

G.J. CHEMICAL COMPANY, INC. SAFETY DATA SHEET

1. PRODUCT IDENTIFIER

1.1 PRODUCT NAME: **ACETONITRILE**

PRODUCT NUMBER(S): 100900, 100905, 100907, 100910, 100920, 101050

TRADE NAMES/SYNONYMS: Cyanomethane, Ethanenitrile, Ethyl Nitrile, Methanecarbonitrile, Methyl Cyanide, ACN

CAS-NO: 75-05-8

CHEMICAL FAMILY: Nitriles

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:

IDENTIFIED USES: Industrial: Solvent in chemical synthesis, Photographic/printing use, Pharmaceutical fine chemical and active substance manufacturing use, Use as a process solvent and extraction agent, Manufacture of substances, Laboratory chemicals.

USES ADVISED AGAINST: No information available

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: **G.J. CHEMICAL CO., INC.**

Address: **40 VERONICA AVENUE
SOMERSET, NJ 08873**

Telephone: **1-973-589-1450**

Fax: **1-973-589-3072**

1.4 Emergency Telephone Number

Emergency Phone: **1-800-424-9300 (Chemtrec)**

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 4), H332

Acute toxicity, Dermal (Category 4), H312

Eye irritation (Category 2A), H319

2.2 GHS Label elements, including precautionary statements



Signal word **DANGER**

Hazard statement(s)

H225 Highly flammable liquid and vapor.

H302 + H312 + H332 Harmful if swallowed or in contact with skin, or if inhaled.

H319 Causes serious eye irritation

Precautionary statement(s)

Prevention:

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P363 Wash contaminated clothing before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. INGREDIENTS

3.1 SUBSTANCE:

COMPONENT	CAS NO.	% BY WT.	CLASSIFICATION
Acetonitrile	75-05-8 EC-No.200-835-2 Index-No.608-001-00-3 Reg.-No.01-2119471307-38-XXXX	90-100	Flammable liquids (Category 2), H225 Acute toxicity, Oral (Category 4), H302 Acute toxicity, Inhalation (Category 4), H332 Acute toxicity, Dermal (Category 4), H312 Eye irritation (Category 2A), H319
WATER	7732-18-5 EC-No.231-791-2	0.02%	Not a hazardous substance or mixture.
Non-volatile Matter		max. 0.0003% max.	

3.2 MIXTURE: Not applicable.

4. FIRST-AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES:

INHALATION: ACETONITRILE: IRRITANT.

****FIRST AID- Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention immediately.**

SKIN CONTACT: ACETONITRILE:

****FIRST AID- Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.**

EYE CONTACT: ACETONITRILE: IRRITANT.

****FIRST AID- Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.**

INGESTION: ACETONITRILE: NARCOTIC/HEPATOTOXIN.

****FIRST AID- Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Get medical attention immediately.**

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED INGESTION:

Inhalation: Irritation of mucous membranes, eyes, nose, throat and membranes of the upper respiratory tract.

Skin Contact: Irritation

Eye Contact: Irritation

Ingestion: Central nervous system depression. Excitation is followed by impaired motor coordination, slurred speech, sensory disturbances such as blurred and double vision, drowsiness, loss of appetite and inability to concentrate. High exposure can cause gastritis, blindness and death.

Splashes may cause temporary pain and blurred vision.

Target Organs: Eyes, Skin, Liver, Kidneys, Blood, Cardiovascular System, Central Nervous System and Lungs

Chronic Effects: Irritation of the eyes, nose, throat and mucus membranes of the upper respiratory tract. Central nervous system effects such as dizziness and sleepiness can occur, as can dryness, irritation and inflammation of the skin. Acetonitrile may cause chronic kidney and liver damage. Continued ingestion of small amounts may result in blindness. Chronic exposure may cause cancer.

Medical Conditions Aggravated by Exposure: Central Nervous System Disorders, Kidney, Liver or Blood disorders, Respiratory System Disease, Skin Disorders and Thyroid Disorders.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:

Note to Physician

Treatment for Cyanide Intoxication:

1. If conscious but symptoms (nausea, difficult breathing, dizziness, etc.) are evident, give oxygen.
2. If consciousness is impaired (non-responsiveness, slurred speech, confusion, drowsiness) or the patient is unconscious but breathing, give oxygen and amyl nitrate by means of a respirator.

