

# VINYL ETHYL ETHER

VEE

CAUTIONARY RESPONSE INFORMATION			
<b>Common Synonyms</b> Ether, vinyl ethyl Ethyl vinyl ether Vinamar	Liquid	Colorless	Characteristic, disagreeable
<b>Evacuate.</b> Keep people away. Avoid contact with vapor or liquid. Wear goggles, self-contained breathing apparatus, and rubber gloves. Shut off ignition sources and call fire department. Stay upwind and use water spray to "knock down" vapor. Notify local health and pollution control agencies. Protect water intakes.			
<b>Fire</b>	FLAMMABLE Flash back along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Wear goggles and self-contained breathing apparatus. Extinguish with alcohol foam, carbon dioxide, dry chemical, foam, or carbon tetrachloride. Water may be ineffective on fire. Cool exposed containers with water.		
<b>Exposure</b> CALL FOR MEDICAL AID.  LIQUID OR VAPOR Irritating to skin and eyes. Harmful if swallowed or inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.			
<b>Water Pollution</b>	Effects of low concentrations on aquatic life are unknown. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.		

1. CORRECTIVE RESPONSE ACTIONS	2. CHEMICAL DESIGNATIONS
Stop discharge Contain Collection Systems: Skim; Pump; Dredge Do not burn	2.1 CG Compatibility Group: Not listed. 2.2 Formula: <chem>CH2CHOC2H5</chem> 2.3 IMO/UN Designation: 3.1/1302 2.4 DOT ID No.: 1302 2.5 CAS Registry No.: 109-92-2 2.6 NAERG Guide No.: 127P 2.7 Standard Industrial Trade Classification: 51616
<b>3. HEALTH HAZARDS</b>	
<p><b>3.1 Personal Protective Equipment:</b> Full face mask, self-contained breathing apparatus, eye protection, and rubber gloves.</p> <p><b>3.2 Symptoms Following Exposure: INHALATION OR INGESTION:</b> Excitement followed by unconsciousness and respiratory paralysis. CNS depression. EYES: May cause irritation and transient injury to cornea. SKIN: Prolonged contact can cause tissue defatting and dehydration leading to dermatitis.</p> <p><b>3.3 Treatment of Exposure:</b> Call a doctor. INHALATION: Remove from contaminated area and administer artificial respiration and oxygen if necessary. EYES: Flush with copious amounts of water. SKIN: Wash with copious amounts of water. INGESTION: Gastric lavage and saline cathartics.</p> <p><b>3.4 TLV-TWA:</b> Not listed.</p> <p><b>3.5 TLV-STEL:</b> Not listed.</p> <p><b>3.6 TLV-Ceiling:</b> Not listed.</p> <p><b>3.7 Toxicity by Ingestion:</b> Grade 1: LD<sub>50</sub> = 5 to 15 g/kg.</p> <p><b>3.8 Toxicity by Inhalation:</b> Currently not available.</p> <p><b>3.9 Chronic Toxicity:</b> Prolonged contact with skin may cause dermatitis. Possible liver damage may occur with repeated use.</p> <p><b>3.10 Vapor (Gas) Irritant Characteristics:</b> Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.</p> <p><b>3.11 Liquid or Solid Characteristics:</b> Minimum hazard. If spilled on clothing and allowed to remain, may cause reddening of skin.</p> <p><b>3.12 Odor Threshold:</b> Currently not available.</p> <p><b>3.13 IDLH Value:</b> Not listed.</p> <p><b>3.14 OSHA PEL-TWA:</b> Not listed.</p> <p><b>3.15 OSHA PEL-STEL:</b> Not listed.</p> <p><b>3.16 OSHA PEL-Ceiling:</b> Not listed.</p> <p><b>3.17 EPA A EGL:</b> Not listed</p>	

