

MATERIAL SAFETY DATA SHEET

Acetonitrile (Methyl Cyanide)

SECTION 1 . Product and Company Identification

Product Name and Synonym: Acetonitrile (Methyl Cyanide)

Product Code: A1520

Material Uses:

Manufacturer:

Science Stuff
1104 Newport Ave

Austin, TX 78753

(512) 837-6020

Entry Date : 5/23/2013

Print Date: 5/23/2013

24 Hour Emergency Assistance : Chemtrec 800-424-9300

Canutec 613-996-6666

Health:	2
Flammability:	3
Reactivity:	0

Hazard Rating:
Least Slight Moderate High Extreme
0 1 2 3 4
NA=Not Applicable NE=Not Established

SECTION 2 HAZARD IDENTIFICATION

Keep away from heat and ignition sources. Harmful if swallowed. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

Physical state: Liquid. [Colorless]

OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview:

DANGER!

POISON!

CAUSES EYE IRRITATION

MAY CAUSE RESPIRATORY TRACT AND SKIN IRRITATION.

HAMFUL IF INHALED OR ABSORBED THROUGH THE SKIN OR SWALLOWED

FLAMMABLE LIQUID AND VAPOR.

VAPOR MAY CAUSE FLASH FIRE.

BREATHING HIGH VAPOR CONCENTRATIONS MAY CAUSE CYANIDE POISONING

MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: KIDNEYS, LIVER,

CARDIOVASCULAR SYSTEM, RESPIRATORY TRACT, SKIN, EYES, CENTRAL NERVOUS SYSTEM.

Keep away from combustible material.

Do not breath vapor or mist. Do not ingest. Do

not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry:

Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects:

Eyes: Irritating to eyes.

Skin: Toxic in contact with skin. May cause skin irritation.

Inhalation: Toxic by inhalation. May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion: Toxic if swallowed.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity/ Reproductive toxicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

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Target organs: May cause damage to the following organs: kidneys, liver, eyes, central nervous system (CNS), skin, cardiovascular system, upper respiratory tract

Medical conditions aggravated by over-exposure:
Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product

SECTION 3 MIXTURE COMPONENTS

SARA 313	Component	CAS Number	Percent Comp.	Dimension	Exposure Limits
<input checked="" type="checkbox"/>	Acetonitrile (Methyl Cyanide)	CAS# 75-05-8	100%	V/V	OSHA TWA 40 ppm (70 mg/mf)

Emergency Overview: May be harmful or fatal if swallowed. Do not induce vomiting. May cause aspiration pneumonitis.
No known physical hazards. No significant adverse health effects are expected to occur upon short-term exposure.

Inhalation: Inhalation of vapors (generated at high temperatures only) or oil mist may cause mild irritation of the nose, throat, and respiratory tract.

Ingestion: This material may be harmful or fatal if swallowed. Ingestion may result in vomiting; aspiration (breathing) of vomitus into lungs must be avoided as even small quantities may result in aspiration pneumonitis. Generally considered to have a low order of acute oral toxicity.

Skin: May cause slight irritation of the skin. If irritation occurs, a temporary burning sensation and minor redness and/or swelling may result. Other adverse effects not expected from brief skin contact.

Eye Contact: Lubricating oils are generally considered no more than minimally irritating to the eyes.

Signs and Symptoms: Irritation as noted above. Aspiration pneumonitis may be evidenced by coughing, labored breathing and cyanosis (bluish skin); in severe cases death may occur.

Aggravated Medical Conditions: Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product. For additional health information, refer to section 11.

SECTION 4 FIRST AID MEASURES

Keep away from heat and ignition sources. Harmful if swallowed. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

FIRST AID: SKIN: In case of contact, immediately flush skin with water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly clean clothing and shoes before reuse. If symptoms persist, seek medical attention.

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: If swallowed, induce vomiting immediately after giving two glasses of water. Never give anything by mouth to an unconscious person.

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SECTION 5 FIRE FIGHTING MEASURES

Fire Extinguisher Type: Carbon Dioxide, dry chemical powder or appropriate foam

Fire / Explosion Hazards: Vapor may travel considerable distance to source of ignition and flash back.

