PERACETIC ACID

PAA

CAUTIONARY RESPONSE INFORMATION

Common Synonyms
Acetyl hydroperoxide
Peroxyacetic acid

Liquid Colorless Strong odor

Mixes with water. Flammable, irritating vapor is produced.

Keep people away.
Avoid contact with liquid and vapor.
Shut off ignition sources and call fire department.
Notify local health and pollution control agencies.
Protect water intakes.

Fire

Combustible.
May cause fire on contact with combustibles.
Containers may explode in fire.
Flood discharge area with water.
Cool exposed containers with water.

Exposure

Call for medical aid.

VAPOR
Irritating to eyes, nose and throat.
Move victim to fresh air.
If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen.

LIQUID
Irritating to skin and eyes.
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: Not listed.
2.2 Formula: CH_3COOH-CH_3COOH
2.3 IMO/UN Designation: 5.2/2131
2.4 DOT ID No.: Not listed.
2.5 CAS Registry No.: 79-21-0
2.6 NAERG Guide No.: 141
2.7 Standard Industrial Trade Classification: 51396

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Self-contained breathing apparatus; full protective clothing (goggles, rubber gloves, etc.)
3.2 Symptoms Following Exposure: Inhalation causes severe irritation of mucous membrane. Contact with liquid causes severe irritation of eyes and skin. Ingestion causes severe distress, including burns of mouth and stomach.
3.3 Treatment of Exposure: INHALATION: remove victim to fresh air; if he is not breathing, apply artificial respiration and oxygen;call a doctor. EYES: flush with water for at least 15 min.; call a doctor. SKIN: flush with water and treat burns. INGESTION: give plenty of warm water; call a doctor.
3.4 TLV-TWA: Not listed.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Grade 4; oral LD_{50} = 10 mg/kg (guinea pig)
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Currently not available
3.10 Vapor (Gas) Irritant Characteristics: Currently not available
3.11 Liquid or Solid Characteristics: Currently not available
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: 104°F O.C.
4.2 Flammable Limits in Air: Currently not available
4.3 Fire Extinguishing Agents: Water
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: Vapors are very flammable and explosive. Liquid will detonate if concentration rises above 56% because of evaporation of acetic acid.
4.7 Auto Ignition Temperature: 392°F
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Currently not available
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: 16.7 (calc.)
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): 8.0 (calc.)
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: May cause fire in contact with organic materials such as wood, cotton or straw. Corrosive to most metals, including aluminum.
5.3 Stability During Transport: Stable if kept cool and out of contact with most metals. At 30°C concentration decreases about 0.4% each month.
5.4 Neutralizing Agents for Acids and Caustics: Flush with water
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: -
Human Oral hazard: 3
Human Contact hazard: II
Reduction of amenities: XXX

7. SHIPPING INFORMATION

7.1 Grades of Purity: 40% peracetic acid, 40% acetic acid, 5% hydrogen peroxide, 13% water, 500 ppm stabilizer
7.2 Storage Temperature: 60°F–122°F
7.3 Inert Atmosphere: No requirement
7.4 Venting: Safety relief
7.5 IMO Pollution Category: Currently not available
7.6 Ship Type: Currently not available
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).....	3
Flammability (Red).....	2
Instability (Yellow).....	4
Special (White).....	OX

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
9.2 Molecular Weight: Not pertinent
9.3 Boiling Point at 1 atm: Not pertinent (mixture)
9.4 Freezing Point: (approx.)* –22°F = –30°C = 243°K
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: (est.) 1.153 at 25°C (liquid)
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: Currently not available
9.13 Heat of Combustion: Currently not available
9.14 Heat of Decomposition: Currently not available
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 *40% solution in acetic acid/H_20

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
76	71.790		NOT PERTINENT		NOT PERTINENT	52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86	4.728 4.591 4.459 4.331 4.208 4.090 3.976 3.865 3.759 3.656 3.557 3.461 3.369 3.280 3.193 3.110 3.029 2.951

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	60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210	0.197 0.276 0.382 0.523 0.707 0.946 1.252 1.643 2.136 2.752 3.518 4.462 5.618 7.023 8.720 10.760		NOT PERTINENT		NOT PERTINENT