

# 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)

Revision date 15-Jul-2024

Revision Number 1

## 1. Identification

### Product identifier

<b>Product Catalog Number:</b> 40-4224-XX	<b>Product Description:</b> 20% Acetic Anhydride in Acetonitrile&nbsp;
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<b>Product Code(s)</b> 40-4224-XX	<b>Product Name</b> Cap Mix B
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### 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  
US: 1-800-424-9300 or Local: +1-703-527-3887  
EMEA: +44 20 3885 0382  
APAC: +65 3163 8374

**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 (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
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

Harmful if inhaled

Causes skin irritation

Causes serious eye damage

May cause respiratory irritation

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

Avoid breathing dust, fume, gas, mist, vapors and spray

Use only outdoors or in a well-ventilated area

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

**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**

IF ON SKIN: Wash with plenty of water and soap

Call a POISON CENTER or doctor if you feel unwell

Take off contaminated clothing and wash it before reuse

If skin irritation occurs: Get medical advice and attention

**Inhalation**

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

Call a POISON CENTER or doctor if you feel unwell

**Ingestion**

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

Rinse mouth

**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**

30 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

30 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

30 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

### 3. Composition/information on ingredients

#### Substance

Not applicable.

#### Mixture

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	-	-
Acetic Anhydride	108-24-7	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

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. Get medical attention immediately if symptoms occur. IF exposed or concerned: Get medical advice/attention. If symptoms persist, call a physician. If breathing has stopped, give artificial respiration. Get medical attention immediately.
<b>Eye contact</b>	Get immediate medical attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water for at least 15 minutes. If symptoms persist, call a physician.
<b>Ingestion</b>	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get medical attention.
<b>Self-protection of the first aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists. Use personal protective equipment as required. See section 8 for more information.

#### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	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.
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#### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically.
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### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the
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	surrounding environment.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Hazardous combustion products</b>	Hydrogen cyanide. Nitrogen oxides (NOx). Carbon oxides.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	None.
<b>Sensitivity to static discharge</b>	None.
<b>Special protective equipment and precautions for fire-fighters</b>	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

<b>Personal precautions</b>	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid breathing vapors or mists.
<b>Other information</b>	Refer to protective measures listed in Sections 7 and 8.

### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Soak up with inert absorbent material. Take up mechanically, placing in appropriate containers for disposal.

## 7. Handling and storage

### Precautions for safe handling

<b>Advice on safe handling</b>	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid breathing vapors or mists. In case of insufficient ventilation, wear suitable respiratory equipment.
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### Conditions for safe storage, including any incompatibilities

<b>Storage Conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.
<b>Packaging materials</b>	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>	
Acetic Anhydride 108-24-7	STEL: 3 ppm TWA: 1 ppm	TWA: 5 ppm TWA: 20 mg/m <sup>3</sup> (vacated) Ceiling: 5 ppm (vacated) Ceiling: 20 mg/m <sup>3</sup>	IDLH: 200 ppm Ceiling: 5 ppm Ceiling: 20 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
Acetic Anhydride 108-24-7	Ceiling: 5 ppm Ceiling: 21 mg/m <sup>3</sup>	TWA: 1 ppm STEL: 3 ppm	TWA: 1 ppm STEL: 3 ppm	TWA: 1 ppm STEL: 3 ppm

**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.

**Hand protection** Contact glove manufacturer for recommendations. Wear suitable gloves. Impervious gloves.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing.

**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.

**Environmental exposure controls** Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

**General hygiene considerations** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

**9. Physical and chemical properties****Information on basic physical and chemical properties**

**Physical state** Liquid  
**Appearance** Clear Liquid  
**Color** Clear  
**Odor** Pungent Sweet Ether-like odor  
**Odor threshold** 170 ppm

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	No data available	None known
<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>	0.881g/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
<b><u>Other information</u></b>		
<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>	Excessive heat.
<b>Incompatible materials</b>	Strong acids. Strong bases. Strong oxidizing agents.
<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. May cause irritation of respiratory tract. Harmful by inhalation. (based on components).
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on

components).

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

**Symptoms** Metabolism may release cyanide, which may result in headache, dizziness, weakness, collapse, unconsciousness, and possible death. Redness. Burning. May cause blindness. May cause redness and tearing of the eyes. Coughing and/ or wheezing.

### 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>	620.70 mg/kg
<b>ATEmix (dermal)</b>	1,387.40 mg/kg
<b>ATEmix (inhalation-gas)</b>	99,999.00 ppm
<b>ATEmix (inhalation-dust/mist)</b>	1.84 mg/l
<b>ATEmix (inhalation-vapor)</b>	99,999.00 mg/l

#### Unknown acute toxicity

- 30 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 30 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 30 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Acetonitrile 75-05-8	617 mg/kg (mouse)	> 2000 mg/kg ( Rabbit )	= 26.8 mg/L ( Rat ) 4 h
Acetic Anhydride 108-24-7	= 630 mg/kg ( Rat )	= 4000 mg/kg ( Rabbit )	4.2 - 8.5 mg/L ( Rat ) 4 h

### 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 skin irritation.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Causes burns. Causes serious eye damage.
<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>	May cause respiratory irritation.
<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)	-	-

**Persistence and degradability** Not Likely.

**Bioaccumulation** Not likely to bioaccumulate.

**Bioconcentration factor (BCF)** log Pow <= 4

### Component Information

Chemical name	Partition coefficient
Acetonitrile 75-05-8	-0.34
Acetic Anhydride 108-24-7	-0.27

**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** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Dispose of in accordance with federal, state and local regulations. Do not reuse empty 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 Acetonitrile solution  
**Transport hazard class(es)** Class 3, (8)  
**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. Acetonitrile solution  
 Transport hazard class(es) Class 3, (8)  
 Packing group Packing Group II

**IMDG**  
 Regulated  
 UN number or ID number UN2924  
 UN proper shipping name Flammable liquid, corrosive, n.o.s. Acetonitrile solution  
 Transport hazard class(es) Class 3, (8)  
 Packing group Packing Group II  
 EmS-No. F-E, S-C

## 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/NDSL** 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/NDSL** - 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

**KECL** - 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 %
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Acetonitrile - 75-05-8	1.0
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**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	-
Acetic Anhydride 108-24-7	5000 lb	-	-	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
Acetic Anhydride 108-24-7	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
Acetic Anhydride 108-24-7	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)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation

**Revision date** 15-Jul-2024

**Revision Note** No information available

**Disclaimer**

The information provided herein is based on sources believed to be reliable as of the issue date of this document, and

pertains only to the material designated. Glen Research LLC makes no warranty or representation to its completeness, accuracy or currency. This material is intended for use by persons with the pertinent technical skills and at their discretion and risk. It is responsibility of the user to determine the product's suitability for its intended use, the product's safe use and the product's proper disposal. disposal of hazardous material may be subject to federal, state or local regulations.

**End of Safety Data Sheet**