



Environmental Risk Reporting and Information System

Material Safety Data Sheet : Acrylonitrile

Section 1 : Identificaton

Name :	Acrylonitrile	Classification :	Nitriles, Aliphatic
Synonyms :	2-propenenitrile, propenenitrile, vinyl cyanide, cyanoethylene	Formula :	CH ₂ = CH-CN
CAS No. :	107-13-1	UN No. :	1093

Section 2 : Regulated Information

Shipping Name :	Acrylonitrile, stabilized	HazChem Code :	3
Codes / Label :		Hazardous Waste ID :	U009

Section 3 : Physical Chemical Data

Boiling Point :	77 degC	Physical State:	Liquid
Vapour Pressure :	83 mm Hg	Melting/FreezingPoint :	-83 degC
Odour :	Pungent odor	Vapour Density :	1.83
Solubility in Water :	7.35%	Solubility in Others :	alcohol, ether, acetone, benzene, toluene, carbon tetrachloride, organic solvents
Specific Gravity :	0.806	Appearance :	Clear, colourless
pH :	NA	Heat of Combustion:	42228990
Heat of Vapourisation :	369205	Density :	7.7
Liquid Heat Capacity :	2483	Boiling Temperature :	418

Section 4 : Fire / Explosion Hazard Data

TDG Flammability :		UEL :	17
LEL :	3	UEL Flash Point :	
LEL Flash Point :	-1.1degC	Explosion sensitivity to impact :	
Autoignition Temperature :	480 degC	Hazardous Combustion Products :	Thermal decomposition products: cyanide compounds
Explosion sensitivity to Static Electricity :		Flammable Material :	Flammable
Combustible Liquid :	Yes	Explosive Material :	Explosive
Hazardous Ploymerization :	Yes	Pyrophoric Material :	NA
Oxidiser :	NA	Corrosive Material :	NA
Organic Peroxide :	NA	Others :	

Section 5 : Reactivity Data

Chemical Stability :	Unstable	Reactivity :	May polymerize violently or explosively. May explode if heated in closed container.
Incompatibility with other materials :	acids, metals, amines, bases, halogens, peroxides, combustible materials, oxidizing materials	Hazardous Reaction Products :	

Section 6 : Health Hazard Data

Toxicity :	Highly Toxic	Routes of Entry :	Highly Toxic: dermal absorption Toxic: inhalation, ingestion
Effects of Exposure / Symptoms :	(INHALATION): SHORT TERM EXPOSURE: irritation, itching, nausea, vomiting, diarrhea, stomach pain, irregular heartbeat, headache, drowsiness, dizziness, bluish skin color, suffocation, convulsions, coma LONG TERM EXPOSURE: digestive disorders, reproductive effects, cancer (SKIN CONTACT): SHORT TERM EXPOSURE: irritation (possibly severe), allergic reactions, blisters, suffocation LONG TERM EXPOSURE: same as effects reported in short term exposure (EYE CONTACT): SHORT TERM EXPOSURE: burns, tearing, eye damage LONG TERM EXPOSURE: same as effects reported in short term exposure(INGESTION): SHORT TERM EXPOSURE: suffocation LONG TERM EXPOSURE: reproductive effects, cancer		
Emergency Treatments :	INHALATION: When safe to enter area, remove from exposure. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention immediately. SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse. EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention. INGESTION: Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately. ANTIDOTE: amyl nitrite, inhalation; sodium nitrite, intravenous; sodium thiosulfate, infusion; oxygen. NOTE TO PHYSICIAN: Consider amyl nitrite inhalation, 1 ampoule (0.2 mL) every 5 minutes, and oxygen. For ingestion, consider gastric lavage. Consider oxygen.		
LC50:	NA (ppm)	NA (mg/m³)	IDLH : 85 (ppm) 184.5 (mg/m ³)
Permissible Exposure Limit :	(ppm)	(mg/m³)	Odour Threshold : (ppm) (mg/m ³)

TLV (ACGIH) :	2 (ppm)	(mg/m ³)	NFPA Hazard Signals :	Health :	4
				Flammability :	3
				Reactivity :	2
				Special :	

Section 7 : Preventive Measures

Personal Protective Equipment : Safety glasses and gloves. Effective ventilation is essential. Before starting work, consider whether a less hazardous chemical can be used.

Handling & Storage Precautions : Keep container in a well-ventilated place. Keep away from sources of ignition. In case of accident or if you unwell, seek medical advice immediately, avoid exposure - obtain special instructions before use. Avoid release to the environment.

Section 8 : Emergency / First Aid Measures

Fire Extinguishing Media : regular dry chemical, carbon dioxide, water, regular foam, alcohol resistant foam

Special Procedure : Do not get water inside container. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Water may be ineffective.

Unusual Hazards :

Exposure :

First Aid Measures : VENTILATION: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits. EYE PROTECTION: Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. CLOTHING: Wear appropriate chemical resistant clothing. GLOVES: Wear appropriate chemical resistant gloves. RESPIRATOR: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA. 20 ppm Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s). Any supplied-air respirator with a full facepiece. 100 ppm Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s). Any supplied-air respirator with a full facepiece. Any self-contained breathing apparatus with a full facepiece. 4000 ppm Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode. For Unknown Concentrations or Immediately Dangerous to Life or Health - Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Escape - Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s). Any self-contained breathing apparatus.

Antidotes / Dosages :

Spills :

Steps to be taken : Avoid heat, flames, sparks and other sources of ignition. Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Flood with water. Large spills: Dike for later disposal. Remove sources of ignition. Keep unnecessary people away, isolate hazard area and deny entry.

Waste Disposal Method :

Additional Information

[ListPage](#)