



# Fisher Scientific

Part of Thermo Fisher Scientific

## SAFETY DATA SHEET

Creation Date 28-Jul-2014

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Revision Number 2

### 1. Identification

**Product Name** Copper, Powder (Laboratory)

**Cat No. :** C434-500

**Synonyms** None.

**Recommended Use** Laboratory chemicals.

**Uses advised against** No Information available

**Details of the supplier of the safety data sheet**

**Company**

Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

**Emergency Telephone Number**

CHEMTREC®, Inside the USA: 800-424-9300  
CHEMTREC®, Outside the USA: 001-703-527-3887

### 2. Hazard(s) identification

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|  |            |
|--|------------|
| Flammable solids                                     | Category 2 |
| Acute oral toxicity                                  | Category 4 |
| Acute Inhalation Toxicity - Dusts and Mists          | Category 3 |
| Skin Corrosion/irritation                            | Category 2 |
| Serious Eye Damage/Eye Irritation                    | Category 2 |
| Specific target organ toxicity (single exposure)     | Category 3 |
| Target Organs - Respiratory system.                  |            |
| Specific target organ toxicity - (repeated exposure) | Category 2 |
| Target Organs - Liver, Kidney.                       |            |

**Label Elements**

**Signal Word**

Danger

**Hazard Statements**

Flammable solid  
Toxic if inhaled  
Harmful if swallowed  
Causes serious eye irritation  
Causes skin irritation  
May cause respiratory irritation  
May cause damage to organs through prolonged or repeated exposure



### Precautionary Statements

#### Prevention

Wash face, hands and any exposed skin thoroughly after handling  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ventilating/lighting/equipment  
 Do not eat, drink or smoke when using this product

#### Response

Get medical attention/advice if you feel unwell

#### Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Call a POISON CENTER or doctor/physician

#### Skin

IF ON SKIN: Wash with plenty of soap and water  
 If skin irritation occurs: Get medical advice/attention  
 Take off contaminated clothing and wash before reuse

#### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention

#### Ingestion

Rinse mouth  
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

#### Fire

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

#### Storage

Store in a well-ventilated place. Keep container tightly closed  
 Store locked up

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

May form combustible dust concentrations in air  
 Very toxic to aquatic life with long lasting effects

### 3. Composition / information on ingredients

| Component | CAS-No    | Weight % |
|-----------|-----------|----------|
| Copper    | 7440-50-8 | 100      |

### 4. First-aid measures

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
 Obtain medical attention.

#### Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

|   |   |
|---|---|
| <b>Inhalation</b>   | Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. |
| <b>Ingestion</b>  | Do not induce vomiting. Call a physician or Poison Control Center immediately.  |
| <b>Most important symptoms/effects<br/>Notes to Physician</b> | No information available.<br>Treat symptomatically  |

## 5. Fire-fighting measures

|   |  |
|---|--|
| <b>Suitable Extinguishing Media</b>     | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| <b>Unsuitable Extinguishing Media</b>   | No information available   |
| <b>Flash Point</b>                      | Not applicable   |
| <b>Method -</b>                         | No information available   |
| <b>Autoignition Temperature</b>         | No information available   |
| <b>Explosion Limits</b>                 |  |
| <b>Upper</b>                            | No data available  |
| <b>Lower</b>                            | No data available  |
| <b>Sensitivity to Mechanical Impact</b> | No information available   |
| <b>Sensitivity to Static Discharge</b>  | No information available   |

### Specific Hazards Arising from the Chemical

Flammable. Dust can form an explosive mixture in air. Fine dust dispersed in air may ignite. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

### Hazardous Combustion Products

Copper oxides

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### NFPA

| Health | Flammability | Instability | Physical hazards |
|--------|--------------|-------------|------------------|
| 2      | 2            | 1           | N/A              |

## 6. Accidental release measures

|   |   |
|---|---|
| <b>Personal Precautions</b>                 | Use personal protective equipment. Remove all sources of ignition. Avoid dust formation. Avoid contact with skin, eyes and clothing. Avoid inhalation of the product. Keep people away from and upwind of spill/leak. |
| <b>Environmental Precautions</b>            | Should not be released into the environment. See Section 12 for additional ecological information.  |
| <b>Methods for Containment and Clean Up</b> | Remove all sources of ignition. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.  |