<b>4. FIRE HAZARDS</b>	<b>7. SHIPPING INFORMATION</b>								
<p>4.1 Flash Point: &lt;50°F C.C.</p> <p>4.2 Flammable Limits in Air: 1.7% - 28%</p> <p>4.3 Fire Extinguishing Agents: Alcohol foam, CO<sub>2</sub>, dry chemical or carbon tetrachloride</p> <p>4.4 Fire Extinguishing Agents Not to Be Used: Water may be ineffective</p> <p>4.5 Special Hazards of Combustion Products: Currently not available</p> <p>4.6 Behavior in Fire: Explosive hazard</p> <p>4.7 Auto Ignition Temperature: 395°F</p> <p>4.8 Electrical Hazards: Currently not available</p> <p>4.9 Burning Rate: Currently not available</p> <p>4.10 Adiabatic Flame Temperature: Currently not available</p> <p>4.11 Stoichiometric Air to Fuel Ratio: 26.2 (calc.)</p> <p>4.12 Flame Temperature: Currently not available</p> <p>4.13 Combustion Molar Ratio (Reactant to Product): 8.0 (calc.)</p> <p>4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed</p>	<p>7.1 Grades of Purity: Currently not available</p> <p>7.2 Storage Temperature: Currently not available</p> <p>7.3 Inert Atmosphere: Currently not available</p> <p>7.4 Venting: Currently not available</p> <p>7.5 IMO Pollution Category: C</p> <p>7.6 Ship Type: 2</p> <p>7.7 Barge Hull Type: Currently not available</p>								
<b>8. HAZARD CLASSIFICATIONS</b>									
<p>8.1 49 CFR Category: Flammable liquid</p> <p>8.2 49 CFR Class: 3</p> <p>8.3 49 CFR Package Group: I</p> <p>8.4 Marine Pollutant: No</p> <p>8.5 NFPA Hazard Classification:</p> <table> <thead> <tr> <th>Category</th> <th>Classification</th> </tr> </thead> <tbody> <tr> <td>Health Hazard (Blue).....</td> <td>2</td> </tr> <tr> <td>Flammability (Red).....</td> <td>4</td> </tr> <tr> <td>Instability (Yellow).....</td> <td>2</td> </tr> </tbody> </table> <p>8.6 EPA Reportable Quantity: Not listed.</p> <p>8.7 EPA Pollution Category: Not listed.</p> <p>8.8 RCRA Waste Number: Not listed</p> <p>8.9 EPA FWCNA List: Not listed</p>		Category	Classification	Health Hazard (Blue).....	2	Flammability (Red).....	4	Instability (Yellow).....	2
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<b>9. PHYSICAL &amp; CHEMICAL PROPERTIES</b>									
<p>9.1 Physical State at 15° C and 1 atm: Liquid</p> <p>9.2 Molecular Weight: 72.104</p> <p>9.3 Boiling Point at 1 atm: 96°F = 35.6°C = 308.8°K</p> <p>9.4 Freezing Point: -175°F = -115°C = 158.2°K</p> <p>9.5 Critical Temperature: Currently not available</p> <p>9.6 Critical Pressure: Currently not available</p> <p>9.7 Specific Gravity: 0.7589 at 20°C</p> <p>9.8 Liquid Surface Tension: Currently not available</p> <p>9.9 Liquid Water Interfacial Tension: Currently not available</p> <p>9.10 Vapor (Gas) Specific Gravity: 2.5</p> <p>9.11 Ratio of Specific Heats of Vapor (Gas): Currently not available</p> <p>9.12 Latent Heat of Vaporization: (Estimated) 165 Btu/lb = 91.8 cal/g = 3.84 X 10<sup>3</sup> J/kg</p> <p>9.13 Heat of Combustion: -14,326 Btu/lb = -7959 cal/g = -333 X 10<sup>3</sup> J/kg</p> <p>9.14 Heat of Decomposition: Currently not available</p> <p>9.15 Heat of Solution: Currently not available</p> <p>9.16 Heat of Polymerization: Currently not available</p> <p>9.17 Heat of Fusion: Currently not available</p> <p>9.18 Limiting Value: Currently not available</p> <p>9.19 Reid Vapor Pressure: Currently not available</p>									

NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
63	47.592		C U R R E N T L Y		C U R R E N T L Y		C U R R E N T L Y
64	47.546		N O T		N O T		N O T
65	47.502		A V A I L A B L E		A V A I L A B L E		A V A I L A B L E
66	47.459						
67	47.417						
68	47.376						

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
I N S O L U B L E		35 40 45 50 55 60 65 70 75 80 85 90 95	4.011 4.469 4.979 5.548 6.181 6.887 7.673 8.549 9.525 10.613 11.824 13.174 14.678	35 40 45 50 55 60 65 70 75 80 85 90 95	0.05335 0.05898 0.06520 0.07208 0.07968 0.08809 0.09738 0.10765 0.11901 0.13156 0.14544 0.16078 0.17774		C U R R E N T L Y
							N O T A V A I L A B L E