

# Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Copper(II) sulphate pentahydrate ≥99,5 %, p.a., ACS, ISO

article number: **P024**  
Version: **7.0 en**  
Replaces version of: 2021-10-14  
Version: (6)

date of compilation: 2015-08-13  
Revision: 2024-03-02

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

### 1.1 Product identifier

|                                 |   |
|---------------------------------|---|
| Identification of the substance | <b>Copper(II) sulphate pentahydrate</b> ≥99,5 %, p.a., ACS, ISO |
| Article number                  | P024  |
| Index No (GB CLP)               | 029-023-00-4  |
| EC number                       | 616-477-9   |
| CAS number                      | 7758-99-8   |

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

|                           |   |
|---------------------------|---|
| Relevant identified uses: | Laboratory and analytical use<br>Laboratory chemical                                  |
| Uses advised against:     | Do not use for private purposes (household).<br>Food, drink and animal feedingstuffs. |

### 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](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

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

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

### 1.4 Emergency telephone number

| Name  | Street    | Postal code/city     | Telephone    | Website |
|---|-----------|----------------------|--------------|---------|
| National Poisons Information Service<br>City Hospital | Dudley Rd | B187QH<br>Birmingham | 844 892 0111 |         |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

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| Section | Hazard class  | Cat-egory | Hazard class and category | Hazard statement |
|---------|---|-----------|---------------------------|------------------|
| 3.10    | Acute toxicity (oral)                                 | 4         | Acute Tox. 4              | H302             |
| 3.3     | Serious eye damage/eye irritation                     | 1         | Eye Dam. 1                | H318             |
| 4.1A    | Hazardous to the aquatic environment - acute hazard   | 1         | Aquatic Acute 1           | H400             |
| 4.1C    | Hazardous to the aquatic environment - chronic hazard | 1         | Aquatic Chronic 1         | H410             |

For full text of abbreviations: see SECTION 16

### The most important adverse physicochemical, human health and environmental effects

Spillage and fire water can cause pollution of watercourses.

## 2.2 Label elements

### Labelling

#### Signal word

**Danger**

#### Pictograms

GHS05, GHS07,  
GHS09



#### Hazard statements

H302 Harmful if swallowed  
H318 Causes serious eye damage  
H410 Very toxic to aquatic life with long lasting effects

#### Precautionary statements

##### Precautionary statements - prevention

P273 Avoid release to the environment  
P280 Wear protective gloves/eye protection

##### Precautionary statements - response

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

## 2.3 Other hazards

### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

### Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                   |  |
|-------------------|--|
| Name of substance | Copper(II) sulphate pentahydrate           |
| Molecular formula | $\text{CuSO}_4 \cdot 5 \text{H}_2\text{O}$ |
| Molar mass        | 249,7 g/mol                                |
| CAS No            | 7758-99-8                                  |
| EC No             | 616-477-9                                  |
| Index No (GB CLP) | 029-023-00-4                               |

#### Substance, Specific Conc. Limits, M-factors, ATE

| Specific Conc. Limits | M-Factors                                       | ATE       | Exposure route |
|-----------------------|---|-----------|----------------|
| -                     | M-factor (acute) = 10<br>M-factor (chronic) = 1 | 481 mg/kg | oral           |

## 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.

#### Following skin contact

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

#### Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

#### Following ingestion

Rinse mouth with water (only if the person is conscious). Call a doctor.

### 4.2 Most important symptoms and effects, both acute and delayed

Vomiting, Risk of blindness, Risk of serious damage to eyes

### 4.3 Indication of any immediate medical attention and special treatment needed

none

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings!  
water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder

#### Unsuitable extinguishing media

water jet

### 5.2 Special hazards arising from the substance or mixture

Non-combustible.

#### Hazardous combustion products

In case of fire may be liberated: Sulphur oxides (SO<sub>x</sub>)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. 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

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe dust.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

### 6.3 Methods and material for containment and cleaning up

#### Advice on how to contain a spill

Covering of drains. Take up mechanically.

#### Advice on how to clean up a spill

Take up mechanically. Control of dust.

#### 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.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid dust formation.

#### Measures to protect the environment

Avoid release to the environment.

#### 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

Store in a dry place.