To give amyl nitrate, break an ampoule in a gauze pad and insert into lip of mask for 15 seconds, then take away for 15 seconds. Repeat 5-6 times. If necessary, use a fresh ampoule every 3 minutes until the patient regains consciousness (usually 1-4 ampoules). Administer oxygen continuously. Guard against the ampoule entering the patient's mouth.

3. If not breathing, give oxygen and amyl nitrate immediately by means of a positive pressure respirator (artificial respiration). See 2 above, and continue to give oxygen simultaneously to aid recovery. If massive exposure occurred, consider keeping the first one or two ampoules in the lip of the mask continuously. Guard against the ampoule entering the patient's mouth.

Do not over-react. Although prompt action is essential when symptoms of poisoning occur, a lucid, conscious person who can communicate may not have significant cyanide poisoning and Medical Treatment may not be necessary. "Treat what you see" is a good rule of thumb. Mildly symptomatic patients who remain alert may be managed by supportive care.

Medical Treatment Procedure:

Intravenous antidote

1. Sodium nitrite: Adult - 10ml of 3% solution (300mg)

Draw solution from ampoule and inject slowly over 4-5 minutes (2 to 2.5 ml/minute) as soon as practical, monitor blood pressure and continue checking pulse. Slow the rate of injection if hypotension (low blood pressure) occurs.

2. Sodium Thiosulfate: Adult - 50ml of 25% solution (12.5 grams)

Follow sodium nitrite with sodium thiosulfate injected at a rate of 2.5ml/minute (10-20 minutes) The total time for injection of these initial doses of both components at the recommended rates is lengthy, approximately 20-25 minutes. Consider the body weight and condition of the patient when treating with sodium nitrite. Both amyl nitrate and sodium nitrite produce methemoglobin, which reduces the oxygen carrying capacity of the blood. Methemoglobinemia is potentially harmful when hemoglobin levels exceed 20-30%. If symptoms persist or recur after the initial treatment, repeat the antidote at one half the original dose one hour after the original administration. Monitor methemoglobin levels when practical in every patient treated with the intravenous antidote.

Avoid Over-Treatment

The above sodium nitrite injection is about one-third the lethal dose, so care should be taken to avoid excessive use. Should injection be stopped for any reason, keep track of the amount administered in case treatment needs to be restarted.

5. FIRE FIGHTING MEASURES

FLASH POINT: 2°C (35.6°F) (CC)

AUTOIGNITION TEMP: 523.9°C (975°F)

UPPER EXPLOSIVE LIMIT: 16% (V)

LOWER EXPLOSIVE LIMIT: 3.0% (V)

**UNIFORM FIRE CODE: Flammable liquid Class): IB
ELECTRICAL HAZARD: Class I Group D**

BURN RATE: 3.9mm/min

5.1 SUITABLE EXTINGUISHING MEDIA:

Dry Chemical, Carbon Dioxide, Water, spray or foam.

For large fires, use water spray, fog or foam.

Unsuitable extinguishing media: Do not use waterjet.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR

MIXTURE: FIRE AND EXPLOSION HAZARD: DANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK. VAPOR-AIR MIXTURES ARE EXPLOSIVE ABOVE FLASH POINT.

Vapor may explode if ignited in an enclosed area.

CONDITIONS OF FLAMMABILITY: Flammable in the presence of a source of ignition when the temperature is above the flash point.

HAZARDOUS COMBUSTION PRODUCTS: Thermal decomposition products may include toxic oxides of carbon and cyanide gas.

5.3 ADVICE FOR FIREFIGHTERS: Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Stay away from ends of tanks. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Isolate for 1/2 mile in all directions if tank, rail car or tank truck is involved in fire. Extinguish only if flow can be stopped. Use flooding amounts of water as fog: solid streams may be ineffective. Cool containers with flooding amounts of water from as far a distance as possible. Avoid breathing vapors; keep upwind. Fire fighters should wear full protective clothing and NIOSH/MSHA approved self-contained breathing apparatus (SCBA) with full face-piece operated in the pressure demand or other positive pressure mode. Water spray can be used to extinguish fires and cool fire-exposed containers. Water may be used to flush spills away from exposures and to dilute spills to non-flammable mixtures.

6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY

PROCEDURES: Flammable liquid; Eliminate ignition sources in the vicinity of the spill or released vapor. Immediately evacuate all nonessential people. Verify that responders are properly trained and wearing appropriate respiratory equipment and fire resistant protective clothing during cleanup operations.

