

# GLYOXYLIC ACID (50% OR LESS)

GAC

CAUTIONARY RESPONSE INFORMATION		
Common Synonyms Formyl formic acid Oxacetic acid Oxoethanoic acid	Liquid	Colorless to straw yellow
<p>Wear full impervious protective clothing and approved respirator. Notify local health and pollution control agencies. Protect water intakes.</p>		
Fire	<p>Not flammable. Cool exposed containers with water to avoid overheating. Avoid direct contact of water with acid to reduce splattering and overheating.</p>	
Exposure	<p>CALL FOR MEDICAL AID.</p> <p>VAPOR Move victim to fresh air. If breathing is difficult, give oxygen.</p> <p>LIQUID Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush skin with water. IF IN EYES, hold eyelids open and flush with plenty of water.</p>	
Water Pollution	<p>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.</p>	

1. CORRECTIVE RESPONSE ACTIONS	2. CHEMICAL DESIGNATIONS	3. HEALTH HAZARDS
Stop discharge Dilute and disperse	<p>2.1 CG Compatibility Group: Not listed. 2.2 Formula: OHCCOOH 2.3 IMO/UN Designation: Currently not available 2.4 DOT ID No.: Not listed. 2.5 CAS Registry No.: 298-12-4 2.6 NAERG Guide No.: Not listed 2.7 Standard Industrial Trade Classification: 51392</p>	<p>3.1 Personal Protective Equipment: Wear full impervious protective clothing and approved respirator. 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: Contact will cause severe eye and skin burns. Vapor exposure may cause eye and skin irritation.</p> <p>3.3 Treatment of Exposure: Get medical attention. INHALATION: Remove to fresh air. 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. INGESTION: Dilute with milk, lime water, or aluminum hydroxide.</p> <p>3.4 TLV-TWA: Not listed.</p> <p>3.5 TLV-STEL: Not listed.</p> <p>3.6 TLV-Ceiling: Not listed.</p> <p>3.7 Toxicity by Ingestion: Currently not available.</p> <p>3.8 Toxicity by Inhalation: Currently not available.</p> <p>3.9 Chronic Toxicity: Currently not available.</p> <p>3.10 Vapor (Gas) Irritant Characteristics: Vapors are moderately irritating such that personnel will not usually tolerate moderate or high concentrations.</p> <p>3.11 Liquid or Solid Characteristics: Fairly severe skin irritant. May cause pain and second-degree burns after a few minutes' contact.</p> <p>3.12 Odor Threshold: Currently not available.</p> <p>3.13 IDLH Value: Not listed.</p> <p>3.14 OSHA PEL-TWA: Not listed.</p> <p>3.15 OSHA PEL-STEL: Not listed.</p> <p>3.16 OSHA PEL-Ceiling: Not listed.</p> <p>3.17 EPA AEGL: Not listed</p>

4. FIRE HAZARDS	7. SHIPPING INFORMATION
4.1 Flash Point: Not flammable.	7.1 Grades of Purity: Varying concentrations available.
4.2 Flammability Limits in Air: Not pertinent.	7.2 Storage Temperature: Ambient.
4.3 Fire Extinguishing Agents: Dry chemical, carbon dioxide or water spray.	7.3 Inert Atmosphere: No requirement.
4.4 Fire Extinguishing Agents Not to Be Used: Avoid direct contact between water and acid.	7.4 Venting: Not listed.
4.5 Special Hazards of Combustion Products: Not pertinent.	7.5 IMO Pollution Category: Currently not available.
4.6 Behavior in Fire: Not pertinent.	7.6 Ship Type: 3
4.7 Auto Ignition Temperature: Not pertinent.	7.7 Barge Hull Type: Currently not available
4.8 Electrical Hazards: Not pertinent.	
4.9 Burning Rate: Not pertinent.	
4.10 Adiabatic Flame Temperature: Not pertinent.	
4.11 Stoichiometric Air to Fuel Ratio: Not pertinent.	
4.12 Flame Temperature: Not pertinent.	
4.13 Combustion Molar Ratio (Reactant to Product): Not pertinent.	
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed	
8. HAZARD CLASSIFICATIONS	9. PHYSICAL & CHEMICAL PROPERTIES
8.1 49 CFR Category: Not listed.	9.1 Physical State at 15° C and 1 atm: Liquid
8.2 49 CFR Class: Not pertinent.	9.2 Molecular Weight: 74.04
8.3 49 CFR Package Group: Not listed.	9.3 Boiling Point at 1 atm: Currently not available
8.4 Marine Pollutant: No	9.4 Freezing Point: Currently not available
8.5 NFPA Hazard Classification: Not listed	9.5 Critical Temperature: Currently not available
8.6 EPA Reportable Quantity: Not listed.	9.6 Critical Pressure: Currently not available
8.7 EPA Pollution Category: Not listed.	9.7 Specific Gravity: 1.342
8.8 RCRA Waste Number: Not listed	9.8 Liquid Surface Tension: Currently not available
8.9 EPA FWPCA List: Not listed	9.9 Liquid Water Interfacial Tension: Currently not available
5. CHEMICAL REACTIVITY	9.10 Vapor (Gas) Specific Gravity: Currently not available
5.1 Reactivity with Water: May generate heat.	9.11 Ratio of Specific Heats of Vapor (Gas): Currently not available
5.2 Reactivity with Common Materials: Will react with base metals to release hydrogen gas.	9.12 Latent Heat of Vaporization: Currently not available
5.3 Stability During Transport: Stable.	9.13 Heat of Combustion: Currently not available
5.4 Neutralizing Agents for Acids and Caustics: Lime.	9.14 Heat of Decomposition: Currently not available
5.5 Polymerization: Will not polymerize.	9.15 Heat of Solution: Currently not available
5.6 Inhibitor of Polymerization: Not pertinent.	9.16 Heat of Polymerization: Not pertinent.
6. WATER POLLUTION	9.17 Heat of Fusion: Currently not available
6.1 Aquatic Toxicity: Currently not available	9.18 Limiting Value: Currently not available
6.2 Waterfowl Toxicity: Currently not available	9.19 Reid Vapor Pressure: 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: Not listed	

## 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
CURRENTLY NOT AVAILABLE			CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE

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
CURRENTLY NOT AVAILABLE			CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE