PlasmaChem

SAFETY DATA SHEET (SDS)

Acc. to regulation (EC) Nr. 1907/2006
Version 4 from 02.01.2018

SECTION 1 Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: Copper suspension in ethanol

Product number(s): PL-Cu-E
REACH No.: A registration number is not available for this substance, as the annual tonnage does not require a registration.
CAS-No.: 7440-50-8

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company: PlasmaChem GmbH
Schwarzschildstr. 10
D-12489 Berlin
Phone: +49 30 6392 6313
Fax: +49 30 6392 6314
Email address: info@plasmachem.com

1.4 Emergency telephone number

Emergency phone: +49 30 6392 6313

SECTION 2 Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Flammable solids (Category 2) H228
Acute aquatic toxicity (Category 1) H400

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labeling according Regulation (EC) No 1272/2008

Pictogram: 

Signal word: Warning

Hazard statement(s):

H228	Flammable solid.
H400	Very toxic to aquatic life.

Precautionary statement(s):

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P273	Avoid release to the environment.

Supplemental Hazard Statements: none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3 Composition/information on ingredients

3.1 Substances

Formula: Cu
Molecular weight: 63,54 g/mol
CAS-No.: 7440-50-8

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Copper nanopowder, <100nm		
CAS-No.: 7440-50-8	Flam. Sol. 2; Aquatic Acute 1; H228, H400	≤ 100%

SECTION 4 First aid measures

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5 Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
No data available

5.3 Advice for firefighters
Wear self-contained breathing apparatus for fire fighting if necessary.

5.4 Further information
No data available

SECTION 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.
For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

SECTION 7 Handling and storage

7.1 Precautions for safe handling
Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed.Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
Handle and store under inert gas. Air and moisture sensitive.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8 Exposure controls/personal protection

8.1 Control parameters
Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of work

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.

Body Protection
Flame retardant antistatic protective 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
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: powder Color: light red
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	1.083 °C
f) Initial boiling point and boiling range	2.595 °C
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	The substance or mixture is a flammable solid with the category 2.
j) Upper/lower flammability or explosive limits	No data available
k) Vapor pressure	No data available
l) Vapor density	No data available

m) Relative density	8,940 g/cm^3
n) Water solubility	No data available
o) Partition coefficient: n- octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information
No data available

SECTION 10 Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Heat, flames and sparks. Extremes of temperature and direct sunlight.

10.5 Incompatible materials
Strong acids, Strong acids and oxidizing agents, Acid chlorides, Halogens

10.6 Hazardous decomposition products
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11 Toxicological information

11.1 Information on toxicological effects

Acute toxicity	No data available
Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory or skin sensitization	No data available
Germ cell mutagenicity	No data available

Carcinogenicity
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.

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

Additional Information
RTECS: Not available
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., Damage to the lungs., Vomiting, Diarrhoea, Abdominal pain, Blood disorders

SECTION 12 Ecological information

12.1 Toxicity
Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 0,15 mg/l - 96 h

12.2 Persistence and degradability
Biodegradability Result: - Readily biodegradable

12.3 Bio-accumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
Very toxic to aquatic life.

SECTION 13 Disposal considerations

13.1 Waste treatment methods

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

SECTION 14 Transport information

14.1 UN-number
ADR/RID: 3189 IMDG: 3189 IATA: 3189

14.2 UN proper shipping name
ADR/RID: METAL POWDER, SELF-HEATING, N.O.S. (Copper nanopowder, <100nm)
IMDG: METAL POWDER, SELF-HEATING, N.O.S. (Copper nanopowder, <100nm)
IATA: METAL POWDER, SELF-HEATING, N.O.S. (Copper nanopowder, <100nm)

14.3 Transport hazard class(es)
ADR/RID: 4.2 IMDG: 4.2 IATA: 4.2

14.4 Packaging group

ADR/RID: II IMDG: II IATA: II

14.5 Environmental hazards
ADR/RID: yes IMDG Marine pollutant: yes IATA: no

14.6 Special precautions for user
No data available

SECTION 15 Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out.

SECTION 16 Other information

Full text of H-Statements referred to under sections 2 and 3.

Aquatic Acute	Acute aquatic toxicity
Flam. Sol.	Flammable solids
H228	Flammable solid.
H400	Very toxic to aquatic life.

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. PlasmaChem and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

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