

**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  
CHEMTREC: +1-800-424-9300

**EMERGENCY PHONE #:**

**TECHNICAL INFORMATION:** [www.bamagsolutions.com](http://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 <sub>4</sub> ) | 15.00% (w/v) |
| Sulfuric Acid              | 0.50% (w/v)  |

**SECTION 4. FIRST AID MEASURES**

|                      |   |
|----------------------|---|
| <b>Inhalation:</b>   | Remove from contaminated atmosphere. If breathing is labored, administer oxygen. If breathing has ceased, clear airway and start CPR. Obtain medical attention.   |
| <b>Skin Contact:</b> | Immediately flush with large quantities of water. Remove contaminated clothing under a safety shower. Continue rinsing. Obtain medical attention if irritation occurs and persists.   |
| <b>Eye Contact:</b>  | 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.                                    |
| <b>Ingestion:</b>    | 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**

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

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

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

|  |   |
|--|---|
| <b>Physical State and Appearance/Odor:</b> | Clear, light blue liquid, mild sweet odor |
| <b>Boiling Point:</b>                      | 220 degrees F                             |
| <b>Bulk Density:</b>                       | 11 pounds/gallon                          |
| <b>Evaporation Rate:</b>                   | Not determined                            |
| <b>Freezing Point:</b>                     | 32 degrees F (0 Celsius) (Typical)        |
| <b>pH:</b>                                 | 0.7 - 1.5                                 |
| <b>Vapor Pressure:</b>                     | 0.1 mm @ 68 degrees F                     |
| <b>Vapor Density:</b>                      | 1.00                                      |
| <b>Solubility in Water:</b>                | 100%, Complete                            |
| <b>Viscosity:</b>                          | Not Available                             |
| <b>Melting Point:</b>                      | Not Available                             |
| <b>Decomposition Temperature</b>           | 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:** 1760 Corrosive, corrosive liquid n.o.s., 3077 Environmentally Hazardous Substance, n.o.s. (cupric sulfate), (zinc sulphate)

**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


**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.

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

|   |  |
|---|--|
| <b>WHIMS (Canada) Classification:</b>   | Liquid, corrosive to metal Category 1<br>Eye Irritation, Skin Irritation, 2B |
|  |  |

|             |   |            |
|-------------|---|------------|
| <b>NFPA</b> | <b>Fire</b>   |            |
| Health      |  | Reactivity |

|                      |  |
|----------------------|--|
| <b>ADR (Europe):</b> | European # 80 corrosive<br>UN # 1760, corrosive, liquid n.o.s. |
|                      |  |

|                              |                |                  |
|------------------------------|----------------|------------------|
| <b>Protective Equipment:</b> |                |                  |
|                              |                |                  |
| Gloves                       | Splash Goggles | Vapor Respirator |

|   |  |                       |                 |
|---|--|-----------------------|-----------------|
| <b>SECTION 16. OTHER INFORMATION</b>  |  |                       |                 |
| <b>Major use:</b>   | Agricultural, plant micronutrient  |                       |                 |
| <b>Prepared by:</b>   | <b>BAM Agricultural Solutions, Inc.</b><br><b>190 NW Spanish River Blvd., Suite 101</b><br><b>Boca Raton, FL 33431-4217</b><br><b>Phone: +1-561-416-0400</b> |                       |                 |
| <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> |  |                       |                 |
| <b>Date of First Issue:</b>   | May 28, 2014   | <b>Revision Date:</b> | August 24, 2018 |