GLYOXAL

GOS

CAUTIONARY RESPONSE INFORMATION

Common Synonyms	Liquid	Light yellow	Weak sour odor
Biformyl Diformyl Ethanedial Oxal Oxaldehyde	Mixes with water.		

Keep people away.
Avoid contact with liquid.
Wear protective clothing.
Notify local health and pollution control agencies.
Protect water intakes.

Fire	Not flammable.
Exposure	Call for medical aid. LIQUID Irritating to skin and eyes. Harmful if swallowed. Harmful if swallowed. 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.
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

Dilute and disperse
Stop discharge

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: 19; Aldehyde
2.2 Formula: CHO CHO (in water)
2.3 IMO/UN Designation: Not listed
2.4 DOT ID No.: Not listed
2.5 CAS Registry No.: 107-22-2
2.6 NAERG Guide No.: Not listed
2.7 Standard Industrial Trade Classification: 51621

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Goggles or face shield,40% solution; rubber gloves
3.2 Symptoms Following Exposure: Inhalation causes some irritation of nose and,40% solution throat. Contact with liquid,40% solution irritates eyes and causes mild irritation of skin; stains skin yellow. (No information available on symptoms of ingestion.)
3.3 Treatment of Exposure: INHALATION: remove from exposure. EYES or SKIN: flood,40% solutionwith water for 15 min. INGESTION: no information on treatment.
3.4 TLV-TWA: Not listed.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Grad,40% solutione 2; oral rat LD_{50} = 2,020 mg/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,40% solution. If spilled on clothing and allowed to remain, may cause smarting and,40% solution 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

4. FIRE HAZARDS

4.1 Flash Point: Non-flammable solution
4.2 Flammable Limits in Air: Not pertinent
4.3 Fire Extinguishing Agents: Not pertinent
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent
4.5 Special Hazards of Combustion Products: Not pertinent
4.6 Behavior in Fire: Heat may cause polymerization to a combustible, viscous material.
4.7 Auto Ignition Temperature: Not pertinent
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Not pertinent
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: Not pertinent
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): Not pertinent
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: No reaction
5.2 Reactivity with Common Materials: Corrosive to most metals. The reaction is slow.
5.3 Stability During Transport: Stable
5.4 Neutralizing Agents for Acids and Caustics: Not pertinent
5.5 Polymerization: Not pertinent
5.6 Inhibitor of Polymerization: Not pertinent

6. WATER POLLUTION

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: None
6.5 GESAMP Hazard Profile:
Bioaccumulation: 0
Damage to living resources: 1
Human Oral hazard: 1
Human Contact hazard: I
Reduction of amenities: X

7. SHIPPING INFORMATION

7.1 Grades of Purity: 40% in water
7.2 Storage Temperature: 10-120°F
7.3 Inert Atmosphere: No requirement
7.4 Venting: Open
7.5 IMO Pollution Category: D
7.6 Ship Type: Data not avaialable
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

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:

Category	Classification
Health Hazard (Blue).....	
Flammability (Red).....	
Instability (Yellow).....	

Not listed,40% solution
8.6 EPA Reportable Quantity: Not listed.
8.7 EPA Pollution Category: Not listed.
8.8 RCRA Waste Number: Not listed
8.9 EPA FWPCA List: Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Liquid,40% solution
9.2 Molecular Weight: Mixture
9.3 Boiling Point at 1 atm: Currently not available
9.4 Freezing Point: 5°F = –15°C = 258°K
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 1.29 at 20°C (liquid,40% solution)
9.8 Liquid Surface Tension: Currently not available
9.9 Liquid Water Interfacial Tension: Not pertinent
9.10 Vapor (Gas) Specific Gravity: Not pertinent
9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
9.12 Latent Heat of Vaporization: Not pertinent
9.13 Heat of Combustion: Not pertinent
9.14 Heat of Decomposition: Not pertinent
9.15 Heat of Solution: Not pertinent
9.16 Heat of Polymerization: Not pertinent
9.17 Heat of Fusion: Currently not available
9.18 Limiting Value: Currently not available
9.19 Reid Vapor Pressure: Currently not available

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
34	81.110		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT
36	81.070						
38	81.020						
40	80.980						
42	80.940						
44	80.900						
46	80.860						
48	80.820						
50	80.770						
52	80.730						
54	80.690						
56	80.650						
58	80.610						
60	80.570						
62	80.520						
64	80.480						
66	80.440						
68	80.400						
70	80.360						
72	80.320						
74	80.270						
76	80.230						
78	80.190						
80	80.150						
82	80.110						
84	80.070						

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
	MISCIBLE		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT