Right to Know Hazardous Substance Fact Sheet

Emergency Responders Quick Reference

Common Name: **ACETONITRILE**

Synonyms: Methyl Cyanide; Cyanomethane
CAS No: 75-05-8
Molecular Formula: C_2H_3N
RTK Substance No: 0008
Description: Colorless liquid with an *Ether*-like odor

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
2 - Health **3 - Fire** **0 - Reactivity** **DOT#:** UN 1648 **ERG Guide #:** 127 **Hazard Class:** 3 (Flammable)	FLAMMABLE LIQUID Use dry chemical, CO_2, alcohol-resistant foam as extinguishing agents, as water may not be effective in fighting fires. POISONOUS GASES ARE PRODUCED IN FIRE, including *Hydrogen Cyanide*. CONTAINERS MAY EXPLODE IN FIRE. Use water spray to keep fire-exposed containers cool. Vapors may travel to a source of ignition and flash back.	**Acetonitrile** reacts violently with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE). **Acetonitrile** is not compatible with STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC); STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE); REDUCING AGENTS (such as LITHIUM, SODIUM, ALUMINUM and their HYDRIDES); ALKALI METALS (such as POTASSIUM); NITRATING AGENTS; IRON SALTS of PERCHLORATE; NITROGEN-FLUORINE COMPOUNDS; CHLOROSULFONIC ACID; INDIUM; PERFLUOROUREA; and SULFUR and NITROGEN TRIOXIDES. May react with WATER, MOISTURE and STEAM to form toxic and flammable vapors.

SPILL/LEAKS

Isolation Distance:

Small Spills: 50 meters (150 feet)
Large Spills: 300 meters (1,000 feet)
Fire: 800 meters (1/2 mile)

Absorb liquids in vermiculite, dry sand, earth, or a similar material and deposit in sealed containers.

Keep **Acetonitrile** out of confined spaces, such as sewers, because of the possibility of an explosion.

May be toxic to aquatic life at high levels.

PHYSICAL PROPERTIES

Odor Threshold:	98 ppm
Flash Point:	42ºF (6ºC)
LEL:	3%
UEL:	16%
Auto Ignition Temp:	975ºF (524ºC)
Vapor Density:	1.42 (air = 1)
Vapor Pressure:	73 mm Hg at 68ºF (20ºC)
Specific Gravity:	0.78 (water = 1)
Water Solubility:	Miscible
Boiling Point:	179ºF (82ºC)
Ionization Potential:	12.2 eV
Molecular Weight:	41.1

EXPOSURE LIMITS

OSHA:	40 ppm, 8-hr TWA
NIOSH:	20 ppm, 10-hr TWA
ACGIH:	20 ppm, 8-hr TWA
IDLH:	500 ppm

The 60-minute Protective Action Criteria values are:

PAC-1 = 13 ppm PAC-2 = 50 ppm
PAC-3 = 150 ppm

PROTECTIVE EQUIPMENT

Gloves:	Butyl, Silver Shield®/4H® and Viton/Butyl (>8-hr breakthrough)
Coveralls:	DuPont CPF 4, BR, LV, Responder®, CSM and TK; Kappler® Zytron® 500; and Saint-Gobain ONESuit® TEC (>8-hr breakthrough)
Respirator:	>13 ppm - Supplied air

HEALTH EFFECTS

Eyes:	Irritation
Skin:	Irritation
Inhalation:	Nose, throat and lung irritation Flushing of the face, chest tightness, headache, nausea and vomiting, weakness and shortness of breath

FIRST AID AND DECONTAMINATION

Remove the person from exposure.
Flush eyes with large amounts of water for at least 15 minutes. Remove contact lenses, if worn, while rinsing.
Quickly remove contaminated clothing and wash contaminated skin with large amounts of soap and water. Seek medical attention.
Begin artificial respiration if breathing has stopped and CPR if necessary.
Transfer to a medical facility.
Use *Amyl Nitrite* capsules if symptoms develop.