

## 1. Product and Company Identification

Product Codes: 40-4020-XX  
Product Name: Cap Mix B  
Product Use: For Research Use Only  
Manufacturer Information  
Company Name: Glen Research LLC  
22825 Davis Drive, #100  
Sterling, VA 20164 USA  
+1-703-437-6191  
Phone Number:  
Web Site Address: www.glenresearch.com  
Email Address: msds@glenres.com  
Information in case of emergency Chemtrec, 800-424-9300; Outside USA +1-703-527-3887

## 2. Hazards Identification



**Pictograms:**

**Signal Words:** Danger

### GHS Hazard Statements

H225: Highly Flammable Liquid and Vapor.  
H301: Toxic if swallowed,  
H315: Causes skin irritation  
H319: Causes serious eye irritation.  
H311: Toxic in contact with skin.  
H335: May cause respiratory irritation.

### GHS Precautionary Statements

P103: Read label before use.  
P210: Keep away from heat/sparks/open flames/hot surfaces – No Smoking.  
P233: Keep container tightly closed.  
P260: Avoid breathing fumes or vapors.  
P270: Do not eat, drink or smoke when using this product.  
P271: Use only in a well ventilated area.  
P280: Wear protective gloves / protective clothing / eye protection / face protection.

### GHS Response Statements

P301+330: IF SWALLOWED: Rinse mouth with water.  
P302+350: IF ON SKIN: Gently wash with soap and water.  
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so - continue rinsing.  
P306+360: IF ON CLOTHING: Rinse contaminated clothing and skin immediately with plenty of water before removing clothes.  
P310: Immediately call a POISON CENTER or doctor/physician.  
P362: Take off contaminated clothing and wash before use.

### GHS Storage and Disposal Phrases

P403+233: Store in a well-ventilated place. Keep container tightly closed.  
P501: Dispose of contents / container in a safe way in accordance with all federal, state and local regulations.

### Emergency Overview

Flammable Liquid, Target organ effect, Toxic by ingestion, Toxic by skin absorption, Irritant.  
May form Explosive Peroxides.

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**Target Organs**

Kidney, Liver, Central Nervous System

**3. Composition/Information on Ingredients**

Product Name	CAS #	EC-No	Concentration	M.W.	Formula
Tetrahydrofuran	109-99-9	203-726-8	96.5%	72.11 g/mol	C <sub>4</sub> H <sub>8</sub> O
4-Dimethylaminopyridine	1122-58-3	214-353-5	6.5%	122.17 g/mol	C <sub>7</sub> H <sub>10</sub> N <sub>2</sub>

**4. First Aid Measures**

**Emergency and First Aid Procedures**

**If inhaled:**

Remove to fresh air.

If not breathing, give artificial respiration. Get medical attention.

**In case of skin contact:**

Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Wash clothing before reuse. Get medical attention.

**If swallowed:**

Rinse mouth with water. Do not induce vomiting. Keep the victim warm and quiet until medical help arrives.

Get medical attention.

**If in contact with eyes:**

Rinse cautiously with water for several minutes. Remove contact lenses if present and safe to do so.

Continue rinsing. Get medical attention.

**Signs and Symptoms of Exposure**

Acute exposure: Severe headache, Marked decrease in white blood cell count, Redness and inflammation of the eyes and eyelids, Coughing, Sneezing, Difficult breathing, Central Nervous System depression, anesthetic effects.

**Treatment**

Treat symptomatically.

**5. Fire Fighting Measures**

**Suitable Extinguishing Media**

Use a Class A Extinguisher (Dry chemical, carbon dioxide, water or foam). For large fires, apply water from as far away as possible. Use very large quantities of water applied as mist or spray. Cool all affected containers with flooding quantities of water.

**Special protective equipment for fire fighters**

Wear self-contained breathing apparatus (SCBA) for fire fighting if necessary.

Wear protective clothing to prevent contact with skin and eyes.

**Flammable Properties and Hazards**

Highly flammable liquid and vapor. Vapor may travel distances to sources of ignition.

**6. Accidental Release Measures**

**Personal Precautions**

Avoid breathing vapors. Evacuate personnel to safe areas.

**Protective equipment**

Use personal protective equipment. Avoid contact with skin, eyes, and clothing.

**Emergency procedures**

Remove all sources of ignition. Vapors may travel distances to sources of ignition. Ensure adequate ventilation.

**Methods and Material for containment and cleaning up.**

Absorb spillage with sand, absorbent pads. Do not let product enter the drain. Wear impermeable gloves, safety glasses and a lab coat when cleaning up the spill. Dispose of absorbent and spillage in compliance with local and state regulations.

**7. Handling and Storage**

**Precautions To Be Taken in Handling**

Handle using safe laboratory practices. Avoid all direct contact. Use explosion proof equipment. Keep

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away from sources of ignition – No Smoking. Take measures to prevent the build up of electrostatic charges.

**Recommended Storage**

Controlled room temperature.

**Precautions To Be Taken in Storing**

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

**Other Precautions**

Protect from sunlight.

**8. Exposure Controls/Personal Protection**

Product Name	CAS #	OSHA PEL (TWA)	ACGIH TLV	OSHA (STEL)
Tetrahydrofuran	109-99-9	200 ppm	50 ppm	250 ppm
4-Dimethylamipyridine	1122-58-3	N/A	N/A	N/A

**Engineering Controls (Ventilation etc.)**

Local exhaust ventilation is usually sufficient.

