

**SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Product Name:	BAM-FX
Chemical Name:	Proprietary mixture of copper and zinc sulfates
Guaranteed Analysis:	2% Copper and 7% Zinc
CAS Registration Number:	Proprietary
Product Use:	Fertilizer, Micronutrient
Manufacturer/Supplier:	BAM Agricultural Solutions, Inc. 190 NW Spanish River Blvd., Suite 101 Boca Raton, FL 33431-4217 Telephone: +1-561-416-0400
EMERGENCY PHONE #:	CHEMTREC: +1-800-424-9300
TECHNICAL INFORMATION:	www.bamagsolutions.com

SECTION 2. HAZARD IDENTIFICATION

Irritant



Corrosive

EMERGENCY OVERVIEW

Clear blue liquid complex of low pH and as such may pose eye injury hazards. Avoid eye contact.

SECTION 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Copper	2.00% (w/v)
Zinc	7.00% (w/v)
Sulfate (SO ₄)	15.00% (w/v)
Sulfuric Acid	0.50% (w/v)



SECTION 4. FIRST AID MEASURES

- Inhalation:** Remove from contaminated atmosphere. If breathing is labored, administer oxygen. If breathing has ceased, clear airway and start CPR. Obtain medical attention.
- Skin Contact:** Immediately flush with large quantities of water. Remove contaminated clothing under a safety shower. Continue rinsing. Obtain medical attention if irritation occurs and persists.
- Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes. Continue rinsing. Remove contact lenses, if present and easy to do. If eye irritation persists: Get medical advice/attention.
- Ingestion:** Rinse mouth. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. If victim is conscious, give two to four glasses of water and induce vomiting by touching finger to back of throat. Obtain medical attention.

SECTION 5. FIRE FIGHTING MEASURES

- Flammable Properties:** NFPA: Health – 1, Flammability – 0, Reactivity - 0
- Flash Point (Method):** Not Applicable
- Auto-Ignition Temperature:** Not Applicable
- Extinguishing Media:** Not flammable, use media suitable for combustibles involved in fire.
- Fire Fighting Procedures:** Do not wash material into streams, waterways or drainage ditches.
- Fire and Explosion Hazards:** Not flammable or explosive.
- Reactivity:** Not Reactive
- Hazardous Combustion Products:** Not Applicable

SECTION 6. ACCIDENTAL RELEASE MEASURES

Keep people away from any upwind of spill/leak. Keep out of low areas. Keep unnecessary personnel away. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

**Acid Spills (Hydrochloric or Sulfuric Acid)**

- Neutralize spills with Sodium Bicarbonate / Baking Soda $CHNaO_3$
- Wait until bubbling / fizzling has stopped
- When using a neutralizing spill kit, the kits are buffered and will not have a bubbling action. Be careful not to over-neutralize
- Test pH of the spill after the neutralization reaction has stopped with pH paper 5. Once pH is between 6 and 9, the material can be transferred into an appropriate secondary container for disposal
- Wipe all surfaces with a sponge and wash all of the material down the sink

SECTION 7. HANDLING AND STORAGE

Store at room temperature, closed in an air tight container and in well-ventilated areas. Product is a low-pH, metallic ion solution and is incompatible with aluminum, galvanized steel and carbonized steel. For storage and transportation, use **only high-density polyethylene (HDPE) plastic containers with caps** that seal to prevent leakage. **DO NOT** store in metal containers or allow coming in contact with metal fittings when concentrated.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:	Use with adequate ventilation.
Protective Clothing:	Use PPE.
Protective Equipment:	Wear eye protection, either safety goggles or full face shields. Wear vinyl gloves when working with concentrated product

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance/Odor:	Clear, light blue liquid, mild sweet odor
Boiling Point:	220 degrees F
Bulk Density:	11 pounds/gallon
Evaporation Rate:	Not determined
Freezing Point:	32 degrees F (0 Celsius) (Typical)
pH:	0.7 - 1.5
Vapor Pressure:	0.1 mm @ 68 degrees F
Vapor Density:	1.00
Solubility in Water:	100%, Complete
Viscosity:	Not Available
Melting Point:	Not Available
Decomposition Temperature	Not Available

**SECTION 10. STABILITY AND REACTIVITY**

Stability: This product is stable at normal conditions
Incompatibilities/Conditions to Avoid: Temperatures above 120°F (49°C) and below 32°F (0°C).

