Material Safety Data Sheet

Printed Date: 02/12/2010

Manufacturing & Supply, Inc. PO Box 2659 White City, Oregon 97503 USA Emergency Phone No. 541-826-5211 FAX No. 541-826-8669

Section I. Identification

Trade Name: CU-5, C30-100, CU30-125, CU50-125, CU93-140, CUP-8, CUP-64, CUP-100 Copper strip

Copper, UNS/CDA Alloy Nos. C11000 Synonyms:

Appearance: Red metallic solid at room temperature. Chemical Formula: Cu Molecular Weight: 63.54 g/mole

HMIS/NFPA Hazard Identification System:

Health: 2 Flammability: 1

Reactivity: 0 **Protective Code:** E

Section II: Composition and Information on Ingredients

| | | • | |
|-----------------|-----------------|--------------|---------------------|
| <u>Material</u> | <u>% by Wt.</u> | <u>CAS #</u> | OSHA Exposure Limit |
| Copper | 99-100 | 7440-50-8 | 0.05 mg/cu-meter |

Section III: Hazards Identification

Potential Acute Health Effects: Slightly hazardous in case of skin contact (irritant). Hazardous in case of eye contact (irritant). Very hazardous in case of ingestion.

Potential Chronic Health Effects: Slightly hazardous in case of skin contact (permeator). Carcinogenic Effects: N/A Mutagenic Effects: N/A **Developmental Toxicity: N/A**

The substance is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.

Section IV: First Aid Measures

Emergency & First Aid Procedures:

Eye Contact: Check for and remove any contact lenses. Do not use an eye ointment. Seek medical attention. Skin Contact: After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention. Ingestion: Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Section V: Fire and Explosion Hazard Data

Flammability of the Product: May be combustible at high temperature. Flash Points: N/A Flammable Limits: N/A Products of Combustion: Some metallic oxides. Fire Hazards in Presence of Various Substances: N/A Fire Fighting Media and Instructions: SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.



Section VI: Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV with local authorities.

Section VII: Handling and Storage

Precautions: Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe dust. Avoid contact with eyes Wear suitable protective clothing In case of insufficient ventilation, wear suitable respiratory equipment If you feel unwell, seek medical attention and show the label when possible. **Storage:** Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

Section VIII: Exposure controls/Personal protection

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: TWA: 1 (mg/m3) from ACGIH [1990] Consult local authorities for acceptable exposure limits.

Section IX Physical Data

Physical state and appearance: Solid.

Odor: Copper has slight distinct metallic odor to some individuals. <u>Taste:</u> Metallic. <u>Molecular Weight:</u> 63.54 g/mole <u>Color:</u> Reddish metallic sheen <u>pH (1% soln/water):</u> Not applicable. <u>Boiling Point:</u> 2595°C (4703°F) <u>Melting Point:</u> 1083°C (1981.4°F) <u>Critical Temperature:</u> N/A <u>Specific Gravity:</u> 8.94 (Water = 1) <u>Vapor Pressure:</u> Not applicable. <u>Vapor Density:</u> Not available. <u>Volatility:</u> Not available. <u>Solubility:</u> Insoluble in cold water

Section X: Reactivity and Stability Data

<u>Stability:</u> Stable <u>Incompatibility:</u> Reactive with strong oxidizers <u>Conditions to avoid:</u> Keep from contact with incompatible materials. <u>Hazardous Polymerization:</u> Will not occur.

Section XI: Toxicology Information

Routes of Entry: Absorbed through skin. Eye contact. Inhalation. Ingestion.

Toxicity to Animals: LD50: Not available. LC50: Not available.

<u>Chronic Effects on Humans</u>: The substance is toxic to lungs, mucous membranes.

Other Toxic Effects on Humans: Very hazardous in case of ingestion. Hazardous in case of inhalation. Slightly hazardous in case of skin contact (irritant).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Human: passes through the placenta, excreted in maternal milk.

Special Remarks on other Toxic Effects on Humans: Not available.

Section XII: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

<u>Products of Biodegradation</u>: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are as toxic as the original product.

Section XIII: Disposal Considerations

Waste Disposal: N/A

Section XIV: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Section XV: Other Regulatory Information

Federal and State Regulations:

Pennsylvania RTK: Copper

Massachusetts RTK: Copper

TSCA 8(b) inventory: Copper CERCLA: Hazardous substances.: Copper <u>Other Regulations:</u> OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR

1910.1200).

Other Classifications:

WHMIS (Canada): CLASS D-2A: Material causing other toxic effects (VERY TOXIC). DSCL (EEC): R36- Irritating to eyes.

HMIS (U.S.A.):

Health Hazard: 2Fire Hazard: 1Reactivity: 0Personal Protection: ENational Fire Protection Association (U.S.A.):Health: 2Health: 2Flammability: 1Reactivity: 0Specific hazard:

Protective Equipment: Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section VI: Other information

Date MSDS updated: 2-12-2010

Note: The information contained in this MSDS was obtained from sources that are believed to be reliable and represents the best information currently available to us. It is the users' responsibility to determine the suitability of this information for adoption of necessary safety precautions for their particular purposes. Corbin Manufacturing & Supply, Inc., its officers and directors, agents or assignees, do not assume responsibility and expressly disclaim liability for any loss, damage, or expense arising out of or in any way connected with the handling, storage, use, or disposal of the produt identified in this MSDS.