

 VVF (India) Limited	<b>VVF (India) Limited</b> 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**

<b>Product Name :</b> OLEIC K, Oleic acid	
<b>Version:</b> 2.01	<b>Date:</b> Jan 1, 2015

<b>1. CHEMICAL PRODUCT IDENTIFICATION</b>	
1.1 Product Name	OLEIC ACID
1.2 Common Chemical Name	OLEIC ACID
1.3 Product code (Supplier)	OLEIC-K , Blend of mainly unsaturated fatty acids with carbon chain length of 18
1.4 Relevant identified uses of the mixture	<p>Oleic acid (in triglyceride form) is included in the normal human diet as a part of animal fats and vegetable oils.</p> <p>Oleic acid as its sodium salt is a major component of soap as an emulsifying agent. It is also used as an emollient. Small amounts of oleic acid are used as an excipient in pharmaceuticals, and it is used as an emulsifying or solubilizing agent in aerosol products.</p> <p>Oleic acid is also used to induce lung damage in certain types of animals, for the purpose of testing new drugs and other means to treat lung diseases. Specifically in sheep, intravenous administration of oleic acid causes acute lung injury with corresponding pulmonary edema. This sort of research has been of particular benefit to premature new borns, for whom treatment for underdeveloped lungs (and associated complications) is often a matter of life and death.</p> <p>Oleic acid is used as a soldering flux in stained glass work for joining lead came</p>
1.5 Manufacturer/Supplier:	VVF (India) Limited, 109, Sion (E) MUMBAI – 400022
1.6 Emergency contact details	+ 91-22-9619551607

<b>2. HAZARD IDENTIFICATION</b>	
2.1 Hazard pictograms	Not Applicable
2.2 Signal word	Not Applicable
2.3 Signal word	Not Applicable
2.4 Hazard statements	Not Applicable
2.5 Environmental Hazards	Product is biodegradable
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 may cause irritation.
2.6.3 Skin Contact	Non-irritant.
2.6.4 Eye Contact	Non-irritant.

<b>3. COMPOSITION / INFORMATION ON INGREDIENTS</b>			
3.1 Chemical Name	Fatty acid blend of mainly unsaturated fatty acid with carbon chain length of 18, Blend of mainly of Oleic acid, Linoleic acid, Linolenic acid.		
3.2 Blend of following acids	CAS Number	EINECS Number	% by wt.
Palmitic acid	57-10-3	200-312-9	10.0 Max
Stearic acid	57-11-4	200-313-4	12.0 Max
Oleic acid	112-80-1	204-007-1	70.0 Min
Linoleic acid	60-33-3	200-470-9	15.0 Max

**4. FIRST AID MEASURES**

4.1 Inhalation	Take affected person into open / fresh air
4.2 Skin Contact	Remove contaminated clothing, and wash thoroughly with soap and water
4.3 Swallowing	Don't give anything through mouth to unconscious person. Seek immediate medical attention
4.4 Eye Contact	Immediately flush eyes with a direct stream of water for at least 15 minutes. And 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. Prevent entry of product into drains and ground water
6.3 Clean Up Method	Cover the product with dry earth or sand so that it may be absorbed. Then, transfer into a container for disposal. Flush affected area with water & detergent

**7. HANDLING AND STORAGE**

7.1 Handling	Follow good hygiene & safety procedures. Avoid any direct eye &/or skin contact with the product. Wash with soap after handling.
7.2 Storage	Store in sealed containers in a cool and dry place, away from heat, strong alkali and oxidising agents
7.3 Suitable Packing Materials	HDPE carboys, 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, protect from slippery surface

**9. PHYSICAL AND CHEMICAL PROPERTIES**

9.1 Average molecular weight	Approximately 280.5
9.2 Specific Gravity	Approximately 0.88 at 60 °C
9.3 Titre	35 °C, Max.
9.4 Iodine value	80 -105 Gms I <sub>2</sub> /100Gms.
9.5 Vapour pressure	Not available
9.6 Solubility in water	Insoluble in water
9.7 Percent Volatiles by volume	Not available
9.8 Evaporation rate	Not available
9.9 pH	Not available
9.10 Sublimation point	Not available
9.11 Appearance, odour & State	Pale yellow liquid at 40° C characteristic fatty odour

**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 alkali, perchloric acids and oxidising agents
10.5 Hazardous polymerisation products	None
10.6 Hazardous Decomposition Products	Carbon monoxide and Carbon di oxide

**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
Stearic acid C18	57-11-4	> 6000	RA from 124-07-2: > 0.1521	>2000	Not irritating	Not irritating
Fatty acids, C18-unsatd.	88895-93-6	RA from 1112-80-1: > 5000	RA from 124-07-2: > 0.1521	RA from 57-11-4: > 2000	RA from single components: not irritating	RA from single components: 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
Stearic acid C18	57-11-4	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
Fatty acids, C18-unsatd.	88895-93-6	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
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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
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
Fatty acids, C18-unsatd.	88895-93-6	RA from single components: readily biodegradable	RA from 57-11-4: No effect at saturation	RA from single components: No effect at saturation	RA from 57-10-3: No effect at saturation	RA from 57-10-3: No effect at saturation	RA from 57-11-4: 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	Major components listed in TSCA, DSL/NDSL, EINECS/ELINCS, MITI, AICS
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 prepared & authorised by	Mr. C. R. Marathe	

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