

# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS) and Canadian  
Workplace Hazardous Material Information System (WHMIS 2015)

Issuing Date 11-Apr-2024

Revision date 28-Jun-2024

Revision Number 1

## 1. Identification

### Product identifier

<b>Product Catalog Number:</b>	<b>Product Description:</b>
40-4015-XX	Acetonitrile/1-Methylimidazole

### Product Code(s)

40-4015-XX

### Product Name

Cap Mix B

### Other means of identification

UN number or ID number UN2924

Synonyms None

### Recommended use of the chemical and restrictions on use

Recommended use For research use only

Restrictions on use Not for human diagnostic use

### Details of the supplier of the safety data sheet

#### Manufacturer Address

Glen Research LLC  
22825 Davis Drive  
Sterling, VA 20164 USA

#### Emergency telephone number

Company Phone Number 1-703-437-6191

#### Emergency Telephone

CHEMTREC Customer Number (CCN): 234802 Glen Research Corporation  
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#### Website

www.glenresearch.com

#### E-mail address

support@glenresearch.com

## 2. Hazard(s) identification

### Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Vapors)	Category 3
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Flammable liquids	Category 2

**Appearance** Clear Liquid**Physical state** Liquid**Odor** Pungent Sweet Ether-like odor**Label elements****Signal word**

Danger

**Hazard statements**

Harmful if swallowed

Harmful in contact with skin

Toxic if inhaled

Causes severe skin burns and eye damage

Highly flammable liquid and vapor

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Use only outdoors or in a well-ventilated area

Do not breathe dusts or mists

Wear protective gloves, protective clothing, eye protection and face protection

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

Keep container tightly closed

Ground and bond container and receiving equipment

Use explosion-proof electrical, ventilating, lighting and .? equipment

Use only non-sparking tools

Take action to prevent static discharges

Keep cool

**Precautionary Statements - Response**

Immediately call a POISON CENTER or doctor

**Eyes**

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

Immediately call a POISON CENTER or doctor

**Skin**

Call a POISON CENTER or doctor if you feel unwell

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water and then shower

Wash contaminated clothing before reuse

**Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

Rinse mouth

Do NOT induce vomiting

**Fire**In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish**Precautionary Statements - Storage**

Store in a well-ventilated place. Keep container tightly closed

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents and container to an approved waste disposal plant

**Other information**

No information available.

**Unknown acute toxicity**

20 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

**3. Composition/information on ingredients****Substance**

Chemical name	CAS No.	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Acetonitrile	75-05-8	70-90	-	-
N-Methylimidazole	616-47-7	10-30	-	-

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

**4. First-aid measures****Description of first aid measures****General advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**Inhalation**

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical attention. Immediate medical attention is required.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.

**Skin contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention.

**Ingestion**

Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.

**Self-protection of the first aider**

Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not breathe vapor or mist.

**Most important symptoms and effects, both acute and delayed****Symptoms**

Metabolism may release cyanide, which may result in headache, dizziness, weakness, collapse, unconsciousness, and possible death. Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians**

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

**5. Fire-fighting measures****Suitable Extinguishing Media**

Dry chemical. Carbon dioxide (CO<sub>2</sub>). Water spray. Alcohol resistant foam.

**Large Fire**

CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media**

Do not scatter spilled material with high pressure water streams.

**Specific hazards arising from the chemical**

Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

**Hazardous combustion products**

Hydrogen cyanide. Nitrogen oxides (NO<sub>x</sub>). Carbon oxides.

**Explosion data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** Yes.

**Special protective equipment and precautions for fire-fighters**

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**6. Accidental release measures****Personal precautions, protective equipment and emergency procedures****Personal precautions**

Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Attention! Corrosive material. Do not breathe vapor or mist.

**Other information**

Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

**Methods and material for containment and cleaning up****Methods for containment**

Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

**Methods for cleaning up**

Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

**7. Handling and storage**

**Precautions for safe handling****Advice on safe handling**

Use personal protection equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Do not breathe vapor or mist.

**Conditions for safe storage, including any incompatibilities****Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep out of the reach of children. Store locked up. Protect from moisture. Store away from other materials.

**Packaging materials**

Glass.

**8. Exposure controls/personal protection****Control parameters****Exposure Limits**

Chemical name		ACGIH TLV		OSHA PEL		NIOSH	
Acetonitrile 75-05-8		TWA: 20 ppm S*		TWA: 40 ppm TWA: 70 mg/m <sup>3</sup> (vacated) TWA: 40 ppm (vacated) TWA: 70 mg/m <sup>3</sup> (vacated) STEL: 60 ppm (vacated) STEL: 105 mg/m <sup>3</sup> S* as CN		IDLH: 137 ppm TWA: 20 ppm TWA: 34 mg/m <sup>3</sup>	
Chemical name	Alberta		British Columbia		Ontario		Quebec
Acetonitrile 75-05-8	TWA: 20 ppm TWA: 34 mg/m <sup>3</sup>		TWA: 20 ppm Skin		TWA: 20 ppm Skin		TWA: 20 ppm Ceiling: 10 ppm Ceiling: 11 mg/m <sup>3</sup> Skin

**Appropriate engineering controls****Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Tight sealing safety goggles. Face protection shield.

**Hand protection**

Wear suitable gloves. Impervious gloves.

