

Safety Data Sheet

Copper powder

Revision Date: 8/29/2016

Date Issued: 4/6/2018

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

Product name	Copper powder
Product code	NM-0044
CAS	7440-50-8
REACH No. :	A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
Identified uses	Laboratory chemicals, Manufacture of substances
Supplier	IoLiTec Ionic Liquids Technologies GmbH Salzstrasse 184 D – 74076 Heilbronn Germany
Telephone	+49 (0)7131-89839-0
Fax	+49 (0)7131-89839-109
Emergency telephone	+49 (0)176-84850874
Email	msds@iolitec.de

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable solids, Category 1, H228

Reproductive toxicity FD, Category 2, H361fd

Hazardous to the aquatic environment, Acute Category 1; H400

Hazardous to the aquatic environment, Chronic Category 1; H410

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Classification (67/548/EEC or 1999/45/EC)

Flammable solid. Very toxic to aquatic organisms.

Classification (67/548/EEC or 1999/45/EC)

Flammable metal powder

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008, GHS)

Pictogram



Signal word

Danger

Hazard statement(s)

H228

Flammable solid.

H361fd

Suspected of damaging fertility. Suspected of damaging the unborn child.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P210

Keep away from heat/sparks/open flames/hot surfaces . - No smoking.

P261

Avoid breathing dust/fume .

P273

Avoid release to the environment.

P280

Wear protectic gloves/ protective clothing/ eye protection/ face protection.

P370 + P378

In case of fire: Use sand or fire extinguisher class D for extinction.

P422

Store contents under inert gas.

Caution - substance not yet tested completely.

Supplemental Hazard Statements none

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Labelling (67/548/EEC or 1999/45/EC)

Hazard symbol(s)



R-phrase(s)

R11	Highly flammable.
R50	Very toxic to aquatic organisms.
R62	Possible risk of impaired fertility.
R63	Possible risk of harm to the unborn child.

S-phrase(s)

S7	Keep container tightly closed.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33	Take precautionary measures against static discharges.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S43	In case of fire, use sand or fire extinguisher class D, Never use water.
S60	This material and its container must be disposed of as hazardous waste.

Caution - substance not yet tested completely.

3 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient name	Contents	Health(Class)	Risk(R/No.)
Copper	99.9%		Substance not yet fully tested!
Formula	Molecular Weight		
Cu	63.55 g/mol		

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4 FIRST AID MEASURES

General	Contaminated clothing should be removed and washed before being reused.
Inhalation	Move the exposed person to fresh air at once. If respiratory problems, artificial respiration/oxygen.
Ingestion	Immediately rinse mouth and provide fresh air. Get medical attention immediately.
Skin	Wash the skin immediately with water.
Eyes	Promptly wash eyes with plenty of water while lifting the eye lids. Get medical attention immediately. Continue to rinse for at least 15 minutes.

5 FIRE FIGHTING MEASURES

Extinguishing media	Use: Dry chemical powder. Do not use water.
Special risks	Flammable powder. Emission of toxic fumes under fire conditions possible.
Protective measures in fire	Wear self-contained breathing apparatus and protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions during spill	Evacuate area. Shut off all heat or ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Wear self-contained breathing apparatus, rubber boots and gloves.
Spill cleanup methods	Avoid contact with skin or inhalation of spillage, dust or vapor, Avoid dust formation.

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Collect and reclaim or dispose in sealed containers in license waste.

7 HANDLING AND STORAGE

Usage precautions

Avoid contact with eyes, skin and clothing.
Keep away from heat, sparks and open flame.
Do not use in confined spaces without adequate ventilation and/or respirator.

Storage precautions

Store in a closed container at moderate temperatures in dry, well ventilated area.
Store contents under inert gas (nitrogen or argon).

Special storage criteria

Store away from oxidizing and acidic materials.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

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Body Protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Exposure limits

Cu	mg/m³
ACGIH TLV	1(dust,mist); 0.2 (fume)
Austria MAK	1; 0.1 (fume)
Belgium TWA	0.2 (fume); 1(dust)
Denmark TWA	0.1
Finland TWA	0.2 (fume); 1(dust)
France VME	0.2 (fume); 1(dust) 1 ; 2-STEL (dust)
Germany MAK	0.1 (fume); 1(dust)
Hungary TWA	1 ; 2-STEL (dust)
Netherlands MAC-TGG	1(dust)
Norway TWA	0.05; 0.1 (fume)
Poland TWA	0.1 ; 0.3-STEL (fume) 1 ; 2-STEL (dust)
Russia	1-STEL (dust)
Sweden NGW	0.2 (resp. dust); 1 (total dust)
Switzerland MAK-W	0.1; 0.2-KZG-W (fume)
United Kingdom TWA	0.2 (fume) 1 ; 2-STEL (dusts and mists as Cu) 1 ; 3-STEL
USA PEL	0.1 (fume, dusts and mists)

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9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid
Color	Red/Black
Odor/taste	No characteristic odor.
Melting Point	1083°C
Boiling Point	2595°C
Flammability	Highly flammable
Density	8.94 g/cm ³ (20°C)
Water	Insoluble

10 STABILITY AND REACTIVITY

Stability	No particular stability concerns if handled according to specifications.
Conditions to avoid	Oxidizing agents, acids
Hazardous Decomposition	
Products	Metal oxide fume.

