

SAFETY DATA SHEET ACCORDING TO REGULATION (EC) 1907/2006

Product name: Copper Paste**Creation date: 19.01.2024, Revision: 16.04.2024, version: 1.1**

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name
Copper Paste



<https://my.chemius.net/p/Uyk0Hc/en/pd/en>

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

Relevant identified uses

Lubricant. Only for professional and industrial use.

Uses advised against
No information.

1.3 Details of the supplier of the safety data sheet

Supplier

KEMIS PLUS D.O.O.
KAJUHOVA ULICA 4
1235 RADOMLJE, Slovenia
(01) 722 80 07 (7.00 - 15.00)
uros.lipovsek@kemisplus.si

Manufacturer

BARDAHL NL - OCD NEDERLAND BV
Maxwellstraat 41
3316 GP Dordrecht, The Netherlands
0031 78 651 2322
mjkooijman@bardahl.nl

1.4 Emergency Telephone Number

Emergency
112

Supplier
(01) 722 80 07 (7.00 - 15.00)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Aquatic Acute 1; H400 Very toxic to aquatic life.

Aquatic Chronic 2; H411 Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]



Signal word: WARNING

- H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.
P273 Avoid release to the environment.
P391 Collect spillage.
P501 Dispose of contents/container to hazardous or special waste collection point.

2.3 Other hazards

PBT/vPvB

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.

Endocrine disrupting properties

The mixture does not contain substances that are included in the list of substances with endocrine disrupting properties established in accordance with Article 59 of the REACH Regulation, in a concentration ≥ 0.1 w/w %. The mixture does not contain substances identified as substances with endocrine disrupting properties according to the criteria of Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605, in a concentration ≥ 0.1 w/w %.

Additional information

No information.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

For mixtures see 3.2.

3.2 Mixtures

Name	CAS EC Index Reach	%	Classification according to Regulation (EC) No 1272/2008 (CLP)	Specific Concentration Limits	Notes for substances
copper	7440-50-8 231-159-6 - 01-2119480154-42	5-10	Acute Tox. 4; H302 Eye Irrit. 2; H319 Acute Tox. 3; H331 Aquatic Acute 1; H400; M = 10 Aquatic Chronic 1; H410; M = 1	/	/

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General notes

When in doubt or if feeling unwell seek medical assistance. Show the safety data sheet and label to the physician. Never give anything by mouth to an unconscious person. Place patient in recovery position and ensure airway patency.

Following inhalation

Remove patient to fresh air - move out of dangerous area. If symptoms develop and persist, seek medical attention.

Following skin contact

Take off all contaminated clothing. Wash affected skin areas immediately with plenty of water and soap. If symptoms develop and persist, seek medical attention. Wash contaminated clothes and shoes before reuse.

Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, seek professional medical attention.

Following ingestion

Do not induce vomiting! Rinse mouth thoroughly with water. Drink plenty of water in small sips. Never give anything by mouth to an unconscious person. Consult a physician. Show the physician the safety data sheet or label.

4.2 Most important symptoms and effects, both acute and delayed

Following inhalation

Excessive exposure to spray mist, fog, or vapours may cause respiratory irritation.

Following skin contact

Contact with skin may cause irritation (redness, itching).

Following eye contact

Contact with eyes can cause irritation (redness, tearing, pain).

Following ingestion

May cause nausea/vomiting and diarrhea. May cause abdominal discomfort.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide. Dry chemical powder. Water spray. Alcohol resistant foam.

Unsuitable extinguishing media

Full water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

In case of a fire toxic gases can be generated; do not inhale gases/smoke. In the event of fire the following can be generated: carbon monoxide (CO), carbon dioxide (CO₂).

Nitrogen oxides (NO_x).

5.3 Advice for firefighters

Protective actions

In case of fire evacuate the area. In case of fire or heating do not breathe fumes/vapours. No action shall be taken involving any personal risk or without suitable training. Cool the endangered containers with water spray.

Special protective equipment for fire-fighters

Firefighters should wear appropriate protective clothing for firefighters (including helmets, protective boots and gloves) (BS EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (BS EN 137).

Additional information

Contaminated firefighting water must be disposed of in accordance with the regulations; do not allow to reach the sewage system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Protective equipment

Use personal protective equipment (Section 8).

Precautionary measures

Ensure adequate ventilation.

Emergency procedures

Evacuate the danger zone. Prevent access to unprotected personnel. No action shall be taken involving any personal risk

or without suitable training. Avoid contact with skin, eyes and clothing. Do not breathe vapour or mist. Do not touch or walk through spilled material.

For emergency responders

Use personal protective equipment.

6.2 Environmental precautions

Do not allow product to reach water/drains/sewage systems or permeable soil. If accidental large entry into water or ground occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

For containment

Close the source of the release only if it is without risk.

For cleaning up

Prevent release into the sewer, water, basements or confined areas. Use personal protective equipment (Section 8). Absorb product (with inert material), collect it in special container and dispose it to a licensed hazardous-waste disposal contractor. Clean residue from spill site. Dispose in accordance with applicable regulations (see Section 13).

Other information

No information.

6.4 Reference to other sections

See also sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Protective measures

Measures to prevent fire

Ensure adequate ventilation.

Measures to prevent aerosol and dust generation

Use general or local exhaust ventilation to prevent inhaling vapours and aerosols.

Measures to protect the environment

Avoid release to the environment.

Other measures

No information.

Advice on general occupational hygiene

Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes. Do not breathe vapours/mist. Wear suitable protective equipment; see Section 8. Remove contaminated clothes and wash them before reuse. Refer to instructions on label and regulations for safety and health at work. Ensure that there is adequate ventilation, especially in confined areas.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Store in accordance with local regulations. Keep in tightly closed container. Keep in a cool, dry and well ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feeding stuffs. Keep unauthorized personnel away.

Packaging materials

The original container of producer.

Requirements for storage rooms and vessels

Close opened containers after use. Put the containers upright to prevent from leaking. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Storage temperature

No information.

Storage class

No information.

Further information on storage conditions

No information.

7.3 Specific end use(s)

Recommendations

No information.

Industrial sector specific solutions

No information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limit values

Name	mg/m ³	ml/m ³	Short-term value mg/m ³	Short-term value ml/m ³	Remark	Biological Tolerance Values
Copper fume (as Cu) (7440-50-8)	0.2	/	/	/	/	/

Information on monitoring procedures

BS EN 14042:2003 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. BS EN 689:2018 Workplace exposure. Measurement of exposure by inhalation to chemical agents. Strategy for testing compliance with occupational exposure limit values. BS EN 482:2021 Workplace exposure. Procedures for the determination of the concentration of chemical agents. Basic performance requirements.

DNEL/DMEL values

For product

No information.

For components

No information.

PNEC values

For product

No information.

For components

No information.

8.2 Exposure controls

Appropriate engineering control

Substance/mixture related measures to prevent exposure during identified uses

Handle in accordance with good industrial hygiene and safety practice. Use good personal hygiene practices – wash hands at breaks and when done working with material. Avoid contact with skin, eyes and clothes. Do not eat, drink or smoke while working. Do not breathe vapours/aerosols.

Structural measures to prevent exposure

No information.

Organisational measures to prevent exposure

Remove all contaminated clothes immediately and wash them before reuse.

Technical measures to prevent exposure

Provide good ventilation and local exhaust in areas with increased concentration. Keep away from food, drink and animal feeding stuffs.

Personal protective equipment

Eye and face protection

Tight fitting protective goggles (EN 166).

Hand protection

Protective gloves (EN ISO 374-1:2016). Observe the manufacturer's instructions regarding the use, storage, maintenance and replacement of gloves. In case of damage or at the first signs of wear and tear, change the gloves immediately. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. The penetration time is determined by the protective glove manufacturer and must be observed.

Appropriate materials

Skin protection

Cotton protective clothing and shoes that cover the entire foot (EN ISO 20345:2022). At high risk of skin exposure chemical suits (EN 13034:2005+A1:2009) and boots may be required (EN ISO 20345:2022). Choose body protection according to the activity and possible exposure.

Respiratory protection

Not needed under normal use and adequate ventilation. In case of insufficient ventilation wear suitable respiratory protection. Wear suitable protective breathing mask (BS EN 140) with filter A2-P2 (BS EN 14387).

Thermal hazards

No information.

Environmental exposure controls

Substance/mixture related measures to prevent exposure

If the product contaminates rivers, lakes or sewer, inform the responsible authorities.

Instruction measures to prevent exposure

No information.

Organisational measures to prevent exposure

No information.

Technical measures to prevent exposure

Do not allow product to reach drains, sewage systems or ground water.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Important health, safety and environmental information

Physical state	solid
Shape	paste
Colour	red
Odour	characteristic
Odour threshold	No information.
Melting/freezing point or softening point	No information.
Boiling point or initial boiling point and boiling range	> 150 °C
Flammability	No information.
Explosion limits (vol%)	No information.
Flash point	> 100 °C
Auto-ignition temperature	No information.
Decomposition temperature	No information.
pH	No information.
Viscosity	No information.
Solubility (Water)	< 1 % at 20 °C
Partition coefficient n-octanol/water (log value)	No information.
Vapour pressure	No information.
Density	0.969 g/cm ³ at 20 °C
Relative vapour/gas density	No information.
Particle characteristics	No information.

9.2 Other information

Information with regard to physical hazard classes

No information.

Other safety characteristics

No information.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No data available.

10.2 Chemical stability

Product is stable under normal conditions of use, recommended handling and storage conditions.

10.3 Possibility of hazardous reactions

The product is stable under recommended storage and handling conditions.

10.4 Conditions to avoid

No special precautions required. Consider the directions for use and storage.

10.5 Incompatible materials

Oxidants.

Acids.

Bases.

10.6 Hazardous decomposition products

Under normal use conditions no hazardous decomposition products are expected. In case of fire/explosion vapours/gases that pose a health hazard are released. Hazardous combustion products, see Section 5 of the safety data sheet.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

(a) Acute toxicity

No information.

Additional information

The product is not classified as acutely toxic.

(b) Skin corrosion/irritation

No information.

Additional information

The product is not classified as irritating to the skin.

(c) Serious eye damage/irritation

No information.

Additional information

The product is not classified as an irritant to the eyes.

(d) Respiratory or skin sensitisation
No information.

Additional information
The product is not classified as sensitising.

(e) (Germ cell) mutagenicity
No information.

(f) Carcinogenicity
No information.

(g) Reproductive toxicity
No information.

Summary of evaluation of the CMR properties
The product is not classified as carcinogenic, mutagenic or toxic for reproduction.

(h) STOT-single exposure
No information.

Additional information
STOT SE (single exposure): Not classified.

(i) STOT-repeated exposure
No information.

Additional information
STOT RE (repeated exposure): Not classified.

(j) Aspiration hazard
No information.

Symptoms related to the physical, chemical and toxicological characteristics
No information.

Interactive effects
No information.

11.2 Information on other hazards

Endocrine disrupting properties

For product
The mixture does not contain substances that are included in the list of substances with endocrine disrupting properties established in accordance with Article 59 of the REACH Regulation, in a concentration ≥ 0.1 w/w %. The mixture does not contain substances identified as substances with endocrine disrupting properties according to the criteria of Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605, in a concentration ≥ 0.1 w/w %.

