

1.	<b>Chemical Product and Company Identification</b>
----	--



**VINATI ORGANICS LIMITED**  
**Plot No.A-20, MIDC Industrial Area,Lote Parashuram – 415722,**  
**Tal.Khed, Dist. Ratnagiri Maharashtra, INDIA**

**Product Name & Generic Chemical Name**                      2-Acrylamido-2-Methyl Propane Sulfonic Acid

**CAS Number**    15214-89-8

**Synonyms**     Acrylamido Tertiary Butyl Sulfonic Acid

**Product Type**     Multipurpose

**Preparation/Revision Date**                         10<sup>th</sup> March 2009

**Transportation Emergency Phone No.**    Lote Office (91-2356-273032) Mumbai Office (91-22-28510811) .

2.	<b>Composition/Information on Ingredients</b>
----	---

**Hazardous Ingredients**

Comp	CAS No.	Percentage (by wt.)	Exposure Guidelines						Carcinogen
			OSHA		ACGIH		Other		
			TWA	STEL	TWA	STEL	TWA	STEL	
2-Acrylamido-2-Methyl propanesulfonic acid	15214-89-8	N/E	N/E	N/E	N/E	N/E	N/E	N/E	N/E
Acrylamide	79-06-1	0.5%	0.03 mg/cu. M (s)	N/E	0.03 mg/cu. M (s)	N/E	N/E	N/E	IARC Probable Carcinogen NTP Carcinogen
Acrylonitrile	107-13-1	0.2%	2 ppm	10 ppm (c)	2 ppm (s)	N/E	N/E	N/E	IARC Suspect Carcinogen NTP Carcinogen OSHA Carcinogen

(s) – Skin exposure  
 (p) – Proposed limit  
 (c) – Ceiling exposure  
 (l) – Recommended exposure limit  
 (u) – Supplier recommended exposure limit  
 (N/E) – None established

<b>3.</b>	<b>Hazards Identification</b>
-----------	-------------------------------

**Principal Hazards**

**DANGER**

- FORMS EXPLOSIVE DUST-AIR MIXTURE
- CAUSES SEVERE EYE IRRITATION. RISK OF IRREVERSIBLE EYE DAMAGE
- MAY CAUSE HERITABLE GENETIC DAMAGE
- MAY BE HARMFUL IF SWALLOWED
- CONTAINS COMPONENTS WHICH MAY CAUSE CANCER

*See section 11 for complete health hazard information*

<b>4.</b>	<b>First Aid Measures</b>
-----------	---------------------------

<b>Oral</b>	DO NOT INDUCE VOMITING. If conscious, give 2 glasses of water. Get immediate medical attention.
<b>Eyes</b>	Flush immediately with water for atleast 15 minutes. Get immediate medical attention.
<b>Skin</b>	Wash with soap and water. Soaked clothing should be changed. Get medical attention if irritation develops. Launder contaminated clothing before reuse.
<b>Inhalation</b>	Remove exposed person to fresh air if adverse effects are observed. If breathing is labored, administer oxygen. If breathing has stopped, apply artificial respiration. If irritation persists or if toxic symptoms are observed, get medical attention.
<b>Additional Information</b>	Note to physician : Treat symptomatically.

<b>5.</b>	<b>Fire Fighting Measures</b>
-----------	-------------------------------

<b>Flash Point</b>	Not applicable
<b>Extinguishing Media</b>	Flood with Water
<b>Firefighting Procedures</b>	Recommend wearing self-contained breathing apparatus. Water may be ineffective fighting fires.
<b>Unusal Fire &amp; Explosion Hazards</b>	Material will not burn. Dust from this product is explosive. Use in an inert gas atmosphere.