Fire Fighting Procedure: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Evacuate area. Wear self-contained breathing apparatus and protective clothing. Eliminate all sources of ignition.

Personal precautions: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personal from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Where appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-Proof tools and explosion- proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal. Dilute with water and mop up if water- soluble or absorb with an inert dry material and place in an appropriate waste disposal container.

SECTION 7 HANDLING AND STORAGE

Store in a cool, dry, well-ventilated place away from incompatible materials. Wash thoroughly after handling.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: NIOSH/MSHA-approved respirator

Ventilation

Local Exhaust

Mechanical

Protective Gloves: Gloves to prevent skin exposure as rubber or vinyl

Eye Protection: Splash Goggles

Other Protective Equipment: Wear appropriate clothing to prevent skin exposure

Acetonitrile

ACGIH (United States, 1996).

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STEL: 101 mg/m³
TWA: 67 mg/m³
OSHA (United States, 1989).
STEL: 105 mg/m³
TWA: 70 mg/m³
ACGIH TLV (United States, 1/2008). Absorbed through skin.
TWA: 20 ppm 8 hour(s)
OSHA PEL 1989 (United States, 3/1989).
TWA: 40 ppm 8 hour(s)
TWA: 70 mg/m³ hour(s)
STEL: 60 ppm 15 minute(s)
STEL: 105 mg/m³ 15 minute(s)
NIOSH REL (United States, 6/2008).
TWA: 20 ppm 10 hour(s)
TWA: 34 mg/m³ 10 hour(s)
OSHA PEL (United States, 11/2006)
TWA: 40 ppm 8 hour(s)
TWA: 70 mg/m³ 8 hour(s)

Engineering measures: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protection

Eyes: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Recommended: splash goggles

Skin: Personal protective equipment for the body should be selected based on the task being performed and risks involved and should be approved by a specialist before handling this product.

Body recommended: lab coat

Respiratory: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Recommended: nitrile rubber

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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Melting Point:	-46°C (-51°F)	Percent Volatile by Volume:	>99%
Boiling Point:	82° C (180°F)	Evaporation Rate	2.79
Vapor Pressure:	73 mm Hg @ 20° C	Evaporation Standard	
Vapor Density:	1.41 (air = 1)	Auto Ignition Temp	N/E
Solubility in Water:	Soluble	Lower Flamm. Limit in Air	3%
Appearance /Odors:	Colorless liquid / sweet ether- like odor	Upper Flamm. Limit in Air	16%
Flash Point:	6° C (43°F)		
Specific Gravity:	0.7875 g/cm3		

SECTION 10 STABILITY AND REACTIVITY INFORMATION

Stability:	Stable
Conditions to Avoid:	May become unstable at elevated temperatures
Materials to Avoid:	Oxidizing agents, metals, bases, amines.
Hazardous Decomposition Products:	Thermal decomposition: toxic hydrogen cyanide
Hazardous polymerization:	May Occur
Conditions to Avoid:	Polymerization is suspected.

SECTION 11 Toxicological Information

Acetonitrile			
LD50	980 mg/kg	Dermal	Rabbit
LD50	850 mg/kg	Intraperitoneal	Rat
LD50	1680 mg/kg	Introvenous	Rat
LD50	2460 mg/kg	Oral	Rat
LD50	177 mg/kg	Oral	Guinea Pig
LD50	50 mg/kg	Oral	Rabbit
LD50	1100 mg/kg	Parenteral	Rat
LD50	1900 mg/kg	Subcutaneous	Rat
TDL	1520 mg/kg	Subcutaneous	Rat
LC50	17100 mg/kg	Inhalation Gas	Rat
LC50	7551 mg/kg	Inhalation Gas	Rat

Carcinogenic effects: No known significant effects or critical hazards.

Mutagenic effects: No known significant effects or critical hazards.

Teratogenicity/Reproductive toxicity: No known significant effects or critical hazards.