Other information

No information.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Acute (short-term) toxicity
For components

Name	Type	Value	Exposure time	Species	organism	Method	Remark
copper	LC ₅₀	0.2 - 0.3 mg/L	/	fish	<i>Pimephales promelas</i>	/	/
copper	LC ₅₀	0.052 mg/L	/	fish	<i>Oncorhynchus mykiss</i>	/	/
copper	LC ₅₀	1.25 mg/L	/	fish	<i>Lepomis macrochirus</i>	/	/
copper	EC ₅₀	0.03 mg/L	/	crustacea	/	/	/
copper	EC ₅₀	0.0426 - 0.0535 mg/L	72 h	algae	<i>Pseudokirchneriella subcapitata</i>	/	/

copper	EC ₅₀	0.031 - 0.054 mg/L	96 h	algae	<i>Pseudokirchneriella subcapitata</i>	/	/
copper	EC ₅₀	0.0068 - 0.0156 mg/L	96 h	algae	/	/	/

Chronic (long-term) toxicity

No information.

12.2 Persistence and degradability**Abiotic degradation, physical- and photo-chemical elimination**

No information.

Biodegradation

No information.

12.3 Bioaccumulative potential**Partition coefficient n-octanol/water (log value)**

No information.

Bioconcentration factor (BCF)

No information.

12.4 Mobility in soil**Known or predicted distribution to environmental compartments**

No information.

Surface tension

No information.

Adsorption/Desorption

No information.

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 Endocrine disrupting properties**For product**

The mixture does not contain substances that are included in the list of substances with endocrine disrupting properties established in accordance with Article 59 of the REACH Regulation, in a concentration ≥ 0.1 w/w %. The mixture does not contain substances identified as substances with endocrine disrupting properties according to the criteria of Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605, in a concentration ≥ 0.1 w/w %.

12.7 Other adverse effects

No information.

12.8 Additional information**For product**

Very toxic to aquatic life with long lasting effects. Do not allow to reach ground water, water courses or sewage system.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product / Packaging disposal

Waste chemical

Do not allow product to reach drains/sewage systems. Disposal must be made according to official regulations: deliver it to authorised collector/remover/transformer of hazardous waste. Dispose of in accordance with applicable waste disposal regulation.

Waste codes / waste designations according to LoW

No information.

Packaging

Recycle, if possible. Deliver completely emptied containers to approved waste disposal authorities. Dispose of in accordance with applicable waste disposal regulation.

Waste codes / waste designations according to LoW

No information.

Waste treatment-relevant information

No information.









Sewage disposal-relevant information

No information.

Other disposal recommendations

No information.

SECTION 14: TRANSPORT INFORMATION

ADR/RID	IMDG	IATA	ADN
14.1 UN number or ID number			
UN 3082	UN 3082	UN 3082	UN 3082
14.2 UN proper shipping name			
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (copper)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (copper)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (copper)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (copper)
14.3 Transport hazard class(es)			
9	9	9	9
 	 	 	 
14.4 Packing group			
III	III	III	III
14.5 Environmental hazards			
YES	Marine pollutant	YES	YES

14.6 Special precautions for user			
Limited quantities 5 L Special provisions 274, 335, 375, 601 Packing Instructions P001, IBC03, LP01, R001 Special packing provisions PP1 Transport category 3 Tunnel restriction code (-) Classification code M6	Limited quantities 5 L EmS F-A, S-F Flash point 100 °C	Limited Quantity, Packing Instructions (Ltd Qty, Pkg Inst) Y964 Limited Quantity, Maximum Net Quantity/Package (Ltd Qty, Max Net Qty/Pkg) 30 kg G Packing Instructions (Pkg Inst) 964 Maximum Net Quantity/Package (Max Net Qty/Pkg) 450 L Cargo Aircraft Only, Packing Instructions (CAO, Pkg Inst) 964 Cargo Aircraft Only, Maximum Net Quantity/Package (CAO, Max Net Qty/Pkg) 450 L Special provisions A97, A158, A197 Excepted quantities E1 ERG code 9L	Limited quantities 5 L
14.7 Maritime transport in bulk according to IMO instruments			
	Goods may not be carried in bulk in bulk containers, containers or vehicles.		