6.2 ENVIRONMENTAL PRECAUTIONS:

Keep out of water sources and sewers. Do not flush into surface water or sanitary sewer system

6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:

Methods for cleanup and containment:

Use explosion proof equipment. Shut off valves, contain spill, for small spills add non-flammable absorbent in spill area. For large spills use foam on spill to minimize vapors clean up by vacuuming then using non-flammable absorbent.

Methods for disposal:

Place all saturated absorbent, using non-sparking tools, in an approved container for disposal. Minimize breathing vapors and skin contact, ventilate confined areas, open all windows and doors, assure conformity with applicable government regulations.

OCCUPATIONAL SPILL:

Shut off ignition sources. Do not touch spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors. For small spills, take up with sand or other absorbent material and place into containers for later disposal. For large spills, dike far ahead of spill for later disposal. No smoking, flames, or flares in spill area! Keep unnecessary people away; Isolate hazard area and deny entry.

REPORTABLE QUANTITY (RQ): 5000lbs.

The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that a release equal to or greater than the reportable quantity for this substance be immediately reported to the local emergency planning committee and the state emergency response commission (40 CFR 355.40). If the release of this substance is reportable under CERCLA Section 103, the national response center must be notified immediately at (800) 424-8882 or (202) 426-2675 in the metropolitan Washington, D. C. area (40 CFR 302.6).

6.4 REFERENCE TO OTHER SECTIONS: See Sections 8 and 13.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING: This material presents a fire hazard. Acetonitrile is a class IB flammable liquid (NFPA). Liquid quickly evaporates and forms vapor (fumes), which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources, such as pilot lights, welding equipment, and electrical motors and switches. Vapor is heavier than air and can travel considerable distance to a source of ignition and flash back. Avoid breathing vapors in top of shipping container. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Do not take internally. Avoid work practices that may release volatile components in the atmosphere. Avoid contaminating soil or releasing material into sewage and drainage systems. Use non-sparking tools to open or close containers. Keep away from heat, sparks and flame. Keep container tightly closed and upright to prevent leakage. Use only with adequate ventilation. Prevent buildup of vapors. Extinguish all pilot lights and turn off heater, non-explosion proof electrical equipment and other sources of ignition during use and until all vapors are gone. Avoid contact with eyes. Avoid prolonged or repeated breathing of vapor. Avoid prolonged or repeated contact with skin.

Advice on general occupational hygiene:

Wash hands before breaks and after work. Keep away from food, drink and animal feeding stuffs. When using do not smoke.

STATIC HAZARD: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not be sufficient. For more information refer to OSHA Standard 29CFR 1910.106 “Flammable and Combustible Liquids” and National Fire Protection Association (NFPA 77) “Recommended Practice on Static Electricity”.
BONDING AND GROUNDING: SUBSTANCES WITH LOW ELECTROCONDUCTIVITY, WHICH MAY BE IGNITED BY ELECTROSTATIC SPARKS, SHOULD BE STORED IN CONTAINERS WHICH MEET THE BONDING AND GROUNDING GUIDELINES SPECIFIED IN NFPA 77-1983, RECOMMENDED PRACTICE ON STATIC ELECTRICITY. STORE AWAY FROM INCOMPATIBLE SUBSTANCES.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:

Follow maximum allowed pile heights specified in the BOCA codes or the NFPA manual. Local fire authorities should be notified for storage of this material in any quantity. Local permits are required for storage in warehouse quantities. Recommended storage temperature: 15°C - 25°C. Store large quantities only in cool, dry areas in buildings designed to comply with OSHA 1910.106. Keep containers tight and upright to prevent leakage. Do not contact with oxidizing materials. Keep containers closed when not in use. Do not take internally. Store in a well ventilated place, away from sources of ignition and direct sunlight. In laboratory quantities, store away from oxidizing material, mineral acids, and chloroform. Store Acetonitrile in areas equipped with automatic sprinklers or fire

extinguishing system. All Acetonitrile storage and transfer equipment should be electrically grounded and bonded to prevent possible ignition from static sparks. Use spark resistant equipment to store denatured alcohol. So not use air pressure to unload denatured alcohol from containers. Containers of this material may be hazardous when empty. Since emptied containers retain product residues, assume emptied containers to have the same hazard qualities as full containers. STORE IN ACCORDANCE WITH 29 CFR 1910.126. Storage class (TRGS 510): 3: Flammable liquids.

