

EMS CATALOG NO: 10020
EMS PRODUCT: **ACETONITRILE**
DATE: OCTOBER 2, 2007
PAGE NUMBER: One of 7

MATERIAL SAFETY DATA SHEET

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FOR PRODUCT AND SALES INFORMATION

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PRODUCT IDENTIFICATION

COMMON NAME: Acetonitrile
COMMERCIAL NAME(S): Not available.
SYNONYM: Methyl Cyanide.
CHEMICAL NAME: Acetonitrile
CHEMICAL FAMILY: Aliphatic solvent. (Solvent.)
CHEMICAL FORMULA: CH₃CN
CAS#: 75-05-8
RTECS: AL7700000
TSCA: TSCA 8(b) INVENTORY: Acetonitrile
CI#: Not applicable.

COMPOSITION AND INFORMATION ON INGREDIENTS

NAME: Acetonitrile
CAS#: 75-05-08

TWA (mg/m³): 40
% BY WEIGHT: 100

TOXICOLOGICAL DATA ON INGREDIENTS:

ORAL (LD50): Acute: 2460 mg/kg [Rat]. 269 mg/kg [Mouse].

DERMAL (LD50): Acute: 1250 mg/kg [Rabbit.].

VAPOR (LC50): Acute: 10678.7 ppm 4 hour(s)[Rat].

HAZARDS IDENTIFICATION

POTENTIAL ACUTE HEALTH EFFECTS:

Very hazardous in case of eye contact (irritant). Hazardous in case of skin contact (irritant). Slightly hazardous in case of skin contact (permeator), of ingestion, of inhalation. Inflammation of the eye is characterized by redness, watering, and itching.

POTENTIAL CHRONIC HEALTH EFFECTS:

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

Repeated or prolonged exposure is not known to aggravate medical condition.

FIRST AID MEASURES

EYE CONTACT:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

SKIN CONTACT:

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

SERIOUS SKIN CONTACT:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

INHALATION:

Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

SERIOUS INHALATION:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous

to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek medical attention.

INGESTION:

Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

SERIOUS INGESTION: Not available.

FIRE AND EXPLOSION DATA

FLAMMABILITY OF THE PRODUCT: Flammable.

AUTO-IGNITION TEMPERATURE: 524°C (975.2°F)

FLASH POINTS: OPEN CUP: 5.6°C (42.1°F) (Cleveland).

FLAMMABLE LIMITS: Lower: 4.4%

Upper: 16%

PRODUCTS OF COMBUSTION: These products are carbon oxides (CO, CO₂).

FIRE HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES: Highly flammable in presence of open flames and sparks, of heat, of oxidizing materials.

EXPLOSION HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES:

RISKS OF EXPLOSION OF THE PRODUCT IN PRESENCE OF MECHANICAL IMPACT: Not available.

RISKS OF EXPLOSION OF THE PRODUCT IN PRESENCE OF STATIC DISCHARGE: Not available.

FIRE FIGHTING MEDIA AND INSTRUCTIONS: Flammable liquid, soluble or dispersed in water.

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use alcohol foam, water spray or fog.

SPECIAL REMARKS ON FIRE HAZARDS: Store under nitrogen.

SPECIAL REMARKS ON EXPLOSION HAZARDS: Not available.

ACCIDENTAL RELEASE MEASURES

SMALL SPILL:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

LARGE SPILL:

Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

HANDLING AND STORAGE

PRECAUTIONS:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/vapor/spray. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.

STORAGE:

Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. A refrigerated room would be preferable for materials with a flash point lower than 37.8°C (100°F)

EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROLS:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

PERSONAL PROTECTION:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

PERSONAL PROTECTION IN CASE OF A LARGE SPILL:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

EXPOSURE LIMITS: TWA: 40 (ppm)

Consult local authorities for acceptable exposure limits.

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE AND APPEARANCE: Liquid (Liquid.)

ODOR: Aromatic. (Strong.)

TASTE: Burning, sweetish

COLOR: Colorless. (Light.)

MOLECULAR WEIGHT: 41.05 g/mole

pH (1% SOLN/WATER): 7 [Neutral.]

BOILING POINT: 81.6°C (178.9°F)

MELTING POINT: -41°C (41.8°F)

CRITICAL TEMPERATURE: Not available.