<b>6.</b>	<b>Accidental Release Measures</b>
-----------	------------------------------------

<b>Spill Procedures</b>	Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations. Prevent entry into sewers and waterways. Pick up free solid for recycle and/or disposal. Avoid raising a dust. Check under Transportation and Labelling (DOT/CERCLA) and Other Regulatory Information Section (SARA) for hazardous substances to determine regulatory reporting requirements for spills.
-------------------------	---

<b>7.</b>	<b>Handling and Storage</b>
-----------	-----------------------------

<b>Pumping Temperature</b>	Not determined
<b>Maximum Handling Temperature</b>	Not determined
<b>Handling Procedures</b>	Open container in a well ventilated area. Avoid breathing vapors. Avoid creating dust. Maintain good housekeeping practices. Wash thoroughly after handling.

<b>Maximum Storage Temperature</b>	Not determined
<b>Storage Procedures</b>	Store in well ventilated area. Store in dry area, 0 – 100 deg F (-18 – 38 deg C).
<b>Loading Temperature</b>	Not determined.

<b>8.</b>	<b>Exposure Controls/Personal Protection</b>
-----------	--

<b>Other Exposure Limits</b>	See Hazardous Ingredients Section for any applicable exposure limits for components.
<b>Ventilation Procedures</b>	Use local exhaust ventilation to control mists or vapors
<b>Gloves Procedures</b>	Cotton or leather gloves.
<b>Eye Protection</b>	Chemical goggles or faceshield.
<b>Respiratory Protection</b>	Use NIOSH/MSHA approved full facepiece respirator with a High Efficiency Particulate Air (HEPA) filter if the recommended exposure limit is exceeded. Use self-contained breathing apparatus for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites.
<b>Clothing Recommendation</b>	Long sleeve shirt is recommended.

<b>9.</b>	<b>Physical and Chemical Properties</b>
-----------	---

<b>Flash Point</b>	Not applicable
<b>Upper Flammable Limit</b>	Not determined
<b>Lower Flammable Limit</b>	Not determined
<b>Autoignition Point</b>	Not determined
<b>Explosion Data</b>	Dust from this product has a moderate explosibility rating.
<b>Vapor Pressure</b>	Not determined
<b>pH</b>	Not determined
<b>Specific Gravity</b>	1.01 (15.6 Deg C)
<b>Bulk Density</b>	Not determined
<b>Water Solubility</b>	Soluble
<b>Percent Volatile</b>	< 1 percent
<b>Percent VOC</b>	Not determined
<b>Vapor Density</b>	Not determined
<b>Evaporation Rate</b>	Not determined
<b>Odor</b>	Mild
<b>Appearance</b>	Flowing gray-white crystalline solid.
<b>Viscosity</b>	Unknown
<b>Odor Threshold</b>	Unknown
<b>Boiling Point</b>	Not determined
<b>Pour Point Temperature</b>	Not determined
<b>Melting / Freezing Point</b>	Not determined

*The above data are typical values and do not constitute a specification. Vapor pressure data are calculated unless otherwise noted.*

<b>10.</b>	<b>Stability and Reactivity</b>
<b>Stability</b>	Material is normally stable at moderately elevated temperatures and pressures
<b>Decomposition Temperature</b>	Not determined
<b>Incompatibility</b>	Oxidizing agents.
<b>Polymerization</b>	Nonhazardous polymerization may occur. Avoid concentrated aqueous solutions.
<b>Thermal Decomposition</b>	Smoke, Carbon monoxide, aldehydes and other products of incomplete combustion. Under combustion conditions, oxides of the following elements will be formed: nitrogen, sulfur.

<b>11.</b>	<b>Toxicological Information</b>
------------	----------------------------------

**- ACUTE EXPOSURE -**

<b>Oral Toxicity</b>	The LD50 in rats is between 500 mg/kg and 2000 mg/kg. Based on data from components or similar materials
<b>Eye Irritation</b>	Severe eye irritant. Risk of irreversible damage to eyes. Based on actual data
<b>Skin Irritation</b>	Not expected to be a primary skin irritant. Based on actual data
<b>Dermal Toxicity</b>	The LD50 in rabbits is >2000 mg/kg. Based on data from components or similar materials
<b>Inhalation Toxicity</b>	No data available to indicate product or components may be a toxic inhalation hazard
<b>Respiratory Irritation</b>	No data available to indicate product or components may cause respiratory irritation under normal workplace conditions and good industrial hygiene practices.
<b>Dermal Sensitization</b>	No data available to indicate product or components may be a skin sensitizer.
<b>Inhalation Sensitization</b>	No data available to indicate product or components may be respiratory sensitizers.