CONTAINER WARNINGS: Containers should be Bonded and Grounded when pouring. Avoid free fall of liquid in excess of a few inches. Empty containers release residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, or expose such containers to heat, sparks, static electricity or other sources of ignition. Do not attempt to clean. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum re-conditioner.

7.3 SPECIFIC END USES: Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROL (PERSONAL PROTECTION)

8.1 CONTROL PARAMETERS:

COMPONENT	CAS NO.	% BY WT.	EXPOSURE LIMITS
Acetonitrile	75-05-8 EC-No.200-835-2 Index-No.608-001-00-3 Reg.-No.01-2119471307-38-XXXX	90-100	20ppm TWA (ACGIH) 20ppm TWA (NIOSH) 40ppm TWA (OSHA) 60ppm STEL (OSHA) 500ppm IDLH

Key: (PEL) = Permissible Exposure Limit OSHA
(TLV) = Threshold Limit Value OSHA & ACGIH
(STEL) = Short Term Exposure Limit ACGIH
(WEEL) = USA. Workplace Environmental Exposure Levels
(TWA) = Time Weighted Average
CAS = Chemical Abstracts Registry Number
IDLH = Immediate Danger to Life and Health
N.E. =None Established

8.2 EXPOSURE CONTROLS

EXPOSURE GUIDELINES: Consider the potential hazards of this material (Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent

exposure to harmful levels of this material, the personal protective equipment listed below is recommended.

ENGINEERING CONTROLS: Provide general dilution or local exhaust ventilation in volume and pattern to keep concentrations within permitted exposure limits. All areas should be ventilated in accordance with OSHA Regulation 29 CFR Part 1910. Explosion proof motors should be used in mechanical ventilation.

RESPIRATORY PROTECTION:

The following respirators are recommended based on information found in the physical data, toxicity and health effects sections. They are ranked in order from minimum to maximum respiratory protection.

The specific respirator selected must be based on contamination levels found in the work place, must be based on the specific operation, must not exceed the working limits of the respirator and must be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA).

Any chemical cartridge respirator with organic vapor cartridge(s) and a full face-piece.

Any gas mask with organic vapor canister (chin style or front- or back-mounted canister), with a full- face piece.

Any type 'C' supplied air respirator full face-piece operated in pressure-demand or other positive-pressure mode or with a full face piece, helmet or hood operated in a continuous-flow mode.

Any self-contained breathing apparatus with a full face-piece operated in pressure-demand or other positive-pressure mode.

BODY CLOTHING:

Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

SKIN PROTECTION:

Employee must wear appropriate protective gloves to prevent contact with this substance. Butyl Rubber chemical resistant gloves.

Full contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

Splash contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

Use good personal hygiene practices, wash hands before eating, drinking, smoking or using toilet facilities.

EYE/FACE PROTECTION:

Employee must wear splash-proof or dust-resistant goggles to prevent eye contact with this substance.

EMERGENCY EYE WASH:

Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

Acetonitrile 75-05-8

APPEARANCE:	Watery liquid
COLOR:	Colorless
ODOR:	Sweetish ethereal odor
ODOR THRESHOLD:	No Data Available
pH:	No data available
MOLECULAR WEIGHT:	41.05 amu
MELTING POINT:	-48°C (-54°F)
BOILING POINT:	81-82°C (178-180°F)
SPECIFIC GRAVITY:	0.8 @20°C
DENSITY (25C) =	0.786 g/ml 25°C
VAPOR PRESSURE:	73.99mmHG@ 20°C (68°F) 91.09 mmHg@ 25°C (77°F)
VAPOR DENSITY:	1.42
WATER SOLUBILITY:	Soluble
PARTITION COEFFICIENT N-OCTANOL/WATER: log Pow	-0.54@25°C (77°F)
FLASH POINT =	2°C (35.6°F)
UPPER FLAMMABILITY LIMIT:	16%
LOWER FLAMMABILITY LIMIT:	3%
AUTO-IGNITION TEMPERATURE:	524.0°C (975.2°F)
EVAPORATION RATE:	5.79
DECOMPOSITION TEMPERATURE:	932°F
VISCOSITY:	No Data Available
EXPLOSIVE PROPERTIES:	No Data Available
OXIDIZING PROPERTIES:	No Data Available

9.2 OTHER INFORMATION:

Surface tension 29.0 mN/m at 20.0 °C (68.0 °F)

10. STABILITY AND REACTIVITY INFORMATION

10.1 REACTIVITY: No data available.

10.2 CHEMICAL STABILITY: Unstable () Stable (X)

Stable under normal temperatures and pressures.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS: Vapors may form flammable mixtures with air.

