

# CuLox Technologies, Inc. - Safety Data Sheet

Product Name - Copper Powder / Flake 6000 Series

Created: July , 2012

Revised: March, 2019



## Section 1 - Identification

Trade Names:

CAS Numbers: See Section 3 – Composition / Information on Ingredients

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## Section 2 – Hazards identification

### 2.1 Classification of the substance or mixture

Skin sensitization

Category 1

Specific target organ toxicity (single exposure)

Category 1, Category 3

Category 1 digestive system

Category 3 Respiratory tract irritation

Pictograms



Signal word Danger

Hazard statements

H335 May cause respiratory irritation

H317 May cause an allergic skin reaction

H370 Causes damage to the following organs: digestive system

Precautionary statements

Protective gloves

Collect spillage

Dispose of contents/container in accordance with local/regional/national/international regulations

Results of PBT and vPvB assessment

PBT: Not applicable vPvB: Not applicable

### 2.2 Label elements

Labeling according to Regulation (EC) No 1272/2008

The substance is classified and labeled according to the CLP regulation

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## SECTION 3 - COMPOSITION / INFORMATION on INGREDIENTS

### 3.1 Substances

<b>Name of Product:</b>	Copper Powder
<b>CAS No.:</b>	7440-50-8
<b>EC No.:</b>	231-159-6
<b>Purity:</b>	Typically 99.8
<b>MW:</b>	63.55
<b>Formula:</b>	Cu

## Section – 4 First Aid Measures

### 4.1 Description of first aid measures

#### General information:

In all cases of doubt call in a physician

Take affected persons out into fresh air

Take affected persons out of danger area and lay down

#### In case of inhalation:

Remove person to fresh air. May administer Oxygen, if breathing is difficult. Seek immediate medical attention.

#### In case of skin contact:

Wash with plenty of water and soap and rinse thoroughly. Remove contaminated clothing and shoes. If Skin irritation or rash occurs, get medical advice/attention.

#### In case of eye contact:

Immediately flush eyes with plenty of water for at least 15 minutes. Occasionally lift the upper and lower eyelids. Check for and remove any contact lenses.

#### In case of ingestion:

Contact a physician or Poison Control Centre immediately! DO NOT induce vomiting.

Self-protection at first aid:

Avoid substance contact.

### 4.2 Most important symptoms and effects, both acute and delayed

Not available

### 4.3 Indication of any immediate medical attention and special treatment needed

Not available

## Section 5 – Firefighting Measures

### 5.1 Extinguishing media

Suitable extinguishing agents:

Dry chemical, class D fire extinguishers using Sodium chloride are preferable.

Unsuitable extinguishing agents:

Water

### 5.2 Special hazards arising from the substance or mixture

Is not considered flammable. However, this material may, present a low dust explosion hazard. Copper powder with particle size in the 50 µm size range is classified as weakly explosive by the US Bureau of Mines report RI-6516. When present as a dust cloud, the material will not readily explode and is not easily ignited by sparks.

### 5.3 Advice for firefighters

Do not enter fire area without proper protection. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece. Move containers from fire area if it can be done without risk. Water spray may ONLY be useful in cooling equipment exposed to heat and flame.

## Section 6 - Accidental Release Measure

### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency responders

Avoid substance contact. Avoid inhalation of dust. Provide sufficient ventilation

For emergency responders

For suitable protective equipment, refer to Section 8

### 6.2 Environmental precautions

Do not let enter drains, prevent release to the environment

### 6.3 Methods and material for containment and cleaning up

Eliminate all source of ignition. Ventilate area of release. Stop leak if you can do so without risk. Collect spills by sweeping or vacuuming with vacuum exhaust passing through a high efficiency particulate arresting (HEPA) filter. Avoid generating dust. Contaminated absorbent material may pose the same hazards as the spilled product.

### 6.4 Reference to other sections

Refer to Section 8 and 13

## Section 7 - Handling and Storage

### 7.1 Precautions for safe handling

This material is a harmful solid. Wear suitable protective equipment for dusty conditions during handling. Avoid breathing dusts or fumes. Avoid contact with eyes, skin and clothing. Keep away from extreme heat and flame. Avoid and control operations, which create dust. Keep away from oxidizing materials and other incompatibles. Avoid exposure to air and moisture. Keep container tightly closed when not in use Assume

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empty containers contain residues, which are hazardous. Wash hands before eating, drinking, smoking or use of toilet facilities. Immediately remove soiled clothing and wash it thoroughly before reuse.

## 7.2 Conditions for safe storage

Store in a cool dry well-ventilated area away from heat, flames and incompatible materials. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.

## Section 8 – Exposure Controls Personal Protection

### 8.1 Control parameters

Use adequate ventilation to maintain air contaminants below exposure limits. Local or exhaust ventilation recommended for prolonged exposures or if the TLV is not known.

