



## MATERIAL SAFETY DATA SHEETS

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Acetic acid

### 1. CHEMICAL IDENTITY

**Chemical Name :** Acetic acid

**Chemical Classification:** Corrosive

**Trade Name :**

**Synonyms:** Ethanoic acid, Ethylic acid, Methanecarboxylic acid, Glacial acetic acid, Vinegar acid

**Formula :** C<sub>2</sub>H<sub>4</sub>O<sub>2</sub>

**CAS No:** 64-19-7

**UN No:** 2789

### Regulated Identification

**Shipping Name :** Acetic acid

**Hazchem Code :** 2P

**Codes / Label :** Class 8, Corrosive

**Hazardous Waste ID No :** 5

HAZARDOUS INGREDIENTS	C.A.S. No.	HAZARDOUS INGREDIENTS	C.A.S. No.
1 Acetic acid	64-19-7	3	
2		4	

### 2. PHYSICAL / CHEMICAL DATA

**Boiling Pt. °C:** 118.1      **Physical State:** Liquid      **Appearance:** Colourless liquid

**Melting Pt °C:** 17      **Vapour Pressure @ 35°C mmHg:** 15.7 mmHg at 25°C      **Odour:** Pungent odour, strong odor of vinegar

**Vapour Density(Air =1):** 2.07      **Solubility in water at 30°C g/100ml:** Miscible      **Others:** Miscible with alcohol and ether.

**Specific Gravity (Water =1 ):** 1.049      **pH :** 1M Soln. Is 2.4

### 3. FIRE / EXPLOSION HAZARD DATA

**Flammability :** Yes      **LEL:** 5.4      **Flash Point °C in OC:** 44

**TDG Flammability:**      **UEL:** 16      **Flash Point °C in CC:** 40

**Autoignition Temperature °C :** 463

**Explosion sensitivity to impact:** Stable

**Explosion sensitivity to static Electricity:**

**Hazardous Combustion Products :** Emits irritating vapours when heated. Toxic gases and vapors (such as carbon monoxide) may be released in a fire involving acetic acid.

**Hazardous Polymerization :** Polymerization reaction with acetaldehyde caused a mild eruption lasting for several hours.

**Combustible Liquid:** Yes      **Explosive Material:** No      **Corrosive Material** Yes

**Flammable Material:** Yes      **Oxidiser :** No      **Others:**

**Pyrophoric Material:** No      **Organic Peroxide :** No

### 4. REACTIVITY DATA

**Chemical Stability :** Stable

**Incompatibility with other material :** Strong oxidisers, chromic acid, sodium peroxide, nitric acid, oleum, NH<sub>4</sub>NO<sub>3</sub>, ClF<sub>3</sub>, ethylenediamine, ethylene imine.

**Reactivity** : Reacts vigorously with oxidising materials. Attacks most common metals. Excellent solvent for many synthetic resins or rubber.

**Hazardous Reaction Products** :

## 5. HEALTH HAZARD DATA

**Routes of entry:** Inhalation, ingestion, skin and eyes.

### Effects of Exposure / Symptoms:

**Inhalation:** Causes chemical burns to the respiratory tract. Exposure may lead to bronchitis, pharyngitis, and dental erosion.

**Skin:** Causes skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.

**Eyes:** Causes severe eye irritation. Contact with liquid or vapor causes severe burns and possible irreversible eye damage. Lachrymator.

**Ingestion:** May cause severe and permanent damage to the digestive tract. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause polyuria, oliguria and anuria.

### Emergency Treatment :

**Inhalation:** Remove the victim at once to fresh air area, if breathing becomes difficult give oxygen.

**Skin:** Remove the wetted clothes, flush the affected area with plenty of water.

**Eyes:** Irrigate with plenty of water for 15 minutes.

**Ingestion:** If victim is conscious, have him drink or milk. Get medical care as quickly as possible.

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<b>LD50 (oral-rat) mg/kg:</b>	3.53 g/kg	<b>STEL:</b>	15 ppm
<b>LC50 (rat) mg/kg:</b>	11.4 mg/L /4 hr	<b>Odour Threshold:</b>	0.21 To 1.0 ppm
<b>Permissible Exposure Limit:</b>	10 ppm (25 mg/m <sup>3</sup> )	<b>TLV (ACGIH) :</b>	10 ppm

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<b>NFPA Hazard Signals</b>	<b>Health</b>	<b>Flammability</b>	<b>Reactivity</b>	<b>Special</b>
	3	2	0	

## 6. PREVENTIVE MEASURES

**Personal Protective Equipment** : Wear appropriate protective eyeglasses or chemical safety goggles. Wear appropriate gloves to prevent skin exposure. Wear appropriate protective clothing to prevent skin exposure.

**Handling** : Use with adequate ventilation. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Avoid contact with heat, sparks and flame. Do not get on skin or in eyes. Avoid ingestion and inhalation. Discard contaminated shoes. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

**Storage** : Keep away from heat, sparks, and flame. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area. Store in a suitable container in a dry area above the substance's freezing point. Do not store near alkaline substances.

**Precautions** : Avoid contact with liquid and vapours. Do not eat or drink at work place. Provide PVC hand gloves, aprons, complete eye protection, and respiratory protection.

## 7. EMERGENCY / FIRST AID MEASURES

### FIRE:

**Fire Extinguishing Media :** Carbon dioxide , dry chemical powder, water and alcohol foam.

**Special Procedure :** Keep the containers cool by spraying water if exposed to heat or fire.

**Unusual Hazards :** Vapours may explode if ignited in an enclosed area.

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**EXPOSURE: First Aid Measures:**

**Inhalation:** Remove the victim at once to fresh air area, if breathing becomes difficult give oxygen.

**Skin:** Remove the wetted clothes, flush the affected area with plenty of water.

**Eyes:** Irrigate with plenty of water for 15 minutes.

**Ingestion:** If victim is conscious, have him drink or milk. Get medical care as quickly as possible.

**Antidotes / Dosages:**

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**SPILLS :**

**Steps To Be Taken :** Shut off leaks if without risk. Contain the spillage on earth or sand. Wash the surface with plenty of soap and water.

**Waste Disposal Method:** Neutralise with sodium bicarbonate and wash the area with plenty of water.

**8. ADDITIONAL INFORMATION / REFERENCES**

Moderately explosive and fire hazard when exposed to heat or flame. Potentially explosive reaction with 5-Azidotetrazole, Bromine, pentafluoride, Chromium trioxide, Hydrogen peroxide, Potassium permanganate, Sodium peroxide, Phosphorous trichloride.

**9. MANUFACTURERS / SUPPLIERS DATA**

<b>NAME OF FIRM :</b>	<b>Contact person</b>
<b>MAILING ADDRESS :</b>	<b>in Emergency :</b>
<b>TELEPHONE / TELEX NOS :</b>	<b>Local Bodies involved :</b>
<b>TELEGRAPHIC ADDRESS :</b>	<b>Standard Packing :</b>
<b>OTHERS :</b>	<b>Trem Card Details / Ref :</b>

**10. DISCLAIMER**

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