HAZARDOUS POLYMERIZATION: May occur () Will not occur (X)

10.4 CONDITIONS TO AVOID: --> Heat, Sparks, Pilot Lights, Static Electricity, and Open Flame. Extremes of temperature and direct sunlight.

10.5 INCOMPATIBLE MATERIALS:

Incompatible with strong oxidants such as nitric acid. Hydrolyzes in the presence of strong aqueous bases and strong aqueous acids. Alkali metals.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition products may include toxic oxides of carbon and cyanide gas.

11. TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

Routes of Entry: Inhalation--> x Skin--> x Ingestion--> x

ACUTE HEALTH EFFECTS:

Effects of overexposure:

Primary Routes of Exposure: Inhalation, Ingestion, skin and eye contact, absorption.
Inhalation: Irritation of mucous membranes, eyes, nose, throat and membranes of the upper respiratory tract.

Skin Contact: Irritation

Eye Contact: Irritation

Ingestion: Central nervous system depression. Excitation is followed by impaired motor coordination, slurred speech, sensory disturbances such as blurred and double vision, drowsiness, loss of appetite and inability to concentrate. High exposure can cause gastritis, blindness and death. Splashes may cause temporary pain and blurred vision.

Target Organs: Eyes, Skin, Liver, Kidneys, Blood, Cardiovascular System, Central Nervous System and Lungs

Chronic Effects: Irritation of the eyes, nose, throat and mucus membranes of the upper respiratory tract. Central nervous system effects such as dizziness and

sleepiness can occur, as can dryness, irritation and inflammation of the skin. Acetonitrile may cause chronic kidney and liver damage. Continued ingestion of small amounts may result in blindness. Chronic exposure may cause cancer.

Medical Conditions Aggravated by Exposure: Central Nervous System Disorders, Kidney, Liver or Blood disorders, Respiratory System Disease, Skin Disorders and Thyroid Disorders.

ACUTE TOXICITY

IRRITATION DATA:

Skin corrosion/irritation: Skin - Rabbit, Result: No skin irritation

Serious eye damage/eye irritation: Eyes – Rabbit, Result: Irritating to eyes.

Respiratory or skin sensitization: Buehler Test - Guinea pig,

Did not cause sensitization on laboratory animals.

TOXICITY DATA:

The effects of overexposure shown in Section III are based on acute toxicity profiles. Typical values are:

Ingredient	Oral LD50 (Rat)	Skin LD50 (Rabbit)	Inhalation LC50
Acetonitrile	1320-6690mg/kg	>2000mg/kg (OECD Test 402)	3587ppm/4hr 26.8mg/L/4hr (OECD Test 403)

Additional Toxicity Data:

Toxicity in animals exposed by inhalation included effects on the liver, thymus, changes in male reproductive organs, kidneys, lungs, stomach, brain, and decreased body weight. Single exposures by inhalation caused labored breathing, altered respiratory rate, tremors or convulsions, and clouding of the eye. Single exposures to high doses caused altered respiratory rate and non specific effects such as weight loss and irritation.

SKIN CORROSION/IRRITATION: Skin - Rabbit Result: No skin irritation (OECD Test Guideline 404)

SERIOUS EYE DAMAGE/EYE IRRITATION: Eyes - Rabbit Result: Irritating to eyes. (OECD Test Guideline 405)

RESPIRATORY OR SKIN SENSITIZATION: Buehler Test - Guinea pig - Did not cause sensitization on laboratory animals. (OECD Test Guideline 406)

MUTAGENIC EFFECTS: Tests for mutagenic activity in bacterial and mammalian cell cultures have been inconclusive. Germ cell mutagenicity Hamster ovary Result: negative Mutation in mammalian somatic cells. Ames test *S. typhimurium* Result: Not mutagenic in Ames Test.
Mutagenicity (micronucleus test) Mouse Result: Positive results were obtained in some in vivo tests.

CARCINOGEN STATUS: : IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

REPRODUCTIVE TOXICITY: Embryo toxicity was observed in the offspring of pregnant rats, rabbits, and hamsters but only at concentrations that produced maternal toxicity.