**- CHRONIC EXPOSURE -**

<b>Chronic Toxicity</b>	Ammonium Salt of 2-Acrylamido-2-Methyl Propane Sulfonic Acid was studied in a 28-day oral gavage study in rats with a 14-day recovery period, and no significant toxicological effects were observed. The No Observed Adverse Effect Level (NOEL) was established at 1000 mg/kg/day.
<b>Carcinogenicity</b>	Acrylonitrile has been shown to cause brain, stomach and cancer of other organs in Oral and inhalation studies in rats. Evidence of Carcinogenicity in humans is inconclusive. Acrylamide has been shown to be carcinogenic in a variety of organs in rats; it has been classified by IARC and NTP as having sufficient animal evidence for carcinogenicity.
<b>Mutagenicity</b>	Acrylamide has been shown to be mutagenic or genotoxic in variety of tests. Acrylonitrile has been shown to have mutagenic or genotoxic activity. The relevance of this information to workplace hazards has not been established. 2-Acrylamido-2-Methyl Propane Sulfonic Acid monomer showed no activity in an Ames test, and in vivo chromosome aberration study, or a CHO/HGPRT in vitro cell mutation assay. Results of a dominant lethal test in rats have been negative for this material.
<b>Reproductive Toxicity</b>	Ammonium Salt of 2-Acrylamido-2-Methyl Propane Sulfonic Acid was evaluated for reproduction toxicity in a OECD 421 assay. No adverse effects on reproductive parameters were observed. The No Observed Effect Level (NOEL) was established at 1000 mg/kg/day
<b>Teratogenicity</b>	Ammonium Salt of 2-Acrylamido-2-Methyl Propane Sulfonic Acid was evaluated for development toxicity in OECD 421 assay. No adverse effects on developmental parameters were observed. The No Observed Effect Level (NOEL) was established at 1000 mg/kg/day.

**- ADDITIONAL INFORMATION -**

<b>Other</b>	<b>No other health hazards known.</b>
--------------	---------------------------------------

<b>12.</b>	<b>Ecological Information</b>
------------	-------------------------------

- ENVIRONMENTAL TOXICITY -

<b>Freshwater Fish Toxicity</b>	The acute LC50 is 100 – 1000 mg/L based on actual data.
<b>Freshwater Invertebrates Toxicity</b>	The acute EC50 is 100 – 1000 mg/L based on actual data.
<b>Algal Inhibition</b>	The acute EC50 is > 1000 mg/L based on similar products.
<b>Saltwater Fish Toxicity</b>	Not determined
<b>Saltwater Invertebrates Toxicity</b>	Not determined
<b>Bacteria Toxicity</b>	The acute EC50 for bacteria is > 1000 ppm based on similar materials
<b>Miscellaneous Toxicity</b>	Not determined.

- ENVIRONMENTAL FATE -

<b>Biodegradation</b>	This product shows limited biodegradation based on actual OECD 301-type test data. This product shows limited biodegradation based on OECD 302-type test data for similar products.
<b>Bioaccumulation</b>	This material displays no potential to bioconcentrate
<b>Soil Mobility</b>	Not determined.

