



MSDS

Material Safety Data Sheet

Manufactured or**Distributed by:**

UIC, Inc.
PO Box 863
Joliet, IL 60434
815-727-5431

Emergency Numbers**In the US -****CHEMTREC: 1-800-424-9300****In Canada -****CANUTEC: 613-996-6666****Outside US and Canada -****Chemtrec: 703-527-3887**

Carbon Cathode Solution

1. Material Identification and Information

Synonyms: None**CAS No.:** None**Product Code:** UIC, Inc. Catalog Number CM300-001

2. Composition/Information on Ingredients

Hazardous Components 1% or greater; Carcinogens 0.1% or greater

COMPONENTS	CAS No.	Percent	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED
Dimethyl Sulfoxide	67-68-5	>75	ND	ND	ND
Monoethanolamine	141-43-5	1-10	(TWA) 3 PPM (STEL) 6 PPM	3 PPM 6 PPM	ND ND
Tetraethylammonium Bromide	71-91-0	1-10	ND	ND	ND

3. Hazards Identification

Inhalation:

Irritant to respiratory tract causing sore throat, coughing, nausea, and headache. Exposure to higher concentrations may cause pulmonary irritation or chemical pneumonia, kidney or liver damage leading to death. Tetraethylammonium bromide (TEAB) is considered toxic by inhalation.

Skin Absorption:

Irritant to skin causing redness and pain. Symptoms may parallel inhalation. Rapidly absorbed through skin accelerating the absorption of other materials including toxins. TEAB is considered toxic, and is listed as a potential mutagen by the manufacturer. Repeated exposure can result in allergic sensitization and dermatitis.

Eye Contact:

Vapors and contact cause severe irritation, burns, redness, pain, or blurred vision.

Ingestion:

May cause mucosal burns of the mouth and esophagus, abdominal pain, nausea, or vomiting. Large doses may cause bloody urine, kidney or liver damage, leading to systematic poisoning. TEAB is considered toxic if swallowed.

Signs and Symptoms of Exposure:

Irritation of respiratory system, skin or eyes, headache, nausea, dizziness, diarrhea.

Medical Conditions Aggravated by Exposure:

Pre-existing skin conditions, impaired liver, kidney, or pulmonary function.

4. First Aid Measures**Inhalation:**

Remove to fresh air immediately. If breathing has stopped, perform artificial respiration. If breathing is difficult, have qualified medical personnel administer oxygen, keep person warm and get medical attention.

Skin Absorption:

Remove contaminated clothing and wash before reuse. Flush skin with water for 15-20 minutes to remove all chemicals. Get immediate medical attention.

Eye Contact:

Flush eyes immediately with large amounts of water for 15-20 minutes, lifting upper and lower eyelids to remove all chemicals. Get immediate medical attention.

Ingestion:

Get immediate medical attention. Maintain airway and respiration. If vomiting occurs, keep head lower than hips to prevent aspiration.

5. Fire Fighting Measures

Flash Point: 93^o C (COC)

Auto Ignition Temperature: ND

Flammability Limits in Air % by Volume: ND

Extinguisher Media:

Water, foam, dry chemical, carbon dioxide.

Special Fire Fighting Procedures:

Wear full protective clothing and NIOSH-MSHA approved SCBA. Keep fire exposed containers cool with water spray.

Unusual Fire and Explosion Hazards:

Above the flash point, vapor-air mixture is explosive. Vapors heavier than air may flow along the ground to distant ignition sources and flashback.

6. Accidental Release Measures

Immediately contact environmental supervisor. Remove ignition sources and ventilate the area. Use protective clothing and equipment to prevent exposure when cleaning up.

7. Handling and Storage

Keep in a tightly closed container as solution absorbs carbon dioxide. Store in a cool, dry, well-ventilated location far from heat or ignition sources. Isolate from oxidizing agents. Avoid all contact and wear appropriate protective gear.

8. Exposure Controls/Personal Protection

Respiratory Protection:

Specific respirator selection based on contamination levels in the workplace with the levels not exceeding the working limit of the respirator. Must be jointly approved by NIOSH-MSHA.

