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	VVF (India) Limited

SAFETY DATA SHEET

Product Name : BEHENIC ACID	
Version: 2.01	Date: Jan 1, 2015

1. CHEMICAL PRODUCT IDENTIFICATION	
1.1 Product Name	BEHENIC ACID
1.2 Common Chemical Name	Blend of fatty acid with carbon chain length of C 20 to C24, mainly Behenic acid (C22)
1.3 Product code (Supplier)	BEHENIC 90
1.4 Relevant identified uses of the mixture	Commercially, behenic acid is often used to give hair conditioners and moisturizers their smoothing properties.[3] It is also used in lubricating oils, and as a solvent evaporation retarder in paint removers. Its amide is used as an anti-foaming agent in detergents, floor polishes and driplless candles. Reduction of behenic acid yields behenyl alcohol. Mixing or blending in batch processes for formulation of preparations and articles
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
2.4 Precautionary statements	Not applicable
2.5 Environmental Hazards	Product is biodegradable
2.6 Human Health Hazards Effect & symptoms:	
2.6.1 Ingestion	May cause slight irritation to gastrointestinal tract.
2.6.2 Inhalation	No harmful effect expected at ambient temperature. Mist/vapours could be irritant to pulmonary tract.
2.6.3 Skin Contact	Slight irritant.
2.6.4 Eye Contact	Mild irritant.

3. COMPOSITION / INFORMATION ON INGREDIENTS			
Blend of following acids	CAS Number	EINECS Number	% by wt.
Icosanoic acid	506-30-9	208-031-3	7 Max
Docosanoic acid	112-85-6	204-010-08	90 Min.
Tetracosanoic acid	557-59-5	209-180-7	3 Max.

4. FIRST AID MEASURES	
4.1 Inhalation	Remove to fresh air immediately. In case of breathing difficulty try artificial respiration. Get medical attention at earliest.
4.2 Skin Contact	Remove contaminated clothing, and wash thoroughly with soap and water
4.3 Swallowing	Drink plenty of water. Do not give anything to unconscious person. Seek medical attention
4.4 Eye Contact	Immediately flush eyes with a direct stream of water for at least 15 minutes. If redness or itching persists 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.

**5. FIRE FIGHTING MEASURES**

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 Sweep or shovel solid. Prevent entry of product into drains and ground water
6.3 Clean Up Method	Sweep or shovel solid .Wash 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 acids and oxidising agents
7.3 Suitable Packing Materials	HDPE bags, Stainless steel tanks.
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	Eye wash, safety shower, protective clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Average molecular weight	Approximately 340.0
9.2 Specific Gravity	0.82 at 100° C
9.3 Density	0.82 g/cm ³
9.4 Liquid Density	Not available
9.5 Vapour pressure	RA from 506-30-9: < 2.41E-7 (trend analysis)
9.6 Solubility in water	Insoluble
9.7 Boiling point, °C at 760 mmHg	306 at 60 mmHg
9.8 Partition coefficient (log Kow)	9.91
9.9 pH	Not available
9.10 Sublimation point	Not available
9.11 Appearance, odour & State	White solid at 35° C characteristic fatty odour
9.12 Flash Point	No data available
9.13 Dissociation constant	4.75 at 25 °C (estimated by SPARC)

10 STABILITY AND REACTIVITY

10.1 Reactivity	Data not available
10.2 Chemical stability	Stable under normal operational condition

**10 STABILITY AND REACTIVITY**

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 di oxide

11. TOXICOLOGICAL INFORMATION**11.1 MAMMALIAN TOXICITY I**

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
Icosanoic acid C20	506-30-9	Data not available	Data not available	Data not available
Docosanoic acid C22	112-85-6	> 5000	Data not available	Data not available

11.2 MAMMALIAN TOXICITY II

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
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
Docosanoic acid C22	112-85-6	----	Weight of evidence: negative	negative	1000	1000

11.3 Skin irritation, rabbit

Slight irritant

11.4 Eye irritation, rabbit

Slight irritant

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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12.2 ENVIRONMENTAL FATE and 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
Fatty acids, C16-22	68002-88-0	RA from single components: ready 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 R 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	TSCA, METI, AICS, DSL, EINECS, Korea, Philippines
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 REACH pre-registration no:	05-2116454385-41-0000	
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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