# Chemical Safety Data Sheet MSDS / SDS

# Copper(II) chloride dihydrate

Revision Date: 2025-05-03 Revision Number: 1

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

#### Product identifier

Product name : Copper(II) chloride dihydrate

CBnumber : CB1397116

CAS : 10125-13-0

EINECS Number : 600-176-4

Synonyms : copper chloride dihydrate,copper (ii) chloride

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.

Uses advised against : none

# **Company Identification**

Company : Chemicalbook

Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing

Telephone : 010-86108875

# SECTION 2: Hazards identification

# GHS Label elements, including precautionary statements

Symbol(GHS)		
Signal word	Danger	

#### Precautionary statements

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continuerinsing.

P405 Store locked up.

#### Hazard statements

H290 May be corrosive to metals

H302 Harmful if swallowed

H314 Causes severe skin burns and eye damage

H315 Causes skin irritation

H318 Causes serious eye damage

H400 Very toxic to aquatic life

H410 Very toxic to aquatic life with long lasting effects

H411 Toxic to aquatic life with long lasting effects

# SECTION 3: Composition/information on ingredients

#### **Substance**

Product name : Copper(II) chloride dihydrate

Synonyms : copper chloride dihydrate,copper (ii) chloride

CAS : 10125-13-0

EC number : 600-176-4

MF : Cl2CuH4O2

MW : 170.48

# SECTION 4: First aid measures

#### Description of first aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

# If inhaled

After inhalation: fresh air.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

## In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

# Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

# Indication of any immediate medical attention and special treatment needed

No data available

# **SECTION 5: Firefighting measures**

# **Extinguishing media**

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

# Special hazards arising from the substance or mixture

Hydrogen chloride gas Copper oxides

Not combustible.

Ambient fire may liberate hazardous vapours.

#### Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### **Further information**

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

#### **NFPA 704**

HAZ.

3 1

HEALTH 3 Short exposure could cause serious temporary or moderate residual injury (e.g. liquid hydrogen, sulfuric acid, calcium hypochlorite, hexafluorosilicic acid)

Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete,

FIRE 0 stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)

REACT 1 Normally stable, but can become unstable at elevated temperatures and pressures (e.g. propene)

SPEC.

# SECTION 6: Accidental release measures

# Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

# **Environmental precautions**

Do not let product enter drains.

# Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

#### Reference to other sections

For disposal see section 13.

# SECTION 7: Handling and storage

#### Precautions for safe handling

# Advice on safe handling

Work under hood. Do not inhale substance/mixture.

#### Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

#### Conditions for safe storage, including any incompatibilities

# Storage conditions

Tightly closed. Dry. hygroscopic

#### 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

# control parameter

# Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

#### **Exposure controls**

# Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested: KCL 741 Dermatril? L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested: KCL 741 Dermatril? L

**Body Protection**protective clothing

Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P2

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains.

Annearance

# SECTION 9: Physical and chemical properties

dark blue crystalline

# Information on basic physicochemical properties

Appearance	dark blue crystalline
Odour	No data available
Odour Threshold	No data available d) pH 3,0 - 3,8 Melting point/freezing point Initial boiling point and boiling range
	Melting point/range: 100 °C - dec. No data available Flash point Not applicable Evaporation rate No
	data available Flammability (solid, gas) Upper/lower flammability or explosive limits The product is not
	flammable. No data available Vapour pressure No data available Vapour density No data available
	Density ca.2,53 g/cm3 at 20 °C Relative density No data available Water solubility No data available
	Partition coefficient: n-octanol/water Autoignition temperature Decomposition temperature Not
	applicable for inorganic substances No data available No data available Viscosity Viscosity,
	kinematic: No data available Viscosity, dynamic: No data available Explosive properties No data
	available Oxidizing properties No data available
Melting point/freezing point	Melting point/range: 100 °C - dec.
Initial boiling point and boiling range	100 °C (dec.)(lit.)
Flash point	Not applicable
Evaporation rate	No data available
Flammability (solid, gas)	The product is not flammable.
Upper/lower flammability or explosive	No data available
limits	
Vapour pressure	No data available

Vapour density	No data available
Relative density	>1 (vs air)
Water solubility	2.54
Partition coefficient: n-octanol/water	Not applicable for inorganic substances
Autoignition temperature	No data available
Decomposition temperature	No data available
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
Explosive properties	No data available
Oxidizing properties	No data available

# Other safety information

No data available

# SECTION 10: Stability and reactivity

# Reactivity

No data available

# **Chemical stability**

The product is chemically stable under standard ambient conditions (room temperature) .

