



MATERIAL SAFETY DATA SHEETS

3

Acetic anhydride

1. CHEMICAL IDENTITY

Chemical Name : Acetic anhydride

Chemical Classification: Corrosive

Trade Name :

Synonyms: Acetic oxide, Acetyl ether, Ethanoic anhydride, Acetic acid anhydride

Formula : C₄H₆O₃

CAS No: 108-24-7

UN No: 1715

Regulated Identification

Shipping Name : Acetic anhydride

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 anhydride	108-24-7	3	
2		4	

2. PHYSICAL / CHEMICAL DATA

Boiling Pt. °C: 139.9

Physical State: Liquid

Appearance: Colourless

Melting Pt °C: -73

Vapour Pressure @ 35°C mmHg: 10mm Hg at 36 °C

Odour: Strong acetic odour.

Vapour Density(Air =1): 3.52

Solubility in water at 30°C g/100ml: Slowly soluble

Others: Miscible with alcohol, ether.
Decomposes in hot alcohol

Specific Gravity (Water =1): 1.082 g/cu cm @ 20 deg C

pH :

3. FIRE / EXPLOSION HAZARD DATA

Flammability : Yes

LEL: 2.9

Flash Point °C in OC: 57.5

TDG Flammability:

UEL: 10.3

Flash Point °C in CC: 48.8

Autoignition Temperature °C : 316

Explosion sensitivity to impact: Stable

Explosion sensitivity to static Electricity:

Hazardous Combustion Products : Emits irritating vapour when heated. Toxic gases and vapors such as acetic acid and carbon monoxide may be released in fire involving acetic anhydride.

Hazardous Polymerization : Does not occur.

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 : With 2-amine ethanol, aniline, chlorosulfonic acid, (Cro₃+acetic acid), ethylenediamine, ethyleneimine, glycerol, oleum, HF, permanganates, NaOH

Reactivity : Can react vigorously with oxidising materials, will react violently on contact with water or steam.

Hazardous Reaction Products :

5. HEALTH HAZARD DATA

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

Effects of Exposure / Symptoms:

Inhalation: Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. Vapors may cause dizziness or suffocation. Skin: Contact with skin causes irritation and possible burns, especially if the skin is wet or moist. Prolonged skin contact may be painless with reddening of the skin followed by a white appearance of the skin. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color. Eyes: Contact with liquid is corrosive to the eyes and causes severe burns. May cause chemical conjunctivitis and corneal damage. Ingestion: May cause severe and permanent damage to the digestive tract. May cause perforation of the digestive tract. Ingestion of large amounts may cause CNS depression. May cause systemic effects.

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 mins.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

LD50 (oral-rat) mg/kg:	1780 mg/kg	STEL:	5 ppm (21 mg/m ³)
LC50 (rat) mg/kg:	1680 mg/m ³ 6 hr	Odour Threshold:	0.56 mg/m ³
Permissible Exposure Limit:	5 ppm (20 mg/m ³)	TLV (ACGIH) :	5 ppm (20 mg/m ³)

NFPA Hazard	Health	Flammability	Reactivity	Special
Signals	3	2	1	

6. PREVENTIVE MEASURES

Personal Protective Equipment : Provide overclothing rubber shoes, face shield, respiratory protection is necessary for all exposure.

Handling : Store in a dry, cool, well ventilated area, away from heat, flame and oxidising agents.

Storage : Keep away from heat, sparks, and flame. Keep away from sources of ignition. Do not store in direct sunlight. Keep container closed when not in use. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water.

Precautions : Avoid contact with liquid and vapours.

7. EMERGENCY / FIRST AID MEASURES

FIRE:

Fire Extinguishing Media : CO₂, dry chemical powder, alcohol foam. Do not use water.

Special Procedure : Use water in flooding quantities as fog. Solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible.

Unusual Hazards : Vapour is invisible and heavier than air.

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 mins.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Antidotes / Dosages:**SPILLS :**

Steps To Be Taken : Shut off leaks if without risk. Contain the spillage on sand or earth.

Waste Disposal Method: Neutralise with sodium bicarbonate solution. See "Additional Information"

8. ADDITIONAL INFORMATION / REFERENCES

Moderate fire and explosion hazard when exposed to heat and flame. Reaction with Ammonium nitrate+Hexamethylene tetraminium acetate+Nitric acid forms the products of explosive RDX and HMX. Potentially explosive reaction with Barium peroxide, Boric acid, Chromium trioxide.

Spillage treatment: Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, using the appropriate protective equipment. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. Do not expose spill to water. Spill may be neutralized with lime. Cover with material such as dry soda ash or calcium carbonate and place into a closed container for disposal. A vapor suppressing foam may be used to reduce vapors.

9. MANUFACTURERS / SUPPLIERS DATA

NAME OF FIRM :

Contact person

MAILING ADDRESS :

in Emergency :

TELEPHONE / TELEX NOS :

Local Bodies involved :

TELEGRAPHIC ADDRESS :

Standard Packing :

OTHERS :

Trem Card Details / Ref :

10. DISCLAIMER

Information contained in this material data sheet is believed to be reliable but no representation, guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. It is up to the manufacturer/ seller to ensure that the information contained in the material safety data sheet is relevant to the product manufactured / handled or sold by him as the case may be. The Government makes no warranties expressed or implied in the respect of the adequacy of this document for any particular purpose.

End of document

Total No. of Pages: 3