Protective Gloves:

Butyl Rubber or appropriate to prevent contact.

Eye Protection:

Splash-proof safety goggles or full-face shield.

Ventilation to be Used:

Local or general dilution to meet exposure limits.

Other Protective Clothing:

Impervious clothing and equipment to prevent repeated or prolonged exposure, including boots, lab coat, aprons or face shield.

Hygienic Work Practices:

If there is possibility of skin or eye contact, an eyewash fountain or quick drench shower must be provided in the immediate work area. Wash skin or hands immediately after exposure. Do not drink, eat, or smoke in the laboratory.

9. Physical and Chemical Properties

Boiling Point:	140-190 ^o C	Specific Gravity:	1.09
Vapor Pressure:	0.46 @ 20 ^o C	Melting Point:	ND
Vapor Density:	2.7	Evaporation Rate:	4.3 (CCl4 = 1)
Solubility in Water:	Miscible	Water Reactive:	ND

Appearance: Color depends on pH: clear or light yellow when acidic, blue when basic.

Odor: Mild ripe olive, vegetable odor.

10. Stability and Reactivity

Stability	<input checked="" type="checkbox"/> Stable	Conditions to Avoid	None
	<input type="checkbox"/> Unstable		

Incompatible Materials:

Strong oxidizing agents, acids, alkali metals, and carbon dioxide.

Hazardous Decomposition Products:

Emits toxic oxides of nitrogen, carbon, sulfur, and ammonia, bromine, or bromine compounds when heated to decomposition. May produce formaldehyde and methyl mercaptan.

Hazardous Polymerization	<input checked="" type="checkbox"/> Will not Occur	Conditions to Avoid	None
	<input type="checkbox"/> May Occur		

11. Toxicological Information

Carcinogen Listed in NTP OSHA IARC Not Listed

Monoethanolamine (141-43-5): Oral rat LD50 = 1720 mg/kg; Inhalation mouse LC50 = 2420 mg/m³/2hr. Irritation Data: Skin rabbit – 505 mg moderate; Eye rabbit – 0.250 mg severe.

12. Ecological Information**Environmental Fate:**

This product has not been studied as a mixture.

13. Disposal Considerations

Contain spill with absorbent, do not allow material to enter streams or waterways. Place in a clean, dry container for disposal in an approved waste facility according to Federal, State and Local regulations.

14. Transport Information

Domestic (Land, D.O.T.): Not Regulated

International (Water, I.M.O.): Not Regulated

International (Air, I.C.A.O.): Not Regulated

15. Regulatory Information**Chemical Inventory Status**

<u>Ingredient</u>	<u>TSCA</u>	<u>EC</u>	<u>Japan</u>	<u>Australia</u>	<u>Korea</u>	<u>Phil</u>	<u>Canada</u>	
							<u>DSL</u>	<u>NDSL</u>
Dimethylsulfoxide (67-68-5)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Ethanolamine (141-43-5)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Tetraethylammonium Bromide (71-91-0)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No

Federal, State & International Regulations

	<u>SARA 302</u>		<u>SARA 313</u>		<u>CERCLA</u>	<u>RCRA 261.33</u>	<u>TSCA 8(d)</u>
	<u>RQ</u>	<u>TPQ</u>	<u>List</u>	<u>Chem Cat.</u>			
Dimethylsulfoxide (67-68-5)	No	No	No	No	No	No	No
Ethanolamine (141-43-5)	No	No	No	No	No	No	No
Tetraethylammonium Bromide (71-91-0)	No	No	No	No	No	No	No

Chemical Weapons Convention: No

16. Other Information

NFPA Ratings: Health: **3** Flammability: **2** Reactivity: **0**

Label Hazard Warning: WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. COMBUSTIBLE LIQUID AND VAPOR.

Product Use: Laboratory Reagent

UIC, Inc. has obtained the most current chemical information available to us in updating this Material Safety Data Sheet. However, users should always use caution when working with chemicals, as UIC, Inc. assumes no liability resulting from its use. Additionally, we make no warranty with respect to any information published on this sheet, either stated or implied.