# Possibility of hazardous reactions

Violent reactions possible with:

Alkali metals

Strong oxidizing agents Risk of explosion with:

Acetylene

Possible formation of:

acetylidene

#### **Conditions to avoid**

Heat. Exposure to moisture. no information available

# Incompatible materials

various metals

# Hazardous decomposition products

In the event of fire: see section 5

# SECTION 11: Toxicological information

# Information on toxicological effects

# **Acute toxicity**

LD50 Oral - Rat - 584 mg/kg Remarks: (anhydrous substance) (RTECS)

The value is given in analogy to the following substances: copper(II) chloride Inhalation

LD50 Dermal - Rat - female - 1.224 mg/kg (OECD Test Guideline 402)

Remarks: (anhydrous substance)

The value is given in analogy to the following substances: copper(II) chlorideThe value is given in analogy to the following substances: Copper

(I)-chloride

#### Skin corrosion/irritation

Skin - Rabbit

Result: Irritating to skin. Remarks: (ECHA) anhydrous substance

The value is given in analogy to the following substances: copper(II) chlorideThe value is given in analogy to the following substances: Copper (I)-chloride

(i) dilicitad

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes serious eye damage. Remarks: (ECHA)

(anhydrous substance)

The value is given in analogy to the following substances: Copper (I)-chloride

#### Respiratory or skin sensitization

In animal experiments: - Guinea pig

Result: negative

(OECD Test Guideline 406) Remarks: (anhydrous substance)

The value is given in analogy to the following substances: Copper (I)-chloride

#### 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

#### **Toxicity**

LD50 orally in Rabbit: 584 mg/kg

# SECTION 12: Ecological information

#### **Toxicity**

No data available

# Persistence and degradability

# **Bioaccumulative potential**

No data available

# Mobility in soil

No data available

#### 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.

#### Other adverse effects

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

# **SECTION 13: Disposal considerations**

#### Waste treatment methods

#### **Product**

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

# **SECTION 14: Transport information**

#### **UN number**

ADR/RID: 2802 IMDG: 2802

# **UN proper shipping name**

ADR/RID: COPPER CHLORIDE IMDG: COPPER CHLORIDE IATA: Copper chloride

# Transport hazard class(es)

ADR/RID: 8 IMDG: 8 IATA: 8

# **Packaging group**

ADR/RID: III IMDG: III IATA: III

# **Environmental hazards**

ADR/RID: yes IMDG Marine pollutant: yes IATA: no

# Special precautions for user

No data available

SECTION 15: Regulatory information

Chemical Book

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

#### Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015:Not Listed. website: https://www.mem.gov.cn/

#### Measures for Environmental Management of New Chemical Substances

Korea Existing Chemicals List (KECL):Not Listed. website: http://ncis.nier.go.kr

Vietnam National Chemical Inventory:Listed. website: https://chemicaldata.gov.vn/

European Inventory of Existing Commercial Chemical Substances (EINECS): Not Listed. website: https://echa.europa.eu/

United States Toxic Substances Control Act (TSCA) Inventory: Not Listed. website: https://www.epa.gov/

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Listed. website: https://www.mee.gov.cn/

EC Inventory:Not Listed.

Philippines Inventory of Chemicals and Chemical Substances (PICCS):Listed. website: https://emb.gov.ph/

New Zealand Inventory of Chemicals (NZIoC):Listed. website: https://www.epa.govt.nz/

# SECTION 16: Other information

#### Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

#### References

[1] CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

[2] ChemlDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

[3] ECHA - European Chemicals Agency, website: https://echa.europa.eu/

[4] eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:

http://www.echemportal.org/echemportal/index?pageID=0&request\_locale=en

[5] ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

[6] Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

 $\hbox{\tt [7] HSDB-Hazardous Substances Data Bank, website: $https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm}$ 

[8] IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

[9] IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

【10】 Sigma-Aldrich, website: https://www.sigmaaldrich.com/

#### Disclaimer:

this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.