree (species <i>Elaeis Guineensis</i>), is treated with sodium hydroxide (in the form of caustic soda or lye), which causes hydrolysis of the ester groups. This procedure affords glycerol and sodium palmitate.</p> <p>Because it is inexpensive and adds texture to processed foods (convenience food), palmitic acid and its sodium salt find wide use including foodstuffs. Sodium palmitate is permitted as a natural additive in organic products.[15] The aluminium salt is used as a thickening agent of napalm used in military actions.</p> <p>Hydrogenation of palmitic acid yields cetyl alcohol, which is used to produce detergents and cosmetics.</p> <p>Recently, a long-acting antipsychotic medication, paliperidone palmitate (marketed as INVEGA Sustenna), used in the treatment of schizophrenia, has been synthesized using the oily palmitate ester as a long-acting release carrier medium when injected intramuscularly.</p>
1.4 Manufacturer/Supplier:	VVF (India) Limited, 109, Sion (E) MUMBAI – 400022
1.5 Emergency contact details	+ 91-22-9619551607

2. HAZARD IDENTIFICATION	
2.1 Hazard pictograms	No Hazard Pictogram
2.2 Signal word	No Single Word
2.3 Hazard statements	No Hazard Statement
2.5 Environmental Hazards	Not classified as Hazardous
2.6 Human Health Hazards Effect & symptoms:	
2.6.1 Ingestion	Irritation to gastrointestinal tract.
2.6.2 Inhalation	No harmful effect expected at ambient temperature. Vapours cause irritation. May cause coughing or difficult breathing.
2.6.3 Skin Contact	Mild irritant. Molten product can cause burns on contact
2.6.4 Eye Contact	Mild irritant. Molten product can cause burns on contact

3. COMPOSITION / INFORMATION ON INGREDIENTS				
3.1 Chemical Characterization (substance)		Blend of fatty acids C14 to C18		
3.2 Blend of following acids	CAS Number	EINECS Number	% by wt.	
			Palmitic 98	Palmitic 99
Tetradecanoic acid	544-63-8	208-875-2	1.0 Max	--
Hexadecanoic acid	57-10-3	200-312-9	98.0 Min	99.0 Min
Octadecanoic acid	57-11-4	200-313-4	2.0 Max	--

**4. FIRST AID MEASURES**

4.1 Inhalation	Take affected person into open air
4.2 Skin Contact	Remove contaminated clothing, and wash thoroughly with soap and water. Seek medical attention.
4.3 Swallowing	Don't give anything through mouth and seek medical attention
4.4 Eye Contact	Immediately flush eyes with a direct stream of water for at least 15 minutes. Seek medical attention.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media	Carbon dioxide, dry chemical or foam.
a. Suitable	Carbon dioxide, foam
b. Not Suitable	Water may be ineffective.
c. Special Fire fighting Procedures	In case of high temperature or fire, use a water jet to cool the tank containing the product
5.2 Unusual Fire / Explosion Hazards	None
5.3 Hazardous Thermal decomposition	On decomposition gives Carbon dioxide, Carbon monoxide, hydrocarbons, soot, aldehydes and ketones
5.4 Protection of Fire-fighters	Wear Self contained breathing apparatus and protective clothing to avoid direct contact with eyes and skin

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions	Wear personal protection gear. Follow standard industry measures
6.2 Environmental Precautions	In case of spillage, cover the spill amount with sand or soil to absorb the product, Then, collect the sand or soil with the product absorbed into a suitable container and dispose. Sweep or shovel solids. Prevent entry of product into drains and ground water
6.3 Clean Up Method	Sweep or shovel solids. Flush affected area with water & detergent

7. HANDLING AND STORAGE

7.1 Handling	Follow good hygiene & safety procedures. Avoid any direct eye / skin contact with the product. Wash with soap after handling.
7.2 Storage	Store in leak proof sealed bags. Store in sealed containers in a cool and dry place, away from heat, strong acids and oxidising agents
7.3 Suitable Packing Materials	HDPE carboys or bags, stainless steel tanks or lacquer- lined MS drums.
7.4 Unsuitable Packing Material	Unlined MS drums

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 OSHA permissible exposure limit (PELs)	Not Listed
8.2 ACGIH threshold limit value (TLVs)	Not Listed
8.3 Ventilation / Engineering Controls	Use adequate ventilation to keep airborne concentration low. Avoid inhalation of vapour
8.4 Respiratory Protection	None required when adequate ventilation available at ambient temperature. In presence of mist/vapour use self contained NIOSH/MSHA approved respirator.
8.5 Skin Protection	Use uniform, apron and rubber boots.
8.6 Eye protection	Use safety goggles or face mask
8.7 Other Protective Equipment	Use safety shoes

