acc. to Safe Work Australia - Code of Practice



Copper(II) sulphate solution 0,1 mol/l - 0,1 N volumetric standard solution

article number: 9948 date of compilation: 2016-08-31 Version: GHS 4.0 en Revision: 2022-02-18

Replaces version of: 2020-08-20

Version: (GHS 3)

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

Product identifier 1.1

Identification of the substance Copper(II) sulphate solution 0,1 mol/l - 0,1 N

volumetric standard solution

9948 Article number

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

Relevant identified uses: Laboratory chemical

Laboratory and analytical use

Uses advised against: Do not use for products which come into contact

with foodstuffs. Do not use for private purposes

(household).

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG Schoemperlenstr. 3-5 D-76185 Karlsruhe Germany

Telephone:+49 (0) 721 - 56 06 0 **Telefax:** +49 (0) 721 - 56 06 149 e-mail: sicherheit@carlroth.de Website: www.carlroth.de

Competent person responsible for the safety data :Department Health, Safety and Environment

sheet:

sicherheit@carlroth.de e-mail (competent person):

1.4 **Emergency telephone number**

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 West- mead, NSW	131126	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
3.3	Serious eye damage/eye irritation	2	Eye Irrit. 2	H319

For full text of abbreviations: see SECTION 16

2.2 **Label elements**

Labelling

Signal word Warning

Page 1 / 14 Australia (en)

acc. to Safe Work Australia - Code of Practice



Copper(II) sulphate solution 0,1 mol/l - 0,1 N volumetric standard solution

article number: 9948

Pictograms

GHS07



Hazard statements

H319 Causes serious eye irritation

Precautionary statements

Precautionary statements - prevention

P280 Wear eye protection/face protection

Precautionary statements - response

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing

P337+P313 If eye irritation persists: Get medical advice/attention

2.3 Other hazards

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of sub- stance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Copper(II) sulphate pentahydrate	CAS No 7758-99-8	< 2.5	Acute Tox. 4 / H302 Eye Dam. 1 / H318		

For full text of abbreviations: see SECTION 16

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Australia (en) Page 2 / 14

acc. to Safe Work Australia - Code of Practice



Copper(II) sulphate solution 0,1 mol/l - 0,1 N volumetric standard solution

article number: 9948

Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Irritation

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO_2)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Non-combustible.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Australia (en) Page 3 / 14

acc. to Safe Work Australia - Code of Practice



Copper(II) sulphate solution 0,1 mol/l - 0,1 N volumetric standard solution

article number: 9948

Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Other information relating to spills and releases

Place in appropriate containers for disposal.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

No special measures are necessary.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice:

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

This information is not available.

Relevant DNELs of components of the mixture

Name of sub- stance	CAS No	End- point	Threshol d level	Protection goal, route of exposure	Used in	Exposure time
Copper(II) sulphate pentahydrate	7758-99-8	DNEL	1 mg/m³	human, inhalat- ory	worker (industry)	chronic - systemic effects
Copper(II) sulphate pentahydrate	7758-99-8	DNEL	1 mg/m³	human, inhalat- ory	worker (industry)	chronic - local ef- fects
Copper(II) sulphate pentahydrate	7758-99-8	DNEL	137 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Australia (en) Page 4 / 14

acc. to Safe Work Australia - Code of Practice



Copper(II) sulphate solution 0,1 mol/l - 0,1 N volumetric standard solution

article number: 9948

Relevant PNECs of components of the mixture

Name of sub- stance	CAS No	End- point	Threshol d level	Organism	Environmental compartment	Exposure time
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	7.8 ^{µg} / _l	aquatic organ- isms	freshwater	short-term (single instance)
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	5.2 ^{µg} / _l	aquatic organ- isms	marine water	short-term (single instance)
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	230 ^{µg} / _l	aquatic organ- isms	sewage treatment plant (STP)	short-term (single instance)
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	87 ^{mg} / _{kg}	aquatic organ- isms	freshwater sedi- ment	short-term (single instance)
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	676 ^{mg} / _{kg}	aquatic organ- isms	marine sediment	short-term (single instance)
Copper(II) sulphate pentahydrate	7758-99-8	PNEC	65 ^{mg} / _{kg}	terrestrial organ- isms	soil	short-term (single instance)

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection





Use safety goggle with side protection.