Specific target organ toxicity (STOT-SE) - Single Exposure (Globally Harmonized System): May cause drowsiness or dizziness.

Specific target organ toxicity (STOT-RE) - Repeated Exposure (Globally Harmonized System): no data available

ASPIRATION HAZARD: No aspiration toxicity classification

11.2 ADDITIONAL INFORMATION:

AT INCREASED RISK FROM EXPOSURE: Persons with liver disease.

RTECS No. AL7700000

12. ECOLOGICAL INFORMATION

DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS

May be dangerous if it enters water intakes.

Notify local health and wildlife officials.

Notify operators of nearby water intakes.

12.1 AQUATIC TOXICITY (Acute):

Toxicity to fish:

LC50 - Pimephales promelas (fathead minnow) - 1,640.00 mg/l-96h

Toxicity to daphnia and other aquatic invertebrates:

EC50 - Daphnia magna (Water flea) - 3,600.00 mg/l - 48 h

NOEC - Daphnia magna (Water flea) - 640 mg/l - 14 d

12.2 PERSISTANCE AND DEGRADABILITY:

84 % - Readily biodegradable. (OECD Test Guideline 301C)

12.3 BIOACCUMULATIVE POTENTIAL: No bioaccumulation is to be expected (log Pow <= 4).

12.4 MOBILITY IN SOIL: Not expected to adsorb on soil.

12.5 RESULTS OF PBT AND vPvB:

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 OTHER ADVERSE EFFECTS: Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS:

The waste material should be treated and/or disposed of at site authorized to handle hazardous chemical waste. Appropriate Federal, State and Local Regulatory Authorities should be contacted before discharge, treatment or disposal of waste material.

CONTAMINATED PACKAGING: Dispose of as unused product.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

RCRA: The unused product is a RCRA hazardous waste if discarded. The RCRA ID number is: U003 or the appropriate spent solvent code.

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 48 CFR 262

14. TRANSPORT INFORMATION

Land Transport (DOT)

14.1 USDOT ID Number-----> UN1648

14.2 USDOT Shipping Name-----> Acetonitrile

- 14.3 USDOT Hazard Classification-----> 3 (Flammable Liquid)
- USDOT Label Codes-----> 3 (Flammable Liquid)
- 14.4 USDOT Package Code-----> II
- 14.5 Marine Pollutant-----> No
- 14.6 Special precautions for user-----> None
- Emergency Response Guide-----> 127
- Reportable quantity-----> 5000lbs.

Special Provisions:

T8; Refers to transportation of IM portable tanks

Packaging authorizations: Exceptions: 173.150; for small quantities of flammable liquids

Non-bulk packaging: 173.202: for liquid hazardous material in packing group II

Bulk-packaging: 173.242: for liquid hazardous material

Quantity Limitations: Passenger aircraft or railcar: 5 L

Cargo aircraft only: 60 L

Vessel stowage requirements: B

Sea Transport (IMDG)

- 14.1 ID Number-----> UN1648
- 14.2 Proper shipping name-----> Acetonitrile
- 14.3 Hazard Classification-----> 3 (Flammable Liquid))
- Label Codes-----> 3 (Flammable Liquid0
- 14.4 Package Code-----> II
- 14.5 Marine Pollutant-----> No
- 14.6 Special precautions for user-----> Yes
- EMS-Number-----> F-E, S-D

Air Transport (IATA)

- 14.1 ID Number-----> UN1648
- 14.2 Proper shipping name-----> Acetonitrile
- 14.3 Hazard Classification-----> 3 (Flammable Liquid)
- Label Codes-----> 3 (Flammable Liquid)
- 14.4 Package Code-----> II
- 14.5 Environmental hazard-----> No
- 14.6 Special precautions for user-----> None

15. REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE:

SARA TITLE III (Superfund Amendment and Reauthorization Act)

SECTION 302 AND 304: Extremely Hazardous Substance List (40 CFR 355) - Not Listed

SECTION 313: Toxic Chemicals Listing (40 CFR 372.65) - Listed as a toxic chemical Acetonitrile CAS-No.75-05-8

SECTION 311: Hazard Categorization (40 CFR 370) - Fire Hazard, Acute Health Hazard.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)

SECTION 102(A) Hazardous Substances (40 CFR 302.4) - Listed Acetonitrile CAS-No.75-05-8

**Reportable Quantity - 5,000 pounds.
SECTION 101(14) Reportable Quantity: 5,000 lbs**

RCRA (Resource Conservation and Recovery Act.)

