

MATERIAL SAFETY DATA SHEET

MICRONUTRIENTS TBCC®

1. Product And Company Identification

Supplier

Micronutrients
1550 Research Way
Indianapolis, IN 46231

Company Contact: Ted Moore
Telephone Number: (317) 486-5880
Web Site: www.micronutrients.net

Manufacturer

Micronutrients
1550 Research Way
Indianapolis, IN 46231

Company Contact: Ted Moore
Telephone Number: (317) 486-5880
Web Site: www.micronutrients.net

Supplier Emergency Contacts & Phone Number

CHEMTREC: (800) 424-9300
Micronutrients: (317) 486-5880

Manufacturer Emergency Contacts & Phone Number

CHEMTREC: (800) 424-9300
Micronutrients: (317) 486-5880

Issue Date: 06/26/2007

Product Name: MICRONUTRIENTS TBCC®

CAS Number: 1332-40-7

Chemical Formula: $\text{Cu}_2(\text{OH})_3\text{Cl}$

MSDS Number: 182

Synonyms

BASIC COPPER CHLORIDE
COPPER OXYCHLORIDE
DICOPPER CHLORIDE TRIHYDROXIDE
TRIBASIC COPPER CHLORIDE

Product/Material Uses

SPECIAL NOTE: AUTHORIZED FOR USE IN ANIMAL FEED ONLY !

2. Composition/Information On Ingredients

Ingredient Name	CAS Number	Percent Of Total Weight
BASIC COPPER CHLORIDE	1332-40-7	100

3. Hazards Identification

Eye Hazards

Copper chloride compounds have been reported as causing eye irritation which may be an allergic reaction.

Skin Hazards

Copper chloride compounds have been reported as causing skin irritation which may be on an allergic basis. Discoloration of skin may occur but is not indicative of any injury or illness.

Ingestion Hazards

Can be toxic by ingestion. LD50 (rat) = 700 mg/kg

Inhalation Hazards

Can be toxic by inhalation. Inhalation of Copper dust has caused damage to red blood cells, liver, pancreas, and lung cells. As a sublimed oxide, copper may be responsible for metal fume fever.

4. First Aid Measures

Eye

Flush affected eyes with large amounts of water for at least 20 minutes. Contact an eye doctor if irritation or other problems develop.

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4. First Aid Measures - Continued

Skin

Immediately wash exposed skin with soap and large amounts of water.

Ingestion

Contact Poison Control Center and occupational physician immediately and follow their directions.

Inhalation

Remove person to fresh air immediately. Perform artificial respiration if necessary. Contact a physician.

5. Fire Fighting Measures

Fire And Explosion Hazards

Material is not considered to be combustible.

Material may melt with decomposition under fire conditions. Large concentrations of dust may contribute to a flammable or explosive mixture in air.

Extinguishing Media

Fire extinguishing media must be compatible with material that is burning.

Fire Fighting Instructions

Self contained breathing apparatus must be worn when fighting fires with copper compounds present.

6. Accidental Release Measures

Material is dry powder form. Lightly sweep or vacuum material to collect.

7. Handling And Storage

Handling And Storage Precautions

Store in cool dry place. Do not allow bags to become wetted or exposed to fire or extreme heat. When opening bags, wear personal protective equipment as indicated when ventilation is not adequate.

Work/Hygienic Practices

Practice good personal hygiene when handling material. Wash thoroughly if skin becomes contaminated. Separately wash soiled clothing as appropriate.

8. Exposure Controls/Personal Protection

Engineering Controls

Local or general area ventilation to keep concentrations of dust below the PEL. Consider engineering controls to collect dust where possible.

Eye/Face Protection

Chemical goggles should be required when opening or handling open bags of this material.

Skin Protection

Work uniforms or coveralls should be worn to prevent dust accumulation on street clothes. PVC gloves should be worn to prevent skin contact with hands when handling the material.

Respiratory Protection

Where adequate ventilation is not available, a NIOSH approved dust mask or air purifying respirator with at least N-95 protective filters should be worn when opening or handling open bags of this material.