## 7. Handling and storage

|                 |   |
|-----------------|---|
| <b>Handling</b> | Wear personal protective equipment. Ensure adequate ventilation. Use spark-proof tools and explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Avoid dust formation. |
| <b>Storage</b>  | Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Flammables area.  |

## 8. Exposure controls / personal protection

### Exposure Guidelines

| Component | ACGIH TLV  | OSHA PEL   | NIOSH IDLH  |
|-----------|--|--|---|
| Copper    | TWA: 0.2 mg/m <sup>3</sup><br>TWA: 1 mg/m <sup>3</sup> | (Vacated) TWA: 0.1 mg/m <sup>3</sup><br>TWA: 0.1 mg/m <sup>3</sup><br>TWA: 1 mg/m <sup>3</sup> | IDLH: 100 mg/m <sup>3</sup><br>TWA: 1 mg/m <sup>3</sup><br>TWA: 0.1 mg/m <sup>3</sup> |
| Component | Quebec   | Mexico OEL (TWA)   | Ontario TWAEV   |
| Copper    | TWA: 0.2 mg/m <sup>3</sup><br>TWA: 1 mg/m <sup>3</sup> | TWA: 0.2 mg/m <sup>3</sup><br>TWA: 1 mg/m <sup>3</sup><br>STEL: 2 mg/m <sup>3</sup>            | TWA: 0.2 mg/m <sup>3</sup><br>TWA: 1 mg/m <sup>3</sup>                                |

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

### Engineering Measures

Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal Protective Equipment

#### Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

#### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

#### Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

|  |                          |
|--|--------------------------|
| Physical State                         | Powder Solid             |
| Appearance                             | Red brown                |
| Odor                                   | Odorless                 |
| Odor Threshold                         | No information available |
| pH                                     | No information available |
| Melting Point/Range                    | 1083 °C / 1981.4 °F      |
| Boiling Point/Range                    | 2595 °C / 4703 °F        |
| Flash Point                            | Not applicable           |
| Evaporation Rate                       | No information available |
| Flammability (solid,gas)               | No information available |
| Flammability or explosive limits       |                          |
| Upper                                  | No data available        |
| Lower                                  | No data available        |
| Vapor Pressure                         | 1 mmHg @ 1628 °C         |
| Vapor Density                          | No information available |
| Specific Gravity                       | 8.92                     |
| Solubility                             | Insoluble in water       |
| Partition coefficient; n-octanol/water | No data available        |
| Autoignition Temperature               | No information available |
| Decomposition Temperature              | No information available |
| Viscosity                              | No information available |
| Molecular Formula                      | Cu                       |

Molecular Weight 63.54

## 10. Stability and reactivity

|   |   |
|---|---|
| <b>Reactive Hazard</b>                  | None known, based on information available  |
| <b>Stability</b>                        | Moisture sensitive. Air sensitive.  |
| <b>Conditions to Avoid</b>              | Avoid dust formation. Incompatible products. Exposure to air. Exposure to moisture. Keep away from open flames, hot surfaces and sources of ignition. |
| <b>Incompatible Materials</b>           | Strong oxidizing agents   |
| <b>Hazardous Decomposition Products</b> | Copper oxides   |
| <b>Hazardous Polymerization</b>         | Hazardous polymerization does not occur.  |
| <b>Hazardous Reactions</b>              | None under normal processing.   |

## 11. Toxicological information

### Acute Toxicity

|  |   |
|--|---|
| <b>Product Information</b>   | The toxicological properties have not been fully investigated |
| <b>LD50 Oral VALUE</b>   | 472 mg/kg (Rat)   |
| <b>LC50 Inhalation (DUST) VALUE</b>  | 0.73 mg/l (male rats)   |
| <b>Component Information</b>   |   |
| <b>Toxicologically Synergistic Products</b>  | No information available                                      |
| <b><u>Delayed and immediate effects as well as chronic effects from short and long-term exposure</u></b> |   |

|                        |  |
|------------------------|--|
| <b>Irritation</b>      | Irritating to eyes, respiratory system and skin  |
| <b>Sensitization</b>   | No information available   |
| <b>Carcinogenicity</b> | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component | CAS-No    | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|-----------|-----------|------------|------------|------------|------------|------------|
| Copper    | 7440-50-8 | Not listed |

