



MATERIAL SAFETY DATA SHEETS

1

Acetaldehyde

1. CHEMICAL IDENTITY

Chemical Name : Acetaldehyde

Chemical Classification: Toxic, Flammable **Trade Name :**

Synonyms: Ethyl aldehyde; Acetic aldehyde; Ethanal; Acetylhydride; Aldehyde; AAD

Formula : C₂H₄O **CAS No:** 75-07-0 **UN No:** 1089

Regulated Identification

Shipping Name : Acetaldehyde **Hazchem Code :** 2YE

Codes / Label : Class 3, Flammable Liquid **Hazardous Waste ID No :** 5

HAZARDOUS INGREDIENTS	C.A.S. No.	HAZARDOUS INGREDIENTS	C.A.S. No.
1 Acetaldehyde	75-07-0	3	
2		4	

2. PHYSICAL / CHEMICAL DATA

Boiling Pt. °C: 20-21	Physical State: Liquid	Appearance: A clear colorless liquid
Melting Pt °C: -123.5	Vapour Pressure @ 35°C mmHg: 965 (at 25 °C)	Odour: A pungent choking odor.
Vapour Density(Air =1): 1.52	Solubility in water at 30°C g/100ml: Miscible	Others: Miscible in alcohol and ether.
Specific Gravity (Water =1): 0.780		pH : Neutral

3. FIRE / EXPLOSION HAZARD DATA

Flammability : Yes	LEL: 4	Flash Point °C in OC: -50
TDG Flammability: 3	UEL: 57	Flash Point °C in CC: -40

Autoignition Temperature °C : 175

Explosion sensitivity to impact: Stable

Explosion sensitivity to static Electricity:

Hazardous Combustion Products : Emits acid smoke and fumes. Toxic gases and vapors (such as carbon monoxide) may be released in a fire involving acetaldehyde.

Hazardous Polymerization : May occur. Avoid heat , dust. Polymerizes under the influence of bases. Acetaldehyde is polymerized violently by conc sulfuric acid.

Combustible Liquid: Yes	Explosive Material: No	Corrosive Material No
Flammable Material: Yes	Oxidiser : No	Others:
Pyrophoric Material: No	Organic Peroxide : No	

4. REACTIVITY DATA

Chemical Stability : Unstable in air. May undergo autopolymerization. Forms explosive peroxides on prolonged storage and exposure to air.

Incompatibility with other material : Acid anhydrides, alcohols, ketones, phenols, ammonia, hydrogen cyanide, hydrogen sulfide, halogens, phosphorus, isocyanates, strong alkalis, amines, cobalt chloride, mercury (II) chlorate, mercury (II) perchlorate, trace metals, acids, acetic acid.

Reactivity : Reacts violently with acid anhydrides, alcohols, ammonia, amines, phenols, NH₃, HCN, H₂S, halogens, phosphorus, isocyanates, strong alkalis and amines.

Hazardous Reaction Products : Carbon monoxide, carbon dioxide, methane.

5. HEALTH HAZARD DATA

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

Effects of Exposure / Symptoms:

Inhalation : Causes respiratory tract irritation. May cause narcotic effects in high concentration. Exposure produces central nervous system depression. Vapors may cause dizziness or suffocation. Can produce delayed pulmonary edema. Inhalation of large amounts may cause respiratory stimulation, followed by respiratory depression, convulsions and possible death due to respiratory paralysis. May cause respiratory sensitization.

Ingestion :

Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause central nervous system depression.

Skin :

May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Causes skin irritation and possible burns.

Eye :

Lachrymator. Causes severe eye irritation and possible burns. NIOSH considers acetaldehyde to be a potential occupational carcinogen.

Emergency Treatment :

Inhalation: Remove from exposure to fresh air immediately. If breathing is difficult, give oxygen. Do not use mouth-to-mouth respiration. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Skin: Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Discard contaminated clothing in a manner which limits further exposure. Get medical aid immediately.

Eyes: Get medical aid immediately. Do not allow victim to rub or keep eyes closed. Extensive irrigation is required (at least 30 minutes).

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: 1930	STEL: 150 ppm; 270 mg/m ³
LC50 (rat) mg/kg:	Odour Threshold: 0.21 ppm
Permissible Exposure Limit: 100 ppm; 180 mg/m ³	TLV (ACGIH) : 100 ppm; 180 mg/m ³ .

NFPA Hazard	Health	Flammability	Reactivity	Special
Signals	3	4	2	

6. PREVENTIVE MEASURES

Personal Protective Equipment : Provide rubber gloves, face shield or safety goggles, rubber apron, organic canister or air pack, boots.

Handling : Use only in a well ventilated area. Ground and bond containers when

transferring material. Do not breathe dust, vapour, mist, or gas. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapour), and can be dangerous. Keep container tightly closed. Do not ingest or inhale. Handle under an inert atmosphere. Store protected from air. This product may be under pressure; cool before opening. If peroxide formation is suspected, do not open or move container. 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, sources of ignition. Keep from freezing. Store in a tightly closed container, inert atmosphere. Keep from contact with oxidizing materials. Keep away from strong acids. Keep away from reducing agents.

Precautions : Avoid contact with liquid and vapours.

7. EMERGENCY / FIRST AID MEASURES

FIRE:

Fire Extinguishing Media : Dry chemical powder, alcohol foam, CO₂.

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

Unusual Hazards : Flashback along vapour trail may occur.

EXPOSURE: First Aid Measures:

Inhalation: Remove from exposure to fresh air immediately. If breathing is difficult, give oxygen. Do not use mouth-to-mouth respiration. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Skin: Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Discard contaminated clothing in a manner which limits further exposure. Get medical aid immediately.

Eyes: Get medical aid immediately. Do not allow victim to rub or keep eyes closed. Extensive irrigation is required (at least 30 minutes).

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. Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container. Use water spray to dilute spill to a non-flammable mixture.

Waste Disposal Method: Seal all waste in vapour tight plastic bags for eventual disposal.

8. ADDITIONAL INFORMATION / REFERENCES

Poison by intratracheal and intravenous routes. A narcotic. A dangerous fire hazard when exposed to heat or flame. Mixture of 30-60 % of the vapours in the air ignites above 100 deg C. Reaction with cobalt chloride, mercury (II) chlorate, or mercury (II) perchlorate forms sensitive explosive products. Polymerises violently in presence of traces of metals or acids, dusts, strong oxidising or reducing substances. Reaction with oxygen may lead to detonation. Do not use compressed air for filling, discharging and handling.

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

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