11 TOXICOLOGICAL INFORMATION

Acute toxicity	
LD50 Intraperitoneal-mouse	3,5 mg/kg
Skin corrosion/irritation	
May cause skin irritation.	
Serious eye damage/eye irritation	
May cause eye irritation.	
Respiratory or skin sensitization	
no data available	

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Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

Ingestion

Harmful if swallowed.

Inhalation

Harmful to mucous membranes.

Skin

Irritating

Eyes

Irritating

Additional Information

RTECS: Not available

Full Data on the toxicity of this product are not available. Hazardous properties cannot be excluded.

12 ECOLOGICAL INFORMATION

LC50 Fish (96 hours)

Minimum: 0,0087 mg/l

Maximum: 21 mg/l

Median: 0,665 mg/l

Study number: 114

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Reference for median: Shariff, M., P.A.H.L. Jayawardena, F.M. Yusoff, and R. Subasinghe 2001. Immunological Parameters of Javanese Carp *Puntius gonionotus* (Bleeker) Exposed to Copper and Challenged with *Aeromonas hydrophila*. *Fish Shellfish Immunol.* 11(4):281-291; Rehwoldt, R., L.W. Menapace, B. Nerrie, and D. Alessandrello 1972. The Effect of Increased Temperature upon the Acute Toxicity of Some Heavy Metal Ions. *Bull. Environ. Contam. Toxicol.* 8(2):91-96

LC50 Crustaceans (48 hours)

Minimum: 0,000072 mg/l
Maximum: 5,36 mg/l
Median: 0,044 mg/l
Study number: 135

Reference for median: Lazorchak, J.M. 1987. The Significance of Weight Loss of *Daphnia magna* Straus During Acute Toxicity Tests with Copper. Ph.D Thesis, Univ. of Texas, Dallas, TX :191 p.

EC50 Crustaceans (48 hours)

Minimum: 0,0016 mg/l
Maximum: 0,34 mg/l
Median: 0,02 mg/l
Study number: 75

Reference for median: Bossuyt, B.T.A., B.T.A. Muysen, and C.R. Janssen 2005. Relevance of Generic and Site-Specific Species Sensitivity Distributions in the Current Risk Assessment Procedures for Copper and Zinc. *Environ. Toxicol. Chem.* 24(2):470-478

EC50 Algae (72 or 96 hours)

Test duration: 72 hours
Minimum: 0,01 mg/l
Maximum: 0,91 mg/l
Median: 0,57 mg/l
Study number: 9

Reference for median: Peterson, S.M., and J.L. Stauber 1996. new Algal Enzyme Bioassay for the Rapid Assessment of Aquatic Toxicity. *Bull. Environ. Toxicol. Chem.* 56(5):750-757

EC50 Algae (72 or 96 hours)

Test duration: 96 hours
Minimum: 0,04 mg/l
Maximum: 9,2 mg/l
Median: 7,9 mg/l
Study number: 3

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Reference for median: Gatidou, G., and N.S. Thomaidis 2007. Evaluation of Single and Joint Toxic Effects of Two Antifouling Biocides, Their Main Metabolites and Copper Using Phytoplankton Bioassays. *Aquat.Toxicol.* 85(3):184-191.

13 DISPOSAL CONSIDERATIONS

Disposal method Contact specialist disposal companies.
Dispose of in accordance with Local Authority requirements. Recover and reclaim or recycle, if practical.

14 TRANSPORT INFORMATION

UN number: UN 3089

UN proper shipping name

ADR/RID: METAL POWDER, FLAMMABLE, N.O.S.
(COPPER)

IMDG: METAL POWDER, FLAMMABLE, N.O.S.
(COPPER)

IATA: Metal powder, flammable, n.o.s. (copper)

Transport hazard class(es)

ADR/RID: 4.1

IMDG: 4.1

IATA: 4.1

Packaging group

ADR/RID: II

IMDG: II

IATA: II

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15 REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Safety, health and environmental regulations/legislation specific for the substance or mixture

no data available

Chemical Safety Assessment

no data available

Country specific information:

Germany

WGK3 (self classification)

16 OTHER INFORMATION

DISCLAIMER

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