SECTION 15: REGULATORY INFORMATION

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (including last amendment Commission Regulation (EU) 2020/878)
 - Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
- Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline)
not applicable
- Ingredients according to Regulation (EC) No 648/2004 on detergents
No information.
- Special instructions
Observe the regulations on employment and protection against dangerous substances for young people, pregnant women and nursing mothers.

- 15.2 Chemical Safety Assessment
- No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: OTHER INFORMATION

- Indication of changes
- 9.1 Information on basic physical and chemical properties 9.2 Other information 12.1 Toxicity 12.3 Bioaccumulative potential

Key literature references and sources for data

No information.

Abbreviations and acronyms

ATE - Acute Toxicity Estimate
ADR - Agreement concerning the International Carriage of Dangerous Goods by Road
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CEN - European Committee for Standardisation
C&L - Classification and Labelling
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
CAS# - Chemical Abstracts Service number
CMR - Carcinogen, Mutagen, or Reproductive Toxicant
CSA - Chemical Safety Assessment
CSR - Chemical Safety Report
DMEL - Derived Minimal Effect Level
DNEL - Derived No Effect Level
DPD - Dangerous Preparations Directive 1999/45/EC
DSD - Dangerous Substances Directive 67/548/EEC
DU - Downstream User
EC - European Community
ECHA - European Chemicals Agency
EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)
EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)
EEC - European Economic Community
EINECS - European Inventory of Existing Commercial Substances
ELINCS - European List of notified Chemical Substances
EN - European Standard
EQS - Environmental Quality Standard
EU - European Union
Euphrac - European Phrase Catalogue
EWC - European Waste Catalogue (replaced by LoW – see below)
GES - Generic Exposure Scenario
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG - International Maritime Dangerous Goods
IMSBC - International Maritime Solid Bulk Cargoes
IT - Information Technology
IUCLID - International Uniform Chemical Information Database
IUPAC - International Union for Pure Applied Chemistry
JRC - Joint Research Centre
Kow - octanol-water partition coefficient
LC50 - Lethal Concentration to 50 % of a test population
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
LE - Legal Entity
LoW - List of Wastes (see <http://ec.europa.eu/environment/waste/framework/list.htm>)
LR - Lead Registrant
M/I - Manufacturer / Importer
MS - Member States
MSDS - Material Safety Data Sheet
OC - Operational Conditions
OECD - Organization for Economic Co-operation and Development
OEL - Occupational Exposure Limit
OJ - Official Journal
OR - Only Representative
OSHA - European Agency for Safety and Health at work
PBT - Persistent, Bioaccumulative and Toxic substance
PEC - Predicted Effect Concentration
PNEC(s) - Predicted No Effect Concentration(s)
PPE - Personal Protection Equipment
(Q)SAR - Qualitative Structure Activity Relationship
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
RIP - REACH Implementation Project
RMM - Risk Management Measure

SCBA - Self-Contained Breathing Apparatus
SDS - Safety data sheet
SIEF - Substance Information Exchange Forum
SME - Small and Medium sized Enterprises
STOT - Specific Target Organ Toxicity
(STOT) RE - Repeated Exposure
(STOT) SE - Single Exposure
SVHC - Substances of Very High Concern
UN - United Nations
vPvB - Very Persistent and Very Bioaccumulative

List of relevant H phrases

H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.



- ☑ Provided correct labelling of the product
- ☑ Compliance with the local legislation
- ☑ Provided correct classification of the product
- ☑ Provided adequate transport data

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The information of this SDS is based on the present state of our knowledge and meets the requirements of EU and national laws. The user's working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under section 1 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18 years of age, who are satisfactorily informed of how to do the work, the hazardous properties and necessary safety precautions. The information given in this SDS is to describe the product only in terms of health and safety requirements and should not, therefore, be construed as guaranteeing specific properties.