

VINYL CYCLOHEXENE

VCH

CAUTIONARY RESPONSE INFORMATION

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| Common Synonyms 4-Vinyl-1-cyclohexene | Liquid Colorless Floats on water. |
| <p>Wear full impervious protective clothing and approved respirator. Restrict access. Avoid contact with liquid and vapor. Shut off ignition sources and call fire department. Notify local health and pollution control agencies. Protect water intakes.</p> | |
| Fire | Flammable. Vapors can flow to distant ignition source and flash back. Wear full protective clothing with self-contained breathing apparatus. Extinguish fire with dry chemical, alcohol foam, carbon dioxide. Use water spray to cool exposed containers. |
| Exposure | CALL FOR MEDICAL AID. VAPOR Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. LIQUID Irritating to skin and eyes. Overexposures may have a narcotic effect. Remove contaminated clothing and shoes. Flush affected areas with water. IF IN EYES, hold eyelids open and flush with plenty of water. |
| Water Pollution | Effect of low concentrations on aquatic life is 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 |
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| Stop discharge Dilute and disperse | 2.1 CG Compatibility Group: Not listed. 2.2 Formula: $C_6H_5CH=CH_2$ 2.3 IMO/UN Designation: Currently not available 2.4 DOT ID No.: Not listed. 2.5 CAS Registry No.: 100-40-3 2.6 NAERG Guide No.: Not listed 2.7 Standard Industrial Trade Classification: 51129 |
| <h3>3. HEALTH HAZARDS</h3> <p>3.1 Personal Protective Equipment: Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors.</p> <p>3.2 Symptoms Following Exposure: Exposure can cause irritation of eyes, nose and throat. High concentrations have a narcotic effect.</p> <p>3.3 Treatment of Exposure: Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Flush with water.</p> <p>3.4 TLV-TWA: 0.1 ppm 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 Toxicity by Ingestion: Grade 2; oral rat LD₅₀ = 2,563 g/kg 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: Currently not available 3.10 Vapor (Gas) Irritant Characteristics: Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary. 3.11 Liquid or Solid Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin. 3.12 Odor Threshold: Currently not available 3.13 IDLH Value: Not listed. 3.14 OSHA PEL-TWA: Not listed. 3.15 OSHA PEL-STEL: Not listed. 3.16 OSHA PEL-Ceiling: Not listed. 3.17 EPA AEGL: Not listed</p> | |

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| 4. FIRE HAZARDS | 7. SHIPPING INFORMATION |
| 4.1 Flash Point: 61°F C.C. 4.2 Flammable Limits in Air: 1.0 - 5.9% 4.3 Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. 4.4 Fire Extinguishing Agents Not to Be Used: Water. | 7.1 Grades of Purity: 99%; Research grade; technical 95%. 7.2 Storage Temperature: Ambient. 7.3 Inert Atmosphere: No requirement. 7.4 Venting: Not listed. 7.5 IMO Pollution Category: Currently not available 7.6 Ship Type: Currently not available 7.7 Barge Hull Type: Currently not available |
| 4.5 Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. | 8. HAZARD CLASSIFICATIONS |
| 4.6 Behavior in Fire: Vapors can flow along surfaces to distant ignition source and flash back. | 8.1 49 CFR Category: Not listed. 8.2 49 CFR Class: Not pertinent. 8.3 49 CFR Package Group: Not listed. 8.4 Marine Pollutant: No 8.5 NFPA Hazard Classification: |
| 4.7 Auto Ignition Temperature: 517°F. 4.8 Electrical Hazards: Not listed. 4.9 Burning Rate: Currently not available 4.10 Adiabatic Flame Temperature: Currently not available 4.11 Stoichiometric Air to Fuel Ratio: 52.4 (calc.) 4.12 Flame Temperature: Currently not available 4.13 Combustion Molar Ratio (Reactant to Product): 14.0 (calc.) 4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed | Category Classification Health Hazard (Blue)..... 0 Flammability (Red)..... 3 Instability (Yellow)..... 2 8.6 EPA Reportable Quantity: Not listed. 8.7 EPA Pollution Category: Not listed. 8.8 RCRA Waste Number: Not listed 8.9 EPA FWCRA List: Not listed |
| 5. CHEMICAL REACTIVITY | 9. PHYSICAL & CHEMICAL PROPERTIES |
| 5.1 Reactivity with Water: No reaction. 5.2 Reactivity with Common Materials: Currently not available 5.3 Stability During Transport: Stable. 5.4 Neutralizing Agents for Acids and Caustics: Not pertinent. 5.5 Polymerization: Currently not available 5.6 Inhibitor of Polymerization: Currently not available | 9.1 Physical State at 15°C and 1 atm: Liquid 9.2 Molecular Weight: 108.18 9.3 Boiling Point at 1 atm: 262.4°F = 128°C = 401°K 9.4 Freezing Point: -164°F = -108.9°C = 164.1°K 9.5 Critical Temperature: Currently not available 9.6 Critical Pressure: Currently not available 9.7 Specific Gravity: 0.8303 @ 20°C 9.8 Liquid Surface Tension: Currently not available 9.9 Liquid Water Interfacial Tension: Currently not available 9.10 Vapor (Gas) Specific Gravity: Currently not available 9.11 Ratio of Specific Heats of Vapor (Gas): Currently not available 9.12 Latent Heat of Vaporization: Currently not available 9.13 Heat of Combustion: Currently not available 9.14 Heat of Decomposition: Currently not available 9.15 Heat of Solution: Currently not available 9.16 Heat of Polymerization: Currently not available 9.17 Heat of Fusion: Currently not available 9.18 Limiting Value: Currently not available 9.19 Reid Vapor Pressure: Currently not available |
| 6. WATER POLLUTION | NOTES |
| 6.1 Aquatic Toxicity: Currently not available 6.2 Waterfowl Toxicity: Currently not available 6.3 Biological Oxygen Demand (BOD): Currently not available 6.4 Food Chain Concentration Potential: Currently not available 6.5 GESAMP Hazard Profile: Bioaccumulation: O Damage to living resources: - Human Oral hazard: 1 Human Contact hazard: 0 Reduction of amenities: 0 | |

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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 |
| 68 | 6.930 | | C U R R E N T L Y N O T A V A I L A B L E | | C U R R E N T L Y N O T A V A I L A B L E | | C U R R E N T L Y N O T A V A I L A B L E |

| 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 |
| | C U R R E N T L Y N O T A V A I L A B L E | 77 100 | 0.197 0.499 | 77 100 | 0.00370 0.00898 | | C U R R E N T L Y N O T A V A I L A B L E |