SPECIFIC GRAVITY: 0.783 (Water=1)

VAPOR PRESSURE: 72.8 mm of Hg(@20°C)

VAPOR DENSITY: 1.42 (Air=1)

VOLATILITY: Not available.

ODOR THRESHOLD: Not available.
WATER/OIL DIST. COEFF.: Not available.
IONICITY (IN WATER): Not available.
DISPERSION PROPERTIES: See solubility in water, methanol.
SOLUBILITY: Soluble in cold water, hot water, methanol.

STABILITY AND REACTIVITY DATA

STABILITY: The product is stable.
INSTABILITY TEMPERATURE: Not available.
CONDITIONS OF INSTABILITY: Not available.
INCOMPATIBILITY WITH VARIOUS SUBSTANCES: Reactive with oxidizing agents. Slightly reactive to reactive with reducing agents.
CORROSIVITY: Non-corrosive in presence of glass.
SPECIAL REMARKS ON REACTIVITY: High dielectric constant; high polarity; strongly reactive.
SPECIAL REMARKS ON CORROSIVITY: Not available.
POLYMERIZATION: No.

TOXICOLOGICAL INFORMATION

ROUTES OF ENTRY: Absorbed through skin. Eye contact, Inhalation, Ingestion.
TOXICITY TO ANIMALS:
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.
ACUTE ORAL TOXICITY (LD50): 269 MG/KG [Mouse].
ACUTE DERMAL TOXICITY (LD50): 1250 mg/kg [Rabbit].
ACUTE TOXICITY OF THE VAPOR (LC50): 10678.7 ppm 4 hour(s)[Rat].
CHRONIC EFFECTS ON HUMANS: Not available.
OTHER TOXIC EFFECTS ON HUMANS: Hazardous in case of skin contact (irritant). Slightly hazardous in case of skin contact (permeator), of in ingestion, of inhalation.
SPECIAL REMARKS ON TOXICITY TO ANIMALS: Not available.
SPECIAL REMARKS ON CHRONIC EFFECTS ON HUMANS: Not available.
SPECIAL REMARKS ON OTHER TOXIC EFFECTS ON HUMANS: Material is irritating to mucous membranes and upper respiratory tract.

ECOLOGICAL INFORMATION

ECOTOXICITY: Not available.
BOD5 AND COD: Not available.
PRODUCTS OF BIODEGRADATION: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
TOXICITY OF THE PRODUCTS OF BIODEGRADATION: The products of degradation are as toxic as the original product.
SPECIAL REMARKS ON THE PRODUCTS OF BIODEGRADATION: Not available.

DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Recycle to process, if possible. Consult your local or regional authorities.

TRANSPORT INFORMATION

DOT CLASSIFICATION: CLASS 3: Flammable liquid.

IDENTIFICATION: Acetonitrile UN1648 PG:II

SPECIAL PROVISIONS FOR TRANSPORT: Not available.

OTHER REGULATORY INFORMATION

FEDERAL AND STATE REGULATIONS:

PENNSYLVANIA RTK: Acetonitrile.

MASSACHUSETTS RTK: Acetonitrile.

TSCA 8(b) INVENTORY: Acetonitrile.

SARA 313 TOXIC CHEMICAL NOTIFICATION AND RELEASE REPORTING:

Acetonitrile.

CERCLA: HAZARDOUS SUBSTANCES: Acetonitrile.

OTHER REGULATIONS:

OSHA: Hazardous by definition of Hazard Communication Standard
(29 CFR 10.1200)

OTHER CLASSIFICATIONS:

WHMIS (CANADA):

CLASS B-2: Flammable liquid with a flash Point lower than 37.8°C

CLASS D1A: Material causing immediate and serious toxic effects (VERY TOXIC).

CLASS D2B: Material causing other toxic effects (TOXIC).

DSCLA (EEC): R11-Highly flammable.

R38-Irritating to skin.

R41-Risk of serious damage to eyes.

HMIS (U.S.A.):

HEALTH HAZARD: 2

FIRE HAZARD: 3

REACTIVITY: 0

PERSONAL PROTECTION: h

NATIONAL FIRE PROTECTION ASSOCIATION (U.S.A.)

HEALTH: 2

FLAMMABILITY: 3

REACTIVITY: 0

SPECIFIC HAZARD:

PROTECTIVE EQUIPMENT:

Gloves.

Lab coat.

Vapor respirator. Be sure to use an approved/certified

respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Splash goggles.