

 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 : Stearic Acid 90 / Stearic Acid (Stearic 98)	Version : 2.01	Date : Jan 1,2015
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1. CHEMICAL PRODUCT IDENTIFICATION	
1.1 Product Name	Stearic acid
1.2 Common Chemical Name	Mix of Octadecanoic acid, Hexadecanoic acid & 9-Octadecenoic acid
1.3 Product code (Supplier)	Stearic Acid 90 / Stearic Acid (Stearic 98)
1.4 Application of the substance / the preparation usages	Applications of stearic acid exploit its bifunctional character, with a polar head group that can be attached to metal cations and a nonpolar chain that confers solubility in organic solvents. The combination leads to uses as a surfactant and softening agent. Stearic acid undergoes the typical reactions of saturated carboxylic acids, a notable one being reduction to stearyl alcohol, and esterification with a range of alcohols. This is used in a large range of manufactures, from simple to complex electronic devices.
1.5 Manufacturer/Supplier:	VVF (India) Limited, 109, Sion (E) MUMBAI – 400022
1.6 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.
2.4 Precautionary statements	No precautionary statement.
2.5 Human Health Hazards Effect & symptoms:	
2.5.1 Ingestion	May cause slight irritation to gastrointestinal tract
2.5.2 Inhalation	No harmful effect expected at ambient temperature. Mist/dust could be irritant to pulmonary tract.
2.5.3 Skin Contact	Mild irritant. Molten product can cause burns on contact
2.5.4 Eye Contact	Mild irritant.

3. COMPOSITION / INFORMATION ON INGREDIENTS				
			Stearic Acid 90	Stearic Acid (Stearic 98)
Blend of following Acids	CAS Number	EINECS Number	% by wt.	% by wt.
1. Hexadecanoic acid	57-10-3	200-312-9	8 Max	---
2. Octadecanoic acid	57-11-4	200-313-4	90 Min.	98 Min

4. FIRST AID MEASURES	
4.1 Ingestion	Consult a doctor immediately. Drink plenty of water. Do not induce vomiting .However, if the person is unconscious; do not provide any type of ingestion.
4.2 Inhalation	Remove to fresh air immediately. In case of breathing difficulty try artificial respiration. Get medical attention as soon as possible.
4.3 Skin Contact	Wash material off the skin with copious amounts of soap and water. If redness or itching persist seek medical attention
4.4 Eye Contact	Wash eyes with water for at least 15 minutes. If redness or itching persist seek medical attention

5. FIRE FIGHTING MEASURES	
5.1 Extinguishing Media	Carbon dioxide, dry chemical; or water fog or foam.
5.2 Suitable	Carbon dioxide, foam.
5.3 Not Suitable	Water may be ineffective.



5.4 Special Fire fighting Procedures	Wear self-contained breathing apparatus and protective clothing to avoid direct contact with eyes and skin. Cool tank using water jet in case of high temperature or fire.
5.5 Unusual Fire / Explosion Hazards	None
5.6 Hazardous Thermal decomposition	On decomposition gives Carbon dioxide ,Carbon monoxide , hydrocarbons, soot, aldehydes and ketones
5.7 Protection of Fire-fighters	Self contained breathing apparatus and protective clothing, face mask

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions	No stringent special precaution. Follow standard industry measures
6.2 Environmental Precautions	In case of spillage soak up with sand or soil and dispose. Prevent entry of product into drains and ground water
6.3 Method of cleaning up	Collect in dry earth or sand. Transfer to container for disposal. Wash area with water. Observe local law.

7. HANDLING AND STORAGE

7.1 Handling	Follow good hygiene & safety procedures. Avoid any direct contact. Wash with soap after handling. Keep away from heat, strong acids and oxidising agents.
7.2 Storage	Keep sealed containers, cool & dry place away from heat sources.
7.3 Suitable Packing Materials	HDPE carbuoys, stainless steel tanks or lacquer-lined MS drums.
7.4 Not suitable 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
8.1 Respiratory System protection	None required when adequate ventilation available at ambient temperature. In presence of mist/vapour use self contained NIOSH/MSHA approved respirator.
8.2 Skin and body protection	Use uniform, apron and rubber boots.
8.3 Hand protection	Use rubber gloves
8.4 Eye protection	Use Safety goggles, face mask
8.5 Other Protective Equipment	Eye wash, safety shower and protective clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Physical state	Solid at 35°C
9.2 Colour	White
9.3 Odour	Characteristic Fatty odour
9.4 Boiling point,	299°C 128 mm of Hg
9.5 Melting Range,	67 - 80° C
9.6 Solubility water	Insoluble in water
9.7 Density, Gm/ml	0.83 at 75 ⁰ C
9.8 Solubility oil and solvents	Soluble in solvents
9.9 Vapour density (Air = 1)	9.8
9.10 Vapour pressure, mm of Hg	1 mm at 174°C
9.11 Flash point,	200 °C PMCC
9.12 Auto ignition temperature,	400 °C
9.13 Lower explosion limit,	Not available
9.14 Upper explosion limit,	Not available
9.15. Average molecular weight	Approximately 282.0
9.16. Viscosity	Not available

**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 & Carbon di oxide

11. TOXICOLOGICAL INFORMATION

11.1 Acute Toxicity

Substance Name	CAS	Acute Oral, LD50 mg/kg bw	Acute Inhalative, LC50 mg/L	Acute Dermal, LD50 mg/kg bw
Stearic acid C18	57-11-4	> 6000	RA from 124-07-2: > 0.1521	>2000

11.2 CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Toxicity for reproduction:

Name	CAS. NO.	Carcinogenicity	Mutagenicity	Toxicity to Reproduction / Developmental toxicity, NOAEL mg/kg bw/d
Stearic acid C18	57-11-4	Non carcinogenic	Non-mutagenic	RA from 112-85-6: 1000

11.3 Skin irritation

Slight irritation

11.4 Eye irritation

Slight irritation

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 and lighter than water, large amounts of contamination can be separated using typical standard oil and fats separators

12.2 Eco toxicity

ENVIRONMENTAL FATE and TOXICITY

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/NO EC mg/L	Toxicity to microorganisms mg/L
Stearic acid C18	57-11-4	Readily biodegradable	No effect at saturation	No effect at saturation	RA from 57-10-3: No effect at saturation	RA from 57-10-3: No effect at saturation	No effects on microorganisms

12.3 Bioaccumulation:

Name	CAS. NO.	log Koc	Koc
Stearic acid C18	57-11-4	4.71	51,050

**13 DISPOSAL CONSIDERATIONS**

13.1 Methods of Disposal	Disposal methods to be in accordance with local, federal and state environmental regulations
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14. TRANSPORT INFORMATION

14.1 UN Number	Not Listed
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 ADNR 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 EC - Regulations	This product is not classified as dangerous according to EEC directive
15.2 Inventory Status	Australia, China, EINECS, DSL, Korea, Philippines, TSCA, Japan
15.3 Others	According to available data fatty acid is not a dangerous chemical. How ever one should observe the usual precautionary measures for dealing with chemicals according to local, state and federal regulation & requirements.

16. OTHER INFORMATION

16.1 REACH pre-registration no:	Palmitic (C16) Acid	05-2116454379-34-0000
	Stearic (C18) Acid	05-2116454380-51-0000
16.2 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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