



## MATERIAL SAFETY DATA SHEETS

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Acetone cyanohydrin

### 1. CHEMICAL IDENTITY

**Chemical Name :** Acetone cyanohydrin

**Chemical Classification:** Toxic

**Trade Name :**

**Synonyms:** 2-Methylacetonitrile, Alpha-hydroxy isobutyronitrile, 2-Hydroxy-2-methylpropanenitrile

**Formula :** C<sub>4</sub>H<sub>7</sub>NO

**CAS No:** 75-86-5

**UN No:** 1541

### Regulated Identification

**Shipping Name :** Acetone cyanohydrin

**Hazchem Code :** 2X

**Codes / Label :** Class 6.1, Poison

**Hazardous Waste ID No :** 6

HAZARDOUS INGREDIENTS	C.A.S. No.	HAZARDOUS INGREDIENTS	C.A.S. No.
1 Acetone cyanohydrin	75-86-5	3	
2		4	

### 2. PHYSICAL / CHEMICAL DATA

**Boiling Pt. °C:** 95

**Physical State:** Liquid

**Appearance:** Colourless

**Melting Pt °C:** -19.0

**Vapour Pressure @ 35°C mmHg:** 0.75 mm Hg @ 20 °C

**Odour:** Mild almond odour.

**Vapour Density(Air =1):** 2.93

**Solubility in water at 30°C g/100ml:** Freely soluble but decomposes.

**Others:** Soluble in organic solvents diethyl ether, ethanol

**Specific Gravity (Water =1 ):** 0.9267 at 25°C

**pH :**

### 3. FIRE / EXPLOSION HAZARD DATA

**Flammability :** No

**LEL:** 2.2

**Flash Point °C in OC:**

**TDG Flammability:**

**UEL:** 12

**Flash Point °C in CC:** 74

**Autoignition Temperature °C :** 688

**Explosion sensitivity to impact:** Stable

**Explosion sensitivity to static Electricity:**

**Hazardous Combustion Products :** Oxides of nitrogen, hydrogen cyanide.

**Hazardous Polymerization :** will not occur

**Combustible Liquid:** Yes

**Explosive Material:** No

**Corrosive Material** No

**Flammable Material:** No

**Oxidiser :** No

**Others:**

**Pyrophoric Material:** No

**Organic Peroxide :** No

### 4. REACTIVITY DATA

**Chemical Stability :** Stable

**Incompatibility with other material :** Acids, oxidizing agents.

**Reactivity :** Vigorous reaction with H<sub>2</sub>SO<sub>4</sub>

**Hazardous Reaction Products :** Slowly decomposes to acetone & HCN at room temperatures.

## 5. HEALTH HAZARD DATA

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

### Effects of Exposure / Symptoms:

May cause respiratory tract irritation, liver and kidney damage, may impair cellular respiration. Inhalation may result in symptoms similar to cyanide poisoning which includes unconsciousness and death. May be fatal if absorbed through the skin. May cause eye irritation. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

### Emergency Treatment :

**Inhalation:** Remove the victim to fresh air area. If not breathing, give artificial respiration. Do not use mouth-to-mouth respiration.

**Skin:** 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. Speedy action is critical.

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**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.

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<b>LD50 (oral-rat) mg/kg:</b>	17.8mg/kg	<b>STEL:</b>	4.7 ppm (5 mg/m <sup>3</sup> )
<b>LC50 (rat) mg/kg:</b>		<b>Odour Threshold:</b>	
<b>Permissible Exposure Limit:</b>	5 mg/cu m	<b>TLV (ACGIH) :</b>	5 mg/cu m, skin

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NFPA Hazard	Health	Flammability	Reactivity	Special
Signals	4	2	2	

## 6. PREVENTIVE MEASURES

**Personal Protective Equipment :** Provide air-supplied mask or canister approved for use with acrylonitrile in less than 2% conc. Provide rubber or PVC hand gloves, boots, overclothing, head cover.

**Handling :** Keep in a dry, cool, well ventilated area, away from acids. Do not store for long periods.

**Storage :** Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

**Precautions :** Avoid contact with liquid and vapour. Do not eat or drink at work place.

## 7. EMERGENCY / FIRST AID MEASURES

### FIRE:

**Fire Extinguishing Media :** Water spray, alcohol foam, CO<sub>2</sub>, dry chemical powder.

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

**Unusual Hazards :** Poisonous gases may be produced in fire.

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### EXPOSURE: First Aid Measures:

**Inhalation:** Remove the victim to fresh air area. If not breathing, give artificial respiration. Do not use mouth-to-mouth respiration.

**Skin:** 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. Speedy action is critical.

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally

lifting the upper and lower eyelids. Get medical aid immediately.

**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:** Amylnitrite, salt water.

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#### **SPILLS :**

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

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

#### **8. ADDITIONAL INFORMATION / REFERENCES**

Poison by Ingestion, skin contact, inhalation, intraperitoneal and subcutaneous routes. Readily decomposes into HCN and acetone. Combustible when exposed to heat or flame.

#### **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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