**Skin and body protection**

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

**Respiratory protection**

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

<b>Environmental exposure controls</b>	Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.
<b>General hygiene considerations</b>	Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Do not breathe vapor or mist.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	Clear Liquid
<b>Color</b>	Clear
<b>Odor</b>	Pungent Sweet Ether-like odor
<b>Odor threshold</b>	170 ppm

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	No data available	(1-Methylimidazole)
<b>Melting point / freezing point</b>	No data available	None known
<b>Initial boiling point and boiling range</b>	No data available	None known
<b>Flash point</b>	2.0 °C / 35.6 °F	(Acetonitrile)
<b>Evaporation rate</b>	No data available	None known
<b>Flammability</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Vapor pressure</b>	No data available	None known
<b>Relative vapor density</b>	No data available	None known
<b>Relative density</b>	0.83g/mL	None known
<b>Water solubility</b>	Completely soluble	None known
<b>Solubility in other solvents</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known

### Other information

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Softening point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content</b>	No information available
<b>Liquid Density</b>	No information available
<b>Bulk density</b>	No information available

## 10. Stability and reactivity

<b>Reactivity</b>	No information available
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.

<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Heat, flames and sparks. Exposure to air or moisture over prolonged periods. Excessive heat.
<b>Incompatible materials</b>	Acids. Bases. Oxidizing agent.
<b>Hazardous decomposition products</b>	Hydrogen cyanide. Nitrogen oxides (NOx). Carbon oxides.

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Toxic by inhalation.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. May be absorbed through the skin in harmful amounts. Harmful in contact with skin.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Symptoms</b>	Metabolism may release cyanide, which may result in headache, dizziness, weakness, collapse, unconsciousness, and possible death. Redness. Burning. May cause blindness. Coughing and/ or wheezing. Difficulty in breathing.
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### Acute toxicity

#### Numerical measures of toxicity

No information available

The following values are calculated based on chapter 3.1 of the GHS document

<b>ATEmix (oral)</b>	679.60 mg/kg
<b>ATEmix (dermal)</b>	1,100.00 mg/kg
<b>ATEmix (inhalation-gas)</b>	99,999.00 ppm
<b>ATEmix (inhalation-dust/mist)</b>	99,999.00 mg/l
<b>ATEmix (inhalation-vapor)</b>	6.02 mg/l

#### Unknown acute toxicity

20 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
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Acetonitrile 75-05-8	617 mg/kg (mouse)	> 2000 mg/kg ( Rabbit )	= 26.8 mg/L ( Rat ) 4 h
N-Methylimidazole 616-47-7	= 1144 mg/kg ( Rat )	400 - 640 mg/kg ( Rabbit )	-

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Skin corrosion/irritation</b>	Classification based on data available for ingredients. Causes severe skin burns and eye damage.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Causes serious eye damage. Causes burns.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Target organ effects</b>	No information available.
<b>Aspiration hazard</b>	No information available.

## 12. Ecological information

### Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Acetonitrile 75-05-8	-	LC50: 1600 - 1690mg/L (96h, Pimephales promelas) LC50: =1000mg/L (96h, Pimephales promelas) LC50: =1850mg/L (96h, Lepomis macrochirus) LC50: =1650mg/L (96h, Poecilia reticulata)	-	-

<b>Persistence and degradability</b>	Not Likely.
<b>Bioaccumulation</b>	Not likely to bioaccumulate.
<b>Bioconcentration factor (BCF)</b>	log Pow <= 4

### Component Information



Chemical name	Partition coefficient
Acetonitrile 75-05-8	-0.34
N-Methylimidazole 616-47-7	-0.19

**Mobility in soil** Not expected to adsorb on soil.

**Mobility** Soluble in water.

**Other adverse effects** No information available.

### 13. Disposal considerations

#### Disposal methods

**Waste from residues/unused products** Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

**California waste information** This product contains one or more substances that are listed with the State of California as a hazardous waste.

### 14. Transport information

#### DOT

Regulated  
UN number or ID number UN2924  
Proper shipping name Flammable liquid, corrosive, n.o.s.  
Transport hazard class(es) Class 3  
Packing group Packing Group II  
Reportable quantity - lbs 5000 lbs

#### IATA

Regulated  
UN number or ID number UN2924  
UN proper shipping name Flammable liquid, corrosive, n.o.s.  
Transport hazard class(es) Class 3  
Packing group Packing Group II

#### IMDG

Regulated  
UN number or ID number UN2924  
UN proper shipping name Flammable liquid, corrosive, n.o.s.  
Transport hazard class(es) Class 3  
Packing group Packing Group II  
EmS-No. F-E, S-D

### 15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

**International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**International Inventories****TSCA** All of the components of this product are listed in the TSCA Inventory or exempt.**DSL/NDL** Listed or exempt.**EINECS/ELINCS** Listed or exempt.**ENCS** Listed or exempt.**IECSC** Listed or exempt.**KECI** Listed or exempt.**PICCS** Listed or exempt.**AIIC** Listed or exempt.**Legend:****TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECI** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AIIC** - Australian Inventory of Industrial Chemicals**US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Acetonitrile - 75-05-8	1.0

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Acetonitrile 75-05-8	-	X	X	-

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	Reportable Quantity (RQ)
Acetonitrile 75-05-8	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Acetonitrile 75-05-8	X	X	X

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not applicable

**16. Other information**

<b>NFPA</b>	<b>Health hazards</b> 3	<b>Flammability</b> 3	<b>Instability</b> 0	<b>Special hazards</b> -
<b>HMIS</b>	<b>Health hazards</b> 3	<b>Flammability</b> 3	<b>Physical hazards</b> 0	<b>Personal protection</b> X

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Legend Section 8: Exposure controls/personal protection

TWA TWA (time-weighted average)

Ceiling Maximum limit value

STEL

Sk\*

STEL (Short Term Exposure Limit)

Skin designation

Issuing Date 11-Apr-2024

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Revision Note No information available

**Disclaimer**

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**End of Safety Data Sheet**