

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

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### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name : Copper

Product Number : 12816  
Brand : Aldrich

Company : Sigma-Aldrich Company Ltd.  
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### 2. HAZARDS IDENTIFICATION

This substance is not classified as dangerous according to Directive 67/548/EEC.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : Cu  
Molecular Weight : 63.55 g/mol

CAS-No.	EC-No.	Index-No.	Classification	Concentration
<b>Copper</b>				
7440-50-8	231-159-6	-	-	-

### 4. FIRST AID MEASURES

#### If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration

#### In case of skin contact

Wash off with soap and plenty of water.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

### 5. FIRE-FIGHTING MEASURES

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

Avoid dust formation.

### Methods for cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

## 7. HANDLING AND STORAGE

### Handling

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

### Storage

Keep container tightly closed in a dry and well-ventilated place. Store in cool place.

Store under inert gas. Air sensitive.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Copper	7440-50-8	TWA	1 mg/m3	2005-04-06	EH40 Occupational Exposure Limits
		STEL	2 mg/m3	2005-04-06	EH40 Occupational Exposure Limits

### Personal protective equipment

#### Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

For prolonged or repeated contact use protective gloves.

#### Eye protection

Safety glasses

#### Hygiene measures

General industrial hygiene practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form                      Foil  
Colour                    light red

### Safety data

pH                              no data available  
Melting point              1,083.4 °C  
Boiling point               2,567 °C  
  
Flash point                  no data available  
Ignition temperature      no data available

Lower explosion limit	no data available
Upper explosion limit	no data available
Density	8.940 g/cm3
Water solubility	no data available

## 10. STABILITY AND REACTIVITY

### Storage stability

Stable under recommended storage conditions.

### Materials to avoid

Strong acids, Strong oxidizing agents, Acid chlorides, Halogens

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Copper oxides

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

LD50 Intraperitoneal - mouse - 3.5 mg/kg

### Irritation and corrosion

no data available

### Sensitisation

no data available

### Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

### Signs and Symptoms of Exposure

Symptoms of systemic copper poisoning may include: capillary damage, headache, cold sweat, weak pulse, and kidney and liver damage, central nervous system excitation followed by depression, jaundice, convulsions, paralysis, and coma. Death may occur from shock or renal failure. Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has lead to hemolytic anemia and accelerates arteriosclerosis.

### Potential Health Effects

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.
<b>Ingestion</b>	May be harmful if swallowed.

### Additional Information

RTECS: GL5325000

## 12. ECOLOGICAL INFORMATION

### Elimination information (persistence and degradability)

Bioaccumulation	Cyprinus carpio (Carp) - 40 d Bioconcentration factor (BCF): 108
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**Ecotoxicity effects**

Toxicity to fish                      mortality LOEC - Oncorhynchus mykiss (rainbow trout) - 0.022 mg/l - 96 h

Toxicity to daphnia                mortality NOEC - Daphnia - 0.004 mg/l - 24 h  
and other aquatic  
invertebrates.

mortality LOEC - Daphnia - 0.006 mg/l - 24 h

**Further information on ecology**

Avoid release to the environment.

**13. DISPOSAL CONSIDERATIONS****Product**

Observe all federal, state, and local environmental regulations.

**Contaminated packaging**

Dispose of as unused product.

**14. TRANSPORT INFORMATION****ADR/RID**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

**15. REGULATORY INFORMATION****Labelling according to EC Directives**

Further information:

The product does not need to be labelled in accordance with EC directives or respective national laws.

**16. OTHER INFORMATION****Further information**

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