



VVF Limited

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MATERIAL SAFETY DATA SHEET

Product Name: Behenic Acid 90	Version: 1.01	Date: May 25, 2009
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1. CHEMICAL PRODUCT IDENTIFICATION	
1.1 Product Name	Behenic Acid
1.2 Common Chemical Name	Blend of fatty acid with carbon chain length of C20 to C24, mainly behenic acid (C22)
1.3 Product Code (Supplier)	Behenic 90

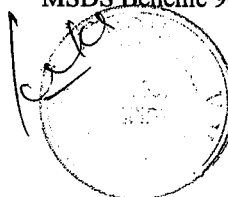
2. COMPOSITION / INFORMATION ON INGREDIENTS	
2.1 Chemical Characterization (Substance)	
2.2 Compound, % by Weight	
2.3 CAS Number	
2.4 EINECS Number	
2.5 Formula	

2. COMPOSITION / INFORMATION ON INGREDIENTS			
Blend of Following Acids	CAS Number	EINECS Number	% by Weight
1. Icosanoic Acid	506-30-9	208-031-3	7 Max
2. Docosanoic Acid	112-85-6	204-010-08	90 Min
3. Tetracosanoic Acid	557-59-5	209-180-7	3 Max

3. HAZARD IDENTIFICATION	
3.1 European Hazard Classification	--
3.2 Environmental Hazards	Product is biodegradable
3.3 Human Health Hazards, Effects, and Symptoms:	
a. Ingestion	May cause slight irritation to the gastrointestinal tract
b. Inhalation	No harmful effect expected at ambient temperature. Mist or vapours could cause irritation to the pulmonary tract
c. Skin Contact	Slight irritant
d. Eye Contact	Mild irritant

4. FIRST AID MEASURES	
4.1 Inhalation	Remove to fresh air immediately. In case of breathing difficulties, try artificial respiration. Seek medical help immediately
4.2 Skin Contact	Remove contaminated clothing, and wash thoroughly with soap and water
4.3 Swallowing	Drink plenty of water. However, if the person is unconscious, do not provide any type of ingestion and 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





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5. FIRE FIGHTING MEASURES	
5.1 Extinguishing Media	Carbon dioxide, dry chemical or foam
a. Suitable	Carbon dioxide or foam
b. Not Suitable	Water may be ineffective
c. Special Fire Fighting Procedures	In case of high temperatures or fire, use a water jet to cool the tank containing the product
5.2 Unusual Fire or Explosion Hazards	None
5.3 Hazardous Thermal Decomposition	Upon decomposition, the product releases carbon dioxide, carbon monoxide, hydrocarbons, soot, aldehydes and ketones
5.4 Protection for 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. Observe all standard industry measures
6.2 Environmental Precautions	In case of spillage, sweep or shovel solid matter. Prevent entry of product into drains and ground water
6.3 Clean Up Method	Sweep or shovel solid matter. Wash affected area with water and detergent

7. HANDLING AND STORAGE	
7.1 Handling	Follow good hygiene and safety procedures. Avoid any direct eye and/or skin contact with the product. Wash hands 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 Ventilation / Engineering Controls	Use adequate ventilation to keep airborne concentration low. Avoid inhalation of vapours
8.2 Respiratory System Protection	None required when adequate ventilation available at ambient temperature. In the presence of mist or vapours, use self-contained NIOSH/MSHA approved respirator
8.3 Skin and Body Protection	Wear a uniform, apron and rubber boots
8.4 Eye Protection	Wear safety goggles or a face mask
8.5 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 Gas Density	Not available
9.4 Liquid Density	Not available
9.5 Vapour Pressure	At 30°C < 1mm Hg





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9.6 Solubility in Water	Insoluble
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 and State	White solid at 35 ^o C with a characteristic fatty odour

10. STABILITY AND REACTIVITY

10.1 Chemical Stability	Stable under normal operational conditions
10.2 Conditions to Avoid	Sources of heat, ignition and flame
10.3 Materials to Avoid	Strong acids and oxidising agents
10.4 Hazardous Polymerisation Products	None
10.5 Hazardous Decomposition Products	Carbon monoxide and carbon dioxide

11. TOXICOLOGICAL INFORMATION

11.1 Acute Toxicity	Non toxic
a. Oral (LD50) (Rat)	> 2g/Kg
b. Dermal (LD50) (Rabbit)	> 5g/kg
c. Inhalation (LC50)	Not available
d. Skin Irritation	Slight irritant
e. Eye Irritation	Slight irritant
f. Carcinogenicity	Not reported

12. ECOLOGICAL INFORMATION

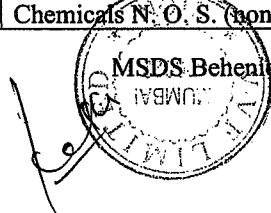
12.1 Comment	This product is very easily biodegradable (90%) and does not cause difficulties in waste water treatment plants. Being insoluble in and lighter than water, large amounts of contamination can be separated using standard oils and fats separators
12.2 Eco-Toxicity	Data not available

13. DISPOSAL CONSIDERATIONS

13.1 Methods of Disposal	Reprocess or dispose of in accordance with local, state and federal regulations, 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 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	
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)





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15. REGULATORY INFORMATION	
15.1 EEC Regulations	This product is not classified as dangerous according to the 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 Number	05-2116454385-41-0000
16.2 Legend	Not applicable; not available
16.3 History:	
a. Date of First Issue	July 20, 2004
b. Date of Last Issue	July 20, 2004
c. Date of Current Issue	May 25, 2009 Version: 1.01
MSDS Prepared By	Mr. C.R.Marathe
MSDS Authorised By	Dr. Kashinath Pandit

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