**9. PHYSICAL AND CHEMICAL PROPERTIES**

9.1 Average molecular weight	256.4
9.2 Specific Gravity	Not available
9.3 Melting/freezing point, °C	62.5
9.4 Boiling point, °C at 760 mmHg	351.5
9.5 Partition coefficient (log Kow)	7.17
9.6 Gas Density	Not available
9.7 Surface tension	28.2 mN/m at 70 °C
9.8 Liquid Density	~ 0.845
9.9 Vapour pressure	@ 329° F (165° C) 0.99 mm Hg
9.10 Solubility in water	Insoluble in water
9.11 Percent Volatiles by volume	Not available
9.12 Evaporation rate	Not available
9.13 pH	Not available
9.14 Sublimation point	Not available
9.15 Appearance, odour & State	White solid at 25° C characteristic fatty odour
9.16 Flash Point	113°C

10 STABILITY AND REACTIVITY

10.1 Reactivity	Data not available
10.2 Chemical stability	Stable under normal operational condition
10.3 Conditions to avoid	Sources of heat, ignition & flame.
10.4 Materials to avoid	Strong acids and oxidising agents
10.5 Hazardous polymerisation products	None
10.6 Hazardous Decomposition Products	Carbon monoxide and Carbon dioxide

11. TOXICOLOGICAL INFORMATION**11.1 MAMMALIAN TOXICITY (1)**

Substance Name	CAS No.	Acute Oral, LD50 mg/kg bw	Acute Inhalative, LC50 mg/L	Acute Dermal, LD50 mg/kg bw	Skin Irritation	Eye Irritation
Palmitic acid C16	57-10-3	> 5000	RA from 124-07-2: > 0.1521	RA from 57-11-4: > 2000	Not irritating	Not irritating

11.2 MAMMALIAN TOXICITY (2)

Substance Name	CAS No.	Skin Sensitization	Genetic toxicity in vitro in bacteria	Genetic toxicity in vitro in mammalian cells	Repeated dose toxicity, NOAEL mg/kg bw	Toxicity to Reproduction / Developmental toxicity, NOAEL mg/kg bw/d
Palmitic acid C16	57-10-3	Weight of evidence: negative	Weight of evidence: negative	RA from 112-85-6: negative	RA from 112-85-6: 1000	RA from 112-85-6: 1000

12. ECOLOGICAL INFORMATION

12.1 Comment	This product is very easily biodegradable (90%) and does not cause difficulties in waste water treatments plants. Being water insoluble & lighter than water, large amounts of contamination can be separated using typical standard oil/fats separators.
12.2 Eco toxicity	



Substance Name	CAS No.	Biodegradability	Fish acute toxicity 96h LC50 mg/L	Daphnia acute toxicity 48h EC50 mg/L	Daphnia chronic toxicity 21d NOEC mg/L	Algae toxicity 72h EC50/NOEC mg/L	Toxicity to microorganisms mg/L
Palmitic acid C16	57-10-3	Readily biodegradable	No effect at saturation	No effect at saturation	No effect at saturation	No effect at saturation	No effects on microorganisms

13 DISPOSAL CONSIDERATIONS

13.1 Waste Disposal Method	Reprocess or dispose off in accordance with local, state and federal regulation in an approved area.
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14. TRANSPORT INFORMATION

14.1 UN Number	Not regulated for transport
14.2 Land Road / Railway	
14.21 ADR/RID class	Chemicals N. O. S. (non regulated)
14.22 ADR/RID item Number	Chemicals N. O. S. (non regulated)
14.3 Inland waterways	
14.31 ADN class	Chemicals N. O. S. (non regulated)
14.4 Sea	
14.41 IMDG class	Chemicals N. O. S. (non regulated)
14.42 IMDG Page Number	Chemicals N. O. S. (non regulated)
14.5 Air	
14.51 IATA-DGR class	Chemicals N. O. S. (non regulated)
14.6 National Transport Regulations	Chemicals N. O. S. (non regulated)

15. REGULATORY INFORMATION

15.1 EEC - Regulations	This product is not classified as dangerous according to EEC directive
15.2 Inventory Status	AUSTRALIA, CHINA, EINECS, DSL, KOREA, PHILIPPINES, TSCA and ENCS
15.2 Others	According to available data, the product is not regulated. However, one should observe prescribed federal, state and Local measures while dealing with chemicals

16. OTHER INFORMATION

16.1 History		
a. Date of first issue	July 20, 2004	
b. Date of last issue	August 9, 2013	
c. Date of current issue	Jan 1, 2015	Version : 2.01
SDS authorised by	Mr. C. R. Marathe	

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