<b>13.</b>	<b>Disposal Consideration</b>
------------	-------------------------------

<b>Waste Disposal</b>	This material, if discarded, is not a hazardous waste under RCRA Regulation 40 CFR 261
-----------------------	--

<b>14.</b>	<b>Transport Information</b>
------------	------------------------------

<b>ICAO/IATA</b>	Not regulated.
<b>IMDG (Ambient)</b>	Not regulated.
<b>IMDG EMS</b>	Not applicable
<b>IMDG MFAG</b>	Not applicable
<b>USCG Compatibility</b>	Not determined
<b>U.S.DOT Non-Bulk</b>	Not regulated.
<b>DOT NAERG</b>	171
<b>TDG Bulk (Ambient)</b>	Not regulated
<b>TDG Non-Bulk</b>	Not regulated.
<b>Mexico</b>	Not regulated
<b>ADR/RID (Ambient)</b>	Not regulated
<b>ADR/RID Hazard ID No.</b>	Not applicable
<b>ADG (Ambient)</b>	Not regulated

<b>15.</b>	<b>Regulatory Information</b>
------------	-------------------------------

**U.S.TSCA Inventory** All components of this material are on the US TSCA Inventory or are exempt.  
**Other TSCA Reg.** None Known  
**SARA Ext.Haz. Subst.** This product does not contain greater than 1.0% of any chemical substance on the SARA Extremely Hazardous Substances list.  
**SARA Section 313** 0.5% Acrylamide, CAS No.79-06-1 0.2% Acrylonitrile, CAS no.107-13-1  
**TDG Regulated Limit** None known  
**CERCLA Hazardous Substances**

**Transit Reportable Quantities**

Component	Reportable Quantity RQ	Units	Reportable Quantity RQ	Units
Acrylonitrile	61072	Lbs.	30267	KG

**Cal.Prop.65** This product contains the following chemical(s) known to the state of California to cause cancer and/or birth defects: acrylonitrile, acrylamide.  
**U.S.Fuel Registration** Not applicable  
**U.S.Dept of Agriculture** This product has not been filed with the USDA to support H2 approvals.  
**NSF Nonfood Compounds Registration** This product has not been filed with the NSF to support H1 or H2 approvals.  
**U.S.Tariff Heading Number** 2924.19.10.50  
**Schedule B Number** 2924.19.0000  
**FDA Approval** Not applicable  
**EEC EINECS** All components are in compliance with the EC Seventh amendment Directive 92 /32/EEC.  
**Finnish Registration Number** Not Registered  
**Sweden Registration Number** Not Registered  
**Norway Registration Number** Not Registered  
**Danish Registration Number** Not Registered  
**Japan METTI** All components are in compliance with the Chemical Substances Control Law of Japan  
**Australia** All components are in compliance with chemical notification requirements in Australia.  
**Canada** All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List.  
**Switzerland** All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.  
**Korea** All components are in compliance in Korea  
**Philippines** All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A.6969).  
**China** All components of this product are listed on the Inventory of Existing Chemical Substances in China.  
**China Registration Number** Not Registered  
**Malta Registration Number** Not Registered  
**Ukraine Registration Number** Not Registered

<b>16.</b>	<b>Other Information</b>
------------	--------------------------

US NFPA Codes

Health	Fire	Reactivity	Special
3	1	0	N/E

HMIS Codes

Health	FIRE	Reactivity
3 *	1	0

Precautionary Labels

**DANGER**

- **FORM EXPLOSIVE DUST-AIR MIXTURE.**
- **MAY CAUSE HERITABLE GENETIC DAMAGE.**
- **MAY BE HARMFUL IF SWALLOWED.**
- **CONTAINS COMPONENTS WHICH MAY CAUSE CANCER.**

---

The information presented herein has been compiled from sources considered to be dependable and is accurate to the best of Vinati Organics Limited's knowledge; however, Vinati Organics Limited makes no warranty whatsoever, expressed or implied of **MERCHANTABILITY OR FITNESS FOR THE PARTICULAR PURPOSE**, regarding the accuracy of such data or the results to be obtained from use thereof. Vinati Organics Limited assumes no responsibility for injury to recipient or to third persons or for any damage to any property and recipient assumes all such risks.