Ingredient(s) - Exposure Limits

BASIC COPPER CHLORIDE

There is no TLV or PEL established specifically for Basic Copper Chloride. The following are those for Copper Dust:

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8. Exposure Controls/Personal Protection - Continued

Ingredient(s) - Exposure Limits - Continued

ACGIH 8 hr TLV: 1 mg/m³

OSHA 8 hr PEL: 1 mg/m³

9. Physical And Chemical Properties

Appearance

Fine, green particulate (typical particle size: 50-100 microns)

Chemical Type: Pure

Melting Point: 482 °F 250 °C

Specific Gravity: 3.4 - 3.6

Molecular Weight: 213.56

Packing Density: 105-115 lb/ft³

Solubility: insoluble in water

pH 6.9 in water measured by EPA Method SW846-9045

Material melts with decomposition.

Material soluble in ammonium hydroxide solutions.

Material soluble with decomposition in dilute acids.

10. Stability And Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur

Conditions To Avoid (Stability)

None known

Incompatible Materials

None known

Hazardous Decomposition Products

Will decompose with emissions of hydrogen chloride at 450 degrees centigrade.

11. Toxicological Information

Miscellaneous Toxicological Information

This material was subjected to a research study involving feeding this material to animals in varying concentrations greater than normal animal feed additive concentrations. The results of the study indicate that the animals were able to substitute this copper material for the copper supplement that they had been accustomed to being fed with no adverse health effects.

There is an excess of cancer in the copper smelting industry. In man, the ingestion of large amounts of copper compounds has caused vomiting, gastric pain, anemia, convulsions, shock, and death. Symptoms attributed to damage to the nervous system and kidney have been recorded.

12. Ecological Information

Other Environmental Information

No ecological effects known.

13. Disposal Considerations

Dispose of waste material in accordance with local, state, and federal regulations. Consider reclaiming or recycling material whenever possible.

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14. Transport Information

Proper Shipping Name

(Not regulated by U. S. DOT)

15. Regulatory Information

U.S. Regulatory Information

Basic Copper chloride is not on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory, as feed additives are not regulated under TSCA, per Section 3 (2)(B)(vi) of TSCA and Section 201(f) of the Federal Food, Drug, and Cosmetic Act (FFDCA).

This chemical is subject to the Tier I/Tier II reporting requirements of 40 CFR 370.25 if present and on-site in quantities equal to or exceeding 10,000 pounds.

Micronutrients TBCC is not regulated as a hazardous material under the U.S. DOT Regulations.

SARA Hazard Classes

Acute Health Hazard
Chronic Health Hazard

SARA Title III - Section 313 Form "R"/TRI Reportable Chemical

SARA Title III - Section 313 Supplier Notification

This product contains the following toxic chemicals that are subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372.

BASIC COPPER CHLORIDE (1332-40-7) 100 %

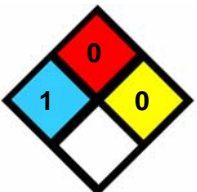
This information must be included on all MSDSs that are copied and distributed for this material.

SARA Section 313 Notification

Copper compounds are considered to be toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Ingredient(s) - U.S. Regulatory Information

BASIC COPPER CHLORIDE
SARA Title III - Section 313 Form "R"/TRI Reportable Chemical
SARA - Acute Health Hazard
SARA - Chronic Health Hazard

<u>NFPA</u>	<u>HMIS</u>								
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16. Other Information

Revision/Preparer Information

MSDS Preparer: Douglas A. Lozier
MSDS Preparer Phone Number: (317) 872-6010

Reference Documentation

Information based on research conducted by the University of Florida Institute of Food and Agricultural Sciences, "Hazardous Chemicals Desk Reference" by Sax and Lewis, RTECS of NIOSH, and Heritage

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16. Other Information - Continued

Reference Documentation - Continued

Research Group.

Other Information

Basic Copper Chloride is intended only for use as a source of copper in animal feeds. Other uses are not authorized.

Disclaimer

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

Micronutrients

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