**Mutagenic Effects** Mutagenic effects have occurred in microorganisms.

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** Respiratory system

**STOT - repeated exposure** Liver Kidney

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** No information available

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

| Component | Freshwater Algae   | Freshwater Fish  | Microtox   | Water Flea                                       |
|-----------|--|--|------------|--|
| Copper    | 0.0426-0.0535 mg/L EC50<br>72 h<br>0.031-0.054 mg/L EC50 96<br>h | Onchorhynchys mykiss:<br>LC50=0.15 mg/L 96h<br>Cuprinus carpio: LC50=0.8<br>mg/L 96h | Not listed | EC50: = 0.03 mg/L, 48h<br>Static (Daphnia magna) |

**Persistence and Degradability** No information available

**Bioaccumulation/ Accumulation** No information available.

**Mobility** No information available.

### 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information

#### DOT

**UN-No** UN3089  
**Proper Shipping Name** METAL POWDERS, FLAMMABLE, N.O.S.  
**Proper technical name** (COPPER)  
**Hazard Class** 4.1  
**Packing Group** III

#### TDG

**UN-No** UN3089  
**Proper Shipping Name** METAL POWDERS, FLAMMABLE, N.O.S.  
**Hazard Class** 4.1  
**Packing Group** III

#### IATA

**UN-No** UN3089  
**Proper Shipping Name** METAL POWDERS, FLAMMABLE, N.O.S.  
**Hazard Class** 4.1  
**Packing Group** III

#### IMDG/IMO

**UN-No** UN3089  
**Proper Shipping Name** METAL POWDERS, FLAMMABLE, N.O.S.  
**Hazard Class** 4.1  
**Packing Group** III

### 15. Regulatory information

All of the components in the product are on the following Inventory lists: Australia China Canada Europe TSCA Korea Philippines

#### International Inventories

| Component | TSCA | DSL | NDSL | EINECS    | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|-----------|------|-----|------|-----------|--------|-----|-------|------|------|-------|------|
| Copper    | X    | X   | -    | 231-159-6 | -      |     | X     | -    | X    | X     | X    |

#### Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

### U.S. Federal Regulations

TSCA 12(b) Not applicable

#### SARA 313

| Component | CAS-No    | Weight % | SARA 313 - Threshold Values % |
|-----------|-----------|----------|-------------------------------|
| Copper    | 7440-50-8 | 100      | 1.0                           |

#### SARA 311/312 Hazard Categories

|                                   |     |
|-----------------------------------|-----|
| Acute Health Hazard               | Yes |
| Chronic Health Hazard             | Yes |
| Fire Hazard                       | Yes |
| Sudden Release of Pressure Hazard | No  |
| Reactive Hazard                   | No  |

#### CWA (Clean Water Act)

| Component | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|-----------|----------------------------|-----------------------------|------------------------|---------------------------|
| Copper    | -                          | -                           | X                      | X                         |

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration  
Not applicable

#### CERCLA

| Component | Hazardous Substances RQs | CERCLA EHS RQs |
|-----------|--------------------------|----------------|
| Copper    | 5000 lb                  | -              |

California Proposition 65 This product does not contain any Proposition 65 chemicals

#### U.S. State Right-to-Know Regulations

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-----------|---------------|------------|--------------|----------|--------------|
| Copper    | X             | X          | X            | X        | X            |

#### U.S. Department of Transportation

|                             |   |
|-----------------------------|---|
| Reportable Quantity (RQ):   | N |
| DOT Marine Pollutant        | N |
| DOT Severe Marine Pollutant | Y |

#### U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

### Other International Regulations

Mexico - Grade No information available

#### Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class B4 Flammable solid  
D1B Toxic materials

D2B Toxic materials



## 16. Other information

|                         |  |
|-------------------------|--|
| <b>Prepared By</b>      | Regulatory Affairs<br>Thermo Fisher Scientific<br>Email: EMSDS.RA@thermofisher.com   |
| <b>Creation Date</b>    | 28-Jul-2014  |
| <b>Revision Date</b>    | 11-Jul-2016  |
| <b>Print Date</b>       | 11-Jul-2016  |
| <b>Revision Summary</b> | This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) |

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**