**Respiratory Equipment (Specify Type)**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Eye Protection**

Safety glasses with side shields. Wear splash resistant goggles or face shield if splashes are likely to occur.

**Protective Gloves**

Impermeable, chemically resistant gloves.

**Other Protective Clothing**

Lab coat, chemical resistant lab coat, protective chemical suit, based on risk assessment of activities.

**Work/Hygienic/Maintenance Practices**

Wash hands after handling. Do not eat, drink, or smoke when using this product.

**9. Physical and Chemical Properties**

Physical State:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Appearance:	Liquid, clear.
Odor:	Sweet, ether-like odor (Tetrahydrofuran)
Odor Threshold:	No data
pH:	No data
Melting Point:	No data
Initial Boiling Point and Boiling Range:	No data
Flash Point:	No data
Specific Gravity:	0.89g/mL
Evaporation Rate:	No data
Flammability:	Highly flammable
Explosive Limits:	LEL: No data UEL: No data
Vapor Pressure (vs. Air or mm Hg):	No data
Vapor Density (vs. Air = 1):	No data
Solubility in Water:	Fully soluble
Partition Coefficient (n-octanol/water):	Log Pow: No data
Auto-ignition Temperature:	No data
Decomposition Temperature:	No data
Viscosity:	No data
Percent Volatile:	No data

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**10. Stability and Reactivity**

**Reactivity**

Stable material, hazardous polymerization will not occur.

**Chemical Stability:** Unstable [ ] Stable [X]

**Possibility of Hazardous Reactions:**

Vapors may form explosive mixture with air.

**Conditions To Avoid - Instability**

Heat, flames, and sparks. Extremes of temperature and direct sunlight.

**Incompatibility - Materials To Avoid**

Oxidizing agents, Oxygen. May attack plastics, rubber, and coatings.

**Hazardous Decomposition or Byproducts**

Oxides of carbon, nitrogen. Contains BHT stabilizer

**11. Toxicological Information**

**Route(s) of Entry:**

Inhalation? Yes                      Skin? Yes      Eyes? Yes      Ingestion? Yes

**Acute Toxicity**

No data

**Skin corrosion/irritation**

Mild

**Serious eye damage/ eye irritation**

Serious eye irritation

**Respiratory or skin sensitization**

No data available

**Germ Cell mutagenicity**

No data available

**Carcinogenicity**

Product Name	CAS #	NTP	IARC	OSHA
Tetrahydrofuran	109-99-9	Not listed	Not listed	Not listed
4-Dimethylaminopyridine	1122-58-3	Not listed	Not listed	Not listed

Confirmed animal carcinogen with unknown relevance to humans (Tetrahydrofuran).

**Reproductive toxicity**

No data available

**Specific target organ toxicity – single exposure (GHS)**

May cause respiratory irritation

**Specific target organ toxicity – repeated exposure (GHS)**

No data available

**Aspiration hazard**

No

**Medical Conditions Generally Aggravated By Exposure**

No data available.

To the best of our knowledge, the toxicological properties of this substance have not been investigated. This product should be handled with the usual care when dealing with chemicals.

**12. Ecological Information**

**Ecotoxicity**

Pimephales promelas (fathead minnow) 96-hour LC50 2,160mg/L (Tetrahydrofuran)  
Danio rerio (Zebra fish) 96 hour LC50 11.6mg/L (4-Dimethylaminopyridine)

**Persistence and degradability**

No data available

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**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Other adverse effects**

No data available

**13. Disposal Considerations**

**Waste Disposal Method**

Observe all federal, state and local regulations. For Contaminated Packaging - dispose of in compliance with regulations. Contact a licensed professional waste disposal service for proper disposal. Burn in a chemical incinerator equipped with afterburner and scrubber.

**14. Transport Information**

**LAND TRANSPORT (49CFR)**

UN Number – UN1993, Class 3, Packing Group II

Proper Shipping Name: Flammable Liquid N.O.S. (Tetrahydrofuran, 4-Dimethylaminopyridine Solution)

Reportable Quantity (RQ) 1000 lbs

Marine Pollutant: No

Poison Inhalation Hazard (PIH): No

**AIR TRANSPORT (ICAO/IATA)**

UN Number – UN1993, Class 3, Packing Group II

Proper Shipping Name: Flammable Liquid N.O.S. (Tetrahydrofuran, 4-Dimethylaminopyridine Solution)

**MARINE TRANSPORT (IMDG/IMO)**

UN Number – UN1993, Class 3, Packing Group II, EMS-No: F-E, S-E

Proper Shipping Name: Flammable Liquid N.O.S. (Tetrahydrofuran, 4-Dimethylaminopyridine Solution)

Marine Pollutant: No

**15. Regulatory Information**

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

Not Listed

**SARA 311/312**

Fire Hazard, Acute Health Hazard

**Massachusetts Right to Know Components**

Tetrahydrofuran 109-99-9

**Pennsylvania Right to Know Components**

Tetrahydrofuran 109-99-9

4-Dimethylaminopyridine 1122-58-3

**New Jersey Right to Know Components**

Tetrahydrofuran 109-99-9

4-Dimethylaminopyridine 1122-58-3

**California Prop. 65 Components**

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

**16. Other Information**

For all other inquiries about this product contact Glen Research at 1-800-327-GLEN or 1-703-437-6191.

The information provided herein is based on sources believed to be reliable as of December 11, 2020 and pertains only to the material designated. Glen Research Corporation 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 the 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

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hazardous material may be subject to federal, state or local regulations.