

# Peracetic Acid and Peroxide

## (60% acetic acid)

### Safety Data Sheet

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Division of Occupational Health and Safety  
National Institutes of Health



Description: Colorless liquid with a strong acrid odor

Other Names: Peroxyacetic acid, acetyl hydroperoxide

Uses: Bleach, catalyst, oxidant and disinfectant

#### A. Hazardous properties

##### 1. Fire Hazard

- a. Dangerous by chemical reaction when exposed to reducing agents
- b. Highly flammable liquid
- c. Highly explosive when exposed to heat, shocked or spontaneous chemical reaction

##### 2. Health Hazard

- a. Strong skin irritant
- b. Prolonged breathing of vapors may be harmful
- c. Strong mucous membrane irritant
- d. Strong eye irritant

#### B. Precautions

##### 1. Fire Protection

- a. Limit the quantity of this material to the immediate needs
- b. Keep containers in a cool area
- c. Store containers away from sources of heat, other combustible material and all reducing agents

##### 2. Personal Protection

- a. Avoid breathing of vapor or skin contact with liquid
- b. If fume hood is available, use hood when working with this chemical, otherwise, use approved respiratory protection; i.e., self-contained breathing apparatus.
- c. Always wear protective gloves, goggles, and protective clothing when using this chemical.

### C. STORAGE

1. Protect containers against physical damage
2. Store in a standard fire resistant flammable storage room provided with continuous ventilation
3. Keep liquid cool
4. Do not store liquid with other reducing agents and other combustible materials

### D. TECHNICAL DATA

1. Chemical formula  $\text{CH}_3\text{COOOH}$
2. Molecular weight 76.05
3. Vapor density (Air = 1) -----
4. Boiling point  $105^\circ\text{C}$
5. Flash point  $110^\circ\text{C}$
6. Ignition temperature Unknown
7. Specific gravity (Water = 1) 1.15 ( $20^\circ\text{C}$ )
8. Melting point  $-30^\circ\text{C}$
9. Solubility Water, alcohol and ether
10. Flammable limits (percent by volume)
11. A Threshold Limit Value (TLV) for exposure to peracetic acid has not been established.

### E. EMERGENCY PROCEDURES:

1. Fire
  - a. Fire fighting should be done from an explosive-resistant location
  - b. Fight fire with either water, foam carbon dioxide or dry chemical fire extinguishers
  - c. Cleanup and salvage operations should not be attempted until all of the peracetic acid solution has cooled completely
2. First Aid
  - a. Inhalation – Remove patient from contaminated area and administer artificial respiration immediately if breathing has stopped.
  - b. Skin Contact – Irrigate area of contact with copious amounts of water.
  - c. Eye Contact – Irrigate eyes with copious amounts of water
  - d. Ingestion – Insufficient information available
  - e. Call physician immediately

### F. REFERENCES:

The Condensed Chemical Dictionary, 8<sup>th</sup> Edition, revised by Gessner G. Hawley, Van Nostrand Reinhold Company, N.Y., New York.

Dangerous Properties of Industrial Materials by N. Irving Sax, 1957, Reinhold Publishing Corporation, N.Y., New York.

Industrial Hygiene and Toxicology by Frank A. Patty, 2<sup>nd</sup> Edition (Revised), Volume II, 1962, Interscience Publishers, John Willey and Sons, N.Y., New York.

Fire Protection Handbook, Revised 13<sup>th</sup> Edition, National Fire Protection Association, 1969, Boston, Massachusetts.

The information contained in this bulletin is based upon a literature search and may not be complete.

NOTE: Research is currently being conducted on the carcinogenic and tumorigenic properties of peracetic acid.