SECTION 11. TOXICOLOGICAL INFORMATION

Chronic / Carcinogenicity: Not listed in NTP, IARC or by OSHA
Skin Contact: Not Determined
Eye Contact: Not Determined

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity: Not Determined
Persistence and degradability: Not Determined
Bioaccumulative potential: No Data is available on the degradability of this product
Mobility in Soil: This product is not bioaccumulative
Other adverse effects: Not Determined

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Waste from residues / unused products: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner. Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Contaminated Packaging:

SECTION 14. TRANSPORT INFORMATION

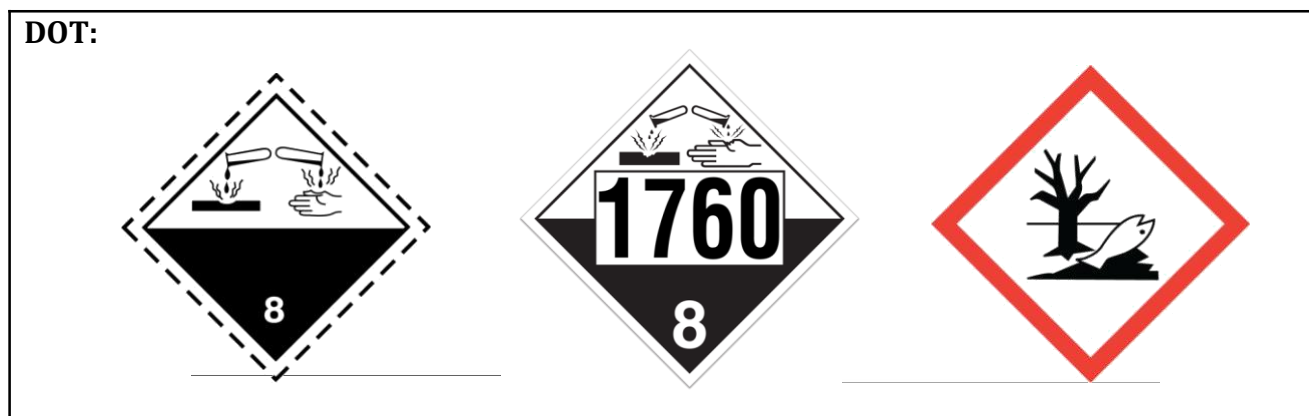
Note: The shipping classifications in this section (Section 14) are meant as a guide to the overall classification of the product. Consult shipping requirements under CFR, IATA and INDG to assure regulatory compliance.

US DOT: CFR 100-185 Revised September 17, 2015

UN/NA: UN1760, CORROSIVE LIQUID N.O.S (CUPRIC SULFATE, ZINC SULFATE) CLASS 8, PG III

SPECIAL PROVISIONS FOR TRANSPORT: additional markings “MARINE POLLUTANT” required for bulk shipments. The words “Marine Pollutant” must be entered on the shipping papers in association with the basic DOT description of bulk shipments.

DOT:



UNITED NATIONS:

UN/NA 1760

Shipping name: Corrosive liquid n.o.s. (cupric sulfate, zinc sulfate)

Required Labels: Class 8, PG III

Markings: This material is considered a Marine Pollutant by the IMO. MARINE POLLUTANT markings required when shipping by ground greater than 882 pounds single container or any quantity by water. Refer to IMO Amendment 36-12 Chapter 2.9 and 2.10

SECTION 15. REGULATORY INFORMATION


California Proposition 65 Warnings:



Copper sulfate pentahydrate and zinc sulfate are not listed on the California Proposition 65 chemical list.

Micronutrient Approvals/Registrations (State):	
California Department of Food and Agriculture	Company Registration # 347890
Florida Department of Agriculture and Consumer Affairs	Company Registration # F002148
Utah Department of Agriculture and Food	Company Registration # 107576
Office of The Texas State Chemist	Company Registration # 705904-2

WHIMS (Canada) Classification:	Liquid, corrosive to metal Category 1 Eye Irritation, Skin Irritation, 2B

NFPA	Fire	
	Health	Reactivity

ADR (Europe):	European # 80 corrosive UN # 1760, corrosive, liquid n.o.s.
	

Protective Equipment:		
		
Gloves	Splash Goggles	Vapor Respirator

SECTION 16. OTHER INFORMATION			
Major use:	Agricultural, plant micronutrient		
Prepared by:	BAM Agricultural Solutions, Inc. 190 NW Spanish River Blvd., Suite 101 Boca Raton, FL 33431-4217 Phone: +1-561-416-0400		
<p><i>The information in this Safety Data Sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. All information concerning this product and/or all suggestions for handling and use contained herein are offered in good faith and are believed to be reliable as of the date of publication. BAM Agricultural Solutions, however, makes no warranty as to the accuracy and/or sufficiency of such information and/or suggestions, as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. Nothing contained herein shall be construed as granting or extending any license under any patent. Buyer shall determine, for him/her self, by preliminary tests or otherwise, the suitability of this product for his/her purposes, including mixing with other products. The information contained herein supersedes all previously issued bulletins on the subject matter covered.</i></p>			
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