Skin protection





hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 °C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

type of material

NBR (Nitrile rubber)

material thickness

>0,11 mm

breakthrough times of the glove material

>480 minutes (permeation: level 6)

Australia (en) Page 5 / 14

acc. to Safe Work Australia - Code of Practice



Copper(II) sulphate solution 0,1 mol/l - 0,1 N volumetric standard solution

article number: 9948

other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection





Respiratory protection necessary at: Aerosol or mist formation. Usually no personal respirative protection necessary.

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state liquid
Colour blue

Odour odourless

Melting point/freezing point not determined

Boiling point or initial boiling point and boiling 100 °C at 1,013 hPa

range

Flammability non-combustible
Lower and upper explosion limit not determined
Flash point not determined
Auto-ignition temperature not determined
Decomposition temperature not relevant

pH (value) not determined (acidic)

Kinematic viscosity not determined

Solubility(ies)

Water solubility miscible in any proportion

Partition coefficient

Partition coefficient n-octanol/water (log value): not relevant (inorganic)

Vapour pressure not determined

Density and/or relative density

Density $1.015 \, {}^{9}/_{cm^3}$ at 20 ${}^{\circ}$ C

Relative vapour density information on this property is not available

Australia (en) Page 6 / 14

acc. to Safe Work Australia - Code of Practice



Copper(II) sulphate solution 0,1 mol/l - 0,1 N volumetric standard solution

article number: 9948

Particle characteristics not relevant (liquid)

Other safety parameters

Oxidising properties none

9.2 Other information

Information with regard to physical hazard

classes:

hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics:

Miscibility completely miscible with water

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to GHS

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
Copper(II) sulphate pentahydrate	7758-99-8	oral	482 ^{mg} / _{kg}

Australia (en) Page 7 / 14

acc. to Safe Work Australia - Code of Practice



Copper(II) sulphate solution 0,1 mol/l - 0,1 N volumetric standard solution

article number: 9948

Acute toxicity of	of components	of the mixture
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Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Copper(II) sulphate pentahydrate	7758-99-8	oral	LD50	482 ^{mg} / _{kg}	rat
Copper(II) sulphate pentahydrate	7758-99-8	dermal	LD50	>2,000 ^{mg} / _{kg}	rat

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

If swallowed

diarrhoea, gastrointestinal complaints

• If in eyes

Causes serious eye irritation

• If inhaled

Data are not available.

• If on skin

Data are not available.

Other information

none

11.2 Endocrine disrupting properties

None of the ingredients are listed.

Australia (en) Page 8 / 14

acc. to Safe Work Australia - Code of Practice



Copper(II) sulphate solution 0,1 mol/l - 0,1 N volumetric standard solution

article number: 9948

SECTION 12: Ecological information

12.1 Toxicity

Toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components of the mixture

Name of sub- stance	CAS No	Endpoint	Value	Species	Exposure time
Copper(II) sulphate pentahydrate	7758-99-8	LC50	38.4 ^{µg} / _l	fish	96 h

Biodegradation

The methods for determining the biological degradability are not applicable to inorganic substances.

12.2 Process of degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

None of the ingredients are listed.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

Australia (en) Page 9 / 14

acc. to Safe Work Australia - Code of Practice



Copper(II) sulphate solution 0,1 mol/l - 0,1 N volumetric standard solution

article number: 9948

SECTION 14: Transport information

14.1 UN number

UN RTDG UN

3082

IMDG-Code UN 3082

ICAO-TI UN 3082

14.2 UN proper shipping name

UN RTDG ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LI-

QUID, N.O.S.

IMDG-Code ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LI-

QUID, N.O.S.

ICAO-TI Environmentally hazardous substance, liquid,

n.o.s.