### 8.2 Exposure guidelines

	Fume	Dust and Mist
ACGIH TLV	0.2mg/m <sup>2</sup>	1 mg/m <sup>3</sup> (As Cu)
OSHA PEL	0.1 mg/m <sup>3</sup> . as Cu	1 mg/m <sup>3</sup> (As Cu)
OES Long term value	0.2 ppm	1 mg/m <sup>3</sup> 1 ppm
DNELs	Long term 0.041mg/kg bw/d (human)	Short term 0.082mg/kg bw/d (human)
PNECs		
STP	230 g/l (environmental)	
Sediment estuarine	288 mg/kg dry weight (environmental)	
Sediment freshwater	87 mg/kg dry weight (environmental)	
Sediment marine	676 mg/kg dry weight (environmental)	
Soil	65.5 mg/kg dry weight (environmental)	
Fresh Water	7.8 µg / (environmental) (dissolved Cu)	
Marine Water	75.2 µg / (environmental) (dissolved Cu)	

### 8.3 Personal Protective

General protection:	Do not eat, drink, smoke or sniff while working. Keep away from foodstuffs, beverages and feed. Wash hands before breaks and at end of work.
Skin protection:	Protective gloves impervious to the material should be worn during use. Advice should be sought from glove suppliers. Additional protective clothing, such as long sleeve shirts and/or coverall, is recommended. An eyewash station and safety shower should be available in the immediate working area
Respiratory protection:	Respiratory protection is required if the airborne concentration exceeds the TLV. Use NIOSH-approved respirators suitable for dust
Eye protection:	Use chemical goggles to prevent dust from entering the eyes.

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## Section 9 – Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

Appearance:	Solid, powder-reddish brown
Odor:	Odorless
Molecular weight:	63.54
Chemical Formula:	Cu
Melting point:	1083° C
Initial boiling point:	2595° C
Flash point:	700° C
Evaporation rate:	Not Applicable
Flammability:	Non Flammable
Upper/lower flammability or explosive	Non explosive
Vapor pressure	1 @ 1628° C
Vapor density:	Not Applicable
Specific gravity	8.9 gm/cm <sup>3</sup>
Solubility in Water:	Insoluble

## Section 10 – Stability and Reactivity

### 10.1 Chemical stability

The product is stable under the prescribed and recommended storage / handling conditions. May turn green on prolonged contact with moist air; due to formation of cupric carbonate.

### 10.2 Hazardous decomposition products

None known.

### 10.3 Incompatible materials

Acetylene, strong oxidizing material (e.g. chlorates, bromates, iodates, ammonium nitrate, hydrogen peroxide, sodium azide), chlorine, fluorine, 1-bromo-2-propyne, potassium dioxide

## Section 11 – Toxicological Information

### 11.1 Carcinogenicity

None of the ingredients listed are classified by IARC, ACGIH, NTP or OSHA as carcinogenic.

### 11.2 Reproductive effects, Teratogenicity, Mutagenicity

None known

### 11.3 Sensitization to material

May cause allergic contact dermatitis in hypersensitive individuals. Symptoms may include itching, redness, swelling and pustulation.

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## Section 12 – Ecological Information

### 12.1 Toxicity

In their intended manner of use, these products should not be released into the environment, and adverse effects on ecosystems are not anticipated under recommended conditions of use, storage, and disposal.

### 12.2 Results of PBT and vPvB assessment - Not applicable

## Section 13 – Disposal Considerations

### 13.1 Waste treatment methods

Dispose of all chemical wastes at an appropriate waste disposal facility. Follow all local, state, and federal regulations for disposal of waste chemicals.

### 13.2 European waste catalogue

12 01 04 non-ferrous metal dust particles

## Section 14 – Transportation Information

### 14.1 Land transportation ARD/RID (cross border)

ADR/RID Class	Not regulated
Un Number	-
Packaging Group	
Hazard Label	
Marine pollutant	Not applicable

### 14.2 Maritime transport IMDG

IMDG Class	Not regulated
Un Number	-
Packaging Group	
Hazard Label	
Marine Pollutant (Sea)	Not applicable

### 14.3 Air transport ICAO-TI and IATA-DGR

ICAO / IATA Class	Not regulated
Un Number	-
Packaging Group	
Hazard Label	
Marine Pollutant	Not applicable

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## 14.4 Transport in bulk according to Annex II of Marpol 73/78 and IBC Code

Not applicable

## Section 15 – Regulatory Information

### 15.1 TSCA Inventory

All ingredients are listed.

### 15.2 SARA Title III / SARA and 40 CFR, Part 372

This product is regulated as a toxic chemical under section 313

### 15.3 California proposition 65 list

This product is not regulated.

### 15.4 New Jersey Right-to-Know Law

The contents are partially known.

### 15.5 WHMIS Classification (Canada)

Class D2B (Material Causing Other Toxic Effects, Toxic Material) .

## Section 16 – Regulatory Information

H, Health =1

F, Flammability = 0

R, Reactivity = 0

Personal Protection = C

The information supplied herein follows the guidelines of GHS and OSHA Hazard Communication Standard 29 CFR 1910.1200, and to the best of our knowledge, is accurate and complete. The recommended hygiene and handling practices are believed to be appropriate for the use of this material. However, it is up to the end user to review this information and establish their own procedures and guidelines, based upon their particular application(s). CuLox Technologies, Inc. assumes no responsibility for damage or injury resulting from the end use of this product.