SECTION 12 Ecological Information

Acetonitrile

Acute LC50	1640 mg/L	Fish	96 hours
Acute LC50	>100 mg/L	Daphnia	96 hours
Acute LC50	>100 mg/L	Fish	96 hours
Acute LC50	1640000 to 1690000 ug/L	Fresh water	Fish – Fathead minnow – Pimephales promelas – 26 to 31 days – 21.1 mm – 0.165 g 96 hours
Acute LC50	1000000 ug/L	Fresh water	Fish – Fathead minnow – Pimephales promelas – 5.1 to 6.4 cm – 1.5 g 96 hours
Acute LC50	>100000 ug/L	Fresh water	Fish – Fathead minnow- Pimephales promelas – Juvenile (Fledgling, Hatchling, Weanling) – 0.2 to 0.5 g 96 hours
Acute LC50	3600000 ug/L	Fresh water	Daphnia – water flea – Daphnia magna - <24 hours 48 hours
Acute LC50	1850000 ug/L	Fresh water	Fish – Bluegill – Lepomis macrochirus – 3.8 to 5.1 cm – 2 g 96 hours

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Acute LC50 1650000 ug/L Fresh water Fish – Guppy – *Poecilia reticulata* – 2.5 cm – 0.1 g 96 hours

Environmental effects : No known significant effects or critical hazards.
Other adverse effects : No known significant effects or critical hazards.

SECTION 13 Disposal Considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14 Transport Information

DOT Classification: Methyl Cyanide, 3, UN1648, PG II

DOT Regulations may change from time to time. Please consult the most recent D.O.T. regulations.

SECTION 15 Regulatory Information

United States

HCS Classification:
Flammable liquid
Toxic material
Target organ effects
Irritating material

U.S. Federal regulations:

United States inventory (TSCA 8b): listed
TSCA (Toxic Substance Control Act): This product is listed on the TSCA Inventory.
SARA 302/304/311/312 extremely hazardous substances: No products were found
SARA 302/304 emergency planning and notifications: No products were found
SARA 302/304/311/312 hazardous chemicals: Acetonitrile
SARA 311/312 MSDS distribution- Chemical inventory- hazard identification: Acetonitrile
Fire Hazard:
Immediate (acute) health hazard, Delayed (chronic) health hazard
Clean Water Act (CWA) 307: Acetonitrile
Clean Water Act (CWA) 311: No products were found
Clean Air Act (CAA) 112 accidental release prevention: No products were found
Clean Air Act (CAA) 112 regulated flammable substance: No products were found.
Clean Air Act (CAA) 112 regulated toxic substance: No products were found
DEA List I Chemicals : not listed
(Precursor Chemicals)
DEA List II Chemicals : not listed
(essential Chemicals)

SARA 313
Form R – Reporting Requirements: Acetonitrile
CAS number : 75-05-8 Concentration : 100

Supplier notification : Acetonitrile
CAS number : 75-05-8 Concentration : 100
SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.
Massachusetts Substance : This material is listed.
New Jersey Hazardous Substances : This material is listed.
New York Acutely Hazardous Substances : This material is listed.
Pennsylvania RTK Hazardous Substances : This material is listed.
Canada
WHMIS (Canada) :
Class B-2 : Flammable liquid
Class D-1A: Material causing immediate and serious toxic effects (Very toxic)
Class D-2B: Material causing other toxic effects (Toxic)
Canadian lists : CEPA Toxic Substance: This material is not listed.
Canadian ARET: This material is not listed.
Canadian NPRI: This material is listed.

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Alberta Designated Substances: This material is not listed.

Ontario Designated Substances: This material is not listed.

Quebec Designated Substances: This material is not listed.

CEPA DSL/ CEPA NDSL : CEPA DSL:

This material is listed or exempted.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

SECTION 16

Additional Information

Flammability

Health

Reactivity

Revisions

NFPA

1.1

The information herein is believed to be accurate and is offered in good faith for the user's consideration and investigation. No warranty either expressed or implied is made for the completeness or accuracy of the information whether originating from the above mentioned company or not. Users of this material should satisfy themselves by independent investigation of current scientific and medical knowledge that the material can be used safely.