Technical name (hazardous ingredients) Copper(II) sulphate pentahydrate

14.3 Transport hazard class(es)

UN RTDG 9

IMDG-Code 9

ICAO-TI 9

14.4 Packing group

UN RTDG III

IMDG-Code III

ICAO-TI III

14.5 Environmental hazards hazardous to the aquatic environment

Environmentally hazardous substance (aquatic Copper(II) sulphate pentahydrate

environment):

14.6 Special precautions for user

There is no additional information.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport informationNational regulationsAdditional information(UN RTDG)

UN number 3082

Class 9

Environmental hazards Yes

Hazardous to the aquatic environment

Packing group III

Danger label(s) 9

Fish and tree

Australia (en) Page 10 / 14

acc. to Safe Work Australia - Code of Practice



Copper(II) sulphate solution 0,1 mol/l - 0,1 N volumetric standard solution

article number: 9948



Special provisions (SP) 274, 331, 335, 375

UN RTDĠ

Excepted quantities (EQ) E1 UN RTDG

Limited quantities (LQ) 5 L

UN RTDG

International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LI-

QUID, N.O.S.

Particulars in the shipper's declaration UN3082, ENVIRONMENTALLY HAZARDOUS SUB-

STANCE, LIQUID, N.O.S., (contains: Copper(II)

sulphate pentahydrate), 9, III

Marine pollutant yes (hazardous to the aquatic environment), (Copper(II)

sulphate pentahydrate)

Danger label(s) 9, "Fish and tree"

Special provisions (SP) 274, 335, 969

Excepted quantities (EQ) E1
Limited quantities (LQ) 5 L

EmS F-A, S-F

Stowage category A

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name Environmentally hazardous substance, liquid,

n.o.s.

Particulars in the shipper's declaration UN3082, Environmentally hazardous substance,

liquid, n.o.s., (contains: Copper(II) sulphate pen-

tahydrate), 9, III

Environmental hazards yes (hazardous to the aquatic environment)

Danger label(s) 9, "Fish and tree"

Special provisions (SP) A97, A158, A197, A215

Excepted quantities (EQ) E1

Limited quantities (LQ) 30 kg

Australia (en) Page 11 / 14

acc. to Safe Work Australia - Code of Practice



Copper(II) sulphate solution 0,1 mol/l - 0,1 N volumetric standard solution

article number: 9948

SECTION 15: Regulatory information

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

There is no additional information.

National regulations(Australia)

Australian Inventory of Chemical Substances(AICS)

All ingredients are listed or exempt from listing.

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National inventories

Country	Inventory	Status
AU	AICS	all ingredients are listed
CA	DSL	not all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
JP	CSCL-ENCS	not all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	not all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	not all ingredients are listed

Legend

AICS CICR CSCL-ENCS DSL ECSI Australian Inventory of Chemical Substances Chemical Inventory and Control Regulation List of Existing and New Chemical Substances (CSCL-ENCS) Domestic Substances List (DSL)

EC Substance Inventory (EINECS, ELINCS, NLP)
Inventory of Existing Chemical Substances Produced or Imported in China
National Inventory of Chemical Substances

NZIoC

National Tiveriory of Criemical Substances

Korea Existing Chemicals Inventory

New Zealand Inventory of Chemicals

Philippine Inventory of Chemicals and Chemical Substances (PICCS)

Taiwan Chemical Substance Inventory

Toxic Substance Control Act

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

Australia (en) Page 12 / 14

acc. to Safe Work Australia - Code of Practice



Copper(II) sulphate solution 0,1 mol/l - 0,1 N volumetric standard solution

article number: 9948

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Alignment to regulation: Globally Harmonized System of Classification and Labelling of Chemicals

("Purple book").

Restructuring: section 9, section 14

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.1		Classification acc. to GHS: change in the listing (table)	yes
2.2	Labelling of packages where the contents do not exceed 125 ml: Signal word: Warning		yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.3	Other hazards: There is no additional information.	Other hazards	yes
2.3		Results of PBT and vPvB assessment: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code

Australia (en) Page 13 / 14

acc. to Safe Work Australia - Code of Practice



Copper(II) sulphate solution 0,1 mol/l - 0,1 N volumetric standard solution

article number: 9948

Abbr.	Descriptions of used abbreviations
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties. The classification is based on tested mixture. Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Australia (en) Page 14 / 14