



MATERIAL SAFETY DATA SHEETS

12

Acrylonitrile

1. CHEMICAL IDENTITY

Chemical Name : Acrylonitrile

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

Synonyms: Cyanoethylene, Ventox, Vinyl cyanide, Fumigrain

Formula : C₃H₃N **CAS No:** 107-13-1 **UN No:** 1093

Regulated Identification

Shipping Name : Acrylonitrile

Hazchem Code : 3WE

Codes / Label : Class 3, Toxic, Flammable

Hazardous Waste ID No : 1

HAZARDOUS INGREDIENTS	C.A.S. No.	HAZARDOUS INGREDIENTS	C.A.S. No.
1 Acrylonitrile	107-13-1	3	
2		4	

2. PHYSICAL / CHEMICAL DATA

Boiling Pt. °C: 77.3	Physical State: Liquid	Appearance: Colorless to pale yellow, volatile, liquid.
Melting Pt °C: -83.55	Vapour Pressure @ 35°C mmHg: 100mm Hg at 22.8 C	Odour: Slightly pungent odor similar to peach pit kernels, garlic or onion.
Vapour Density(Air =1): 1.9	Solubility in water at 30°C g/100ml: 74.5 g/L	Others: Miscible with organic solvents. Yellowing upon exposure to light indicates photo-alteration to saturated derivatives.
Specific Gravity (Water =1): 0.8004 at 20°C		pH :

3. FIRE / EXPLOSION HAZARD DATA

Flammability : Yes	LEL: 3.0	Flash Point °C in OC: 0.55
TDG Flammability: 3	UEL: 17	Flash Point °C in CC: -1.11

Autoignition Temperature °C : 481.1

Explosion sensitivity to impact: Stable

Explosion sensitivity to static Electricity:

Hazardous Combustion Products : Combustion by-products include hydrogen cyanide and oxides of nitrogens.

Hazardous Polymerization : May occur spontaneously, caused by elevated temperature or alkalies.

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 : Stable

Incompatibility with other material : AgNO₃, amines, strong oxidiser, strong bases, copper, ammonia.

Reactivity : Violent reaction with strong bases, dibenzol peroxide, di-tert-butyl peroxide or bromine.

Hazardous Reaction Products : Explosive reaction with benzyltrimethyl ammonium hydroxide+pyrrole, tetrahydrocarbazole+benzyltrimethyl ammonium hydroxide.

5. HEALTH HAZARD DATA

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

Effects of Exposure / Symptoms:

May be fatal if inhaled. May cause central nervous system effects characterized by headache, dizziness, unconsciousness and coma. May cause cyanosis, characterized by bluish-colored skin. May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. Exposure to high concentrations may cause weakness, asphyxia, and death. Causes skin irritation. Causes severe eye irritation. May cause cancer in humans.

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: Remove contaminated clothing and wash the affected area.

Eyes: Irrigate continuously 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:	78 mg/kg	STEL:	10 ppm
LC50 (rat) mg/kg:	425 ppm/4 hr	Odour Threshold:	21.4 ppm (46.45 mg/m ³)
Permissible Exposure Limit:	2 ppm	TLV (ACGIH) :	2 ppm, skin.

NFPA Hazard	Health	Flammability	Reactivity	Special
Signals	4	3	2	

6. PREVENTIVE MEASURES

Personal Protective Equipment : Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Skin: Wear appropriate protective gloves to prevent skin exposure.

Handling : Wash hands before eating. Remove contaminated clothing and wash before reuse. Use only in a well ventilated area. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not ingest or inhale. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage : 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 : Use water spray, dry chemical, "alcohol resistant" foam, or carbon dioxide.

Special Procedure : Keep the container cool by spraying water if exposed to heat or flame

Unusual Hazards : Poisonous gases may be produced in fire.

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: Remove contaminated clothing and wash the affected area.

Eyes: Irrigate continuously 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 : Sweep and collect without making dust. Wash the surface with soap and water.

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

8. ADDITIONAL INFORMATION / REFERENCES

A suspected human carcinogen. Acrylonitrile closely resembles hydrocyanic acid in its toxic action. Explosive polymerisation may occur spontaneously in the absence of oxygen or on exposure to visible light or excessive heat, violently in presence of alkali. Pure material is subject to self polymerisation with rapid pressure development. The commercial product is inhibited and not subject to this reaction.

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 :

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