40 CFR 261.33 Hazardous Waste Number: U003 or appropriate Spent Solvent Number.

**Massachusetts Right to Know Components
Acetonitrile CAS-No.75-05-8**

**Pennsylvania Right to Know Components
Acetonitrile CAS-No.75-05-8**

**New Jersey Right to Know Components
Acetonitrile CAS-No.75-05-8**

**California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.**

**TSCA (Toxic Substance Control Act)
Acetonitrile CAS-No.75-05-8 is listed on the TSCA Inventory.**

International Inventories:

<u>Country or Region</u>	<u>Inventory Name</u>	<u>On inventory yes/no</u>
<u>Australia</u>	Australian Inventory of Chemical Substances (AICS)	Yes
<u>Canada</u>	Domestic Substances List (DSL)	Yes
<u>Canada</u>	Non-Domestic Substances List (NDSL)	No
<u>China</u>	Inventory of Existing Chemical Substances in China (IECSC)	Yes
<u>Europe</u>	European Inventory of Existing Commercial Chemicals Substances (EINECS)	Yes
<u>Europe</u>	European List of Notified Chemical Substances (ELINCS)	No

<u>Japan</u>	Inventory of Existing and New Chemical Substances (ENCS)	Yes
<u>Japan</u>	Industrial Safety & Health Law Inventory (ISHL)	Yes
<u>Korea</u>	Existing Chemicals List (ECL)	Yes
<u>Mexico</u>	National Inventory of Chemical Substances (INSQ)	Yes
<u>New Zealand</u>	New Zealand Inventory	Yes
<u>Philippines</u>	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
<u>Switzerland</u>	Inventory of Notified New Substances (CHINV)	Yes
<u>Taiwan</u>	National Existing Chemical Inventory (NECI)	Yes
<u>United States & Puerto Rico</u>	Toxic Substances Control Act Inventory	Yes

15.2 CHEMICAL SAFETY ASSESSMENT: A chemical safety assessment has been carried out for this substance.

16. OTHER INFORMATION

HMIS (Hazardous Materials Identification System)

Hazard Rating:

- 4-Extreme**
- 3-High**
- 2-Moderate**
- 1-Slight**
- 0-Insignificant**

NFPA RATINGS (SCALE 0-4):	Health=2	Fire=3	Reactivity=0
HMIS RATINGS (SCALE 0-4):	Health=3	Fire=3	Reactivity=0 PPE=H

Hazard statement(s) from Section 2 and 3:

H225 Highly flammable liquid and vapor.
H302 + H312 + H332 Harmful if swallowed or in contact with skin, or if inhaled.
H319 Causes serious eye irritation

Date of preparation-----> February 23, 2005

Revision Number-----> 1.9

Revision content-----> Updated Sections 1, 3, 5, 7, 8 10, 13, 15 and 16

Revision Date-----> December 20, 2018

Acronyms:

ACGIH	-	American Conference of Governmental Industrial Hygienists
AIHA	-	American Industrial Hygiene Association
ANSI	-	American Nation Standards Institute
API	-	American Petroleum Institute
CERCLA	-	Comprehensive Emergency Response, Compensation, and Liability Act
DOT	-	U.S. Department of Transportation

EPA	-	U.S. Environmental Protection Agency
HMIS	-	Hazardous Materials Information System
IARC	-	International Agency For Research On Cancer
MSHA	-	Mine Safety and Health Administration
NFPA	-	National Fire Protection Association
NIOSH	-	National Institute of Occupational Safety and Health
NOIC	-	Notice of Intended Change (Proposed change to ACGIH TLV)
NTP	-	National Toxicology Program
OPA	-	Oil Pollution Act of 1990
OSHA	-	U.S. Occupational Safety & Health Administration
PEL	-	Permissible Exposure Limit (OSHA)
RCRA	-	Resource Conservation and Recovery Act
REL	-	Recommended Exposure Limit (NIOSH)
SARA	-	Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA	-	Self-Contained Breathing Apparatus
STEL	-	Short-Term Exposure Limit (generally 15 minutes)
TLV	-	Threshold Limit Value
TSCA	-	Toxic Substances Control Act
TWA	-	Time Weighted Average (8hr.)
WHMIS	-	Canadian Workplace Hazardous Materials Information System

Product specification sheets are also available.

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