#### 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.

#### Human health values

| Relevant DNELs and other threshold levels |                     |                                    |                   |                            |
|---|---------------------|------------------------------------|-------------------|----------------------------|
| Endpoint                                  | Threshold level     | Protection goal, route of exposure | Used in           | Exposure time              |
| DNEL                                      | 1 mg/m <sup>3</sup> | human, inhalatory                  | worker (industry) | chronic - systemic effects |
| DNEL                                      | 1 mg/m <sup>3</sup> | human, inhalatory                  | worker (industry) | chronic - local effects    |
| DNEL                                      | 137 mg/kg bw/day    | human, dermal                      | worker (industry) | chronic - systemic effects |

#### Environmental values

| Relevant PNECs and other threshold levels |                 |                   |                              |                              |
|---|-----------------|-------------------|------------------------------|------------------------------|
| End-point                                 | Threshold level | Organism          | Environmental compartment    | Exposure time                |
| PNEC                                      | 7,8 µg/l        | aquatic organisms | freshwater                   | short-term (single instance) |
| PNEC                                      | 5,2 µg/l        | aquatic organisms | marine water                 | short-term (single instance) |
| PNEC                                      | 230 µg/l        | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |

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| Relevant PNECs and other threshold levels |                 |                       |                           |                              |
|---|-----------------|-----------------------|---------------------------|------------------------------|
| End-point                                 | Threshold level | Organism              | Environmental compartment | Exposure time                |
| PNEC                                      | 87 mg/kg        | aquatic organisms     | freshwater sediment       | short-term (single instance) |
| PNEC                                      | 676 mg/kg       | aquatic organisms     | marine sediment           | short-term (single instance) |
| PNEC                                      | 65 mg/kg        | terrestrial organisms | 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

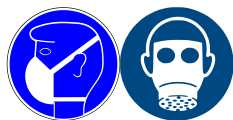
##### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

##### • other protection measures

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

##### Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

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## 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   | solid  |
| Colour   | blue   |
| Odour  | odourless                                      |
| Melting point/freezing point                             | 30 – 110 °C (Release of crystal water)         |
| Boiling point or initial boiling point and boiling range | not determined                                 |
| Flammability   | non-combustible                                |
| Lower and upper explosion limit                          | not determined                                 |
| Flash point  | not applicable                                 |
| Auto-ignition temperature                                | not determined                                 |
| Decomposition temperature                                | >30 °C (Release of crystal water)              |
| pH (value)   | 3,5 – 4,5 (in aqueous solution: 50 g/l, 20 °C) |
| Kinematic viscosity                                      | not relevant                                   |
| <u>Solubility(ies)</u>                                   |  |
| Water solubility   | 317 g/l at 20 °C                               |
| <u>Partition coefficient</u>                             |  |
| Partition coefficient n-octanol/water (log value):       | not relevant (inorganic)                       |
| Vapour pressure  | not determined                                 |
| <u>Density and/or relative density</u>                   |  |
| Density  | 2,286 g/cm <sup>3</sup> (ECHA)                 |
| Relative vapour density                                  | Information on this property is not available. |
| Particle characteristics                                 | No data available.                             |
| <u>Other safety parameters</u>                           |  |
| 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:                       | There is no additional information.                         |

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## 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

**Violent reaction with:** Acetylene, Magnesium, Strong alkali

### 10.4 Conditions to avoid

Keep away from heat. Decomposition takes place from temperatures above: >30 °C.

### 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

**Classification acc. to GHS**

#### Acute toxicity

Harmful if swallowed.

GHS of the United Nations, annex 4. May be harmful in contact with skin.

| Acute toxicity |          |              |         |        |        |
|----------------|----------|--------------|---------|--------|--------|
| Exposure route | Endpoint | Value        | Species | Method | Source |
| oral           | LD50     | 482 mg/kg    | rat     |        | ECHA   |
| dermal         | LD50     | >2.000 mg/kg | rat     |        | ECHA   |

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

#### Serious eye damage/eye irritation

Causes serious eye damage.

#### 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.



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### 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, vomiting, nausea, gastrointestinal complaints

#### • If in eyes

Causes serious eye damage, risk of blindness

#### • If inhaled

Data are not available.

#### • If on skin

Frequently or prolonged contact with skin may cause dermal irritation

#### • Other information

Other adverse effects: Liver and kidney damage, Circulatory collapse

### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

### 11.3 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

| Aquatic toxicity (acute) |                      |         |        |               |
|--------------------------|----------------------|---------|--------|---------------|
| Endpoint                 | Value                | Species | Source | Exposure time |
| LC50                     | 38,4 $\mu\text{g/l}$ | fish    | ECHA   | 96 h          |

### 12.2 Persistence and 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.

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## 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

## 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. Avoid release to the environment. Refer to special instructions/safety data sheets.

#### Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

#### Properties of waste which render it hazardous

**HP 4** irritant - skin irritation and eye damage  
**HP 6** acute toxicity  
**HP 14** ecotoxic

### 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. Non-contaminated packages may be recycled.

## SECTION 14: Transport information

### 14.1 UN number or ID number

|           |         |
|-----------|---------|
| ADRRID    | UN 3077 |
| IMDG-Code | UN 3077 |
| ICAO-TI   | UN 3077 |

### 14.2 UN proper shipping name

|                |  |
|----------------|--|
| ADRRID         | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| IMDG-Code      | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| ICAO-TI        | Environmentally hazardous substance, solid, n.o.s. |
| Technical name | Copper(II) sulphate pentahydrate                   |

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### 14.3 Transport hazard class(es)

|           |   |
|-----------|---|
| ADRRID    | 9 |
| IMDG-Code | 9 |
| ICAO-TI   | 9 |

### 14.4 Packing group

|           |     |
|-----------|-----|
| ADRRID    | III |
| IMDG-Code | III |
| ICAO-TI   | III |

**14.5 Environmental hazards** hazardous to the aquatic environment

### 14.6 Special precautions for user



Provisions for dangerous goods (ADR) should be complied within the premises.

### 14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

#### Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) Additional information

|   |   |
|---|---|
| Proper shipping name  | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  |
| Particulars in the transport document   | UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (Copper(II) sulphate pentahydrate), 9, III, (-) |
| Classification code   | M7  |
| Danger label(s)   | 9, "Fish and tree"  |
|   |   |
| Environmental hazards   | yes (hazardous to the aquatic environment)  |
| Special provisions (SP)   | 274, 335, 375, 601  |
| Excepted quantities (EQ)  | E1  |
| Limited quantities (LQ)   | 5 kg  |
| Transport category (TC)   | 3   |
| Tunnel restriction code (TRC)   | -   |
| Hazard identification No  | 90  |
| <b>Emergency Action Code</b>  | 2Z  |

#### Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) Additional information

|                            |                    |
|----------------------------|--------------------|
| <b>Classification code</b> | M7                 |
| <b>Danger label(s)</b>     | 9, "Fish and tree" |



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|                                 |                           |
|---------------------------------|---------------------------|
| <b>Environmental hazards</b>    | Yes<br>Hazardous to water |
| <b>Special provisions (SP)</b>  | 274, 335, 375, 601        |
| <b>Excepted quantities (EQ)</b> | E1                        |
| <b>Limited quantities (LQ)</b>  | 5 kg                      |
| <b>Transport category (TC)</b>  | 3                         |
| <b>Hazard identification No</b> | 90                        |

### International Maritime Dangerous Goods Code (IMDG) - Additional information


|  |  |
|--|--|
| Proper shipping name                     | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.   |
| Particulars in the shipper's declaration | UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (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, 966, 967, 969 |
| Excepted quantities (EQ) | E1                      |
| Limited quantities (LQ)  | 5 kg                    |
| EmS                      | F-A, S-F                |
| Stowage category         | A                       |

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

|  |  |
|--|--|
| Proper shipping name                     | Environmentally hazardous substance, solid, n.o.s.   |
| Particulars in the shipper's declaration | UN3077, Environmentally hazardous substance, solid, n.o.s., (Copper(II) sulphate pentahydrate), 9, III |
| Environmental hazards                    | YES (hazardous to the aquatic environment)   |
| Danger label(s)                          | 9, "Fish and tree"   |



|                          |                             |
|--------------------------|-----------------------------|
| Special provisions (SP)  | A97, A158, A179, A197, A215 |
| Excepted quantities (EQ) | E1                          |
| Limited quantities (LQ)  | 30 kg                       |

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## SECTION 15: Regulatory information

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

#### Relevant provisions of the European Union (EU)

##### Seveso Directive

| 2012/18/EU (Seveso III) |  |   |       |
|-------------------------|--|---|-------|
| No                      | Dangerous substance/hazard categories                                | Qualifying quantity (tonnes) for the application of lower and upper-tier requirements | Notes |
| E1                      | environmental hazards (hazardous to the aquatic environment, cat. 1) | 100                      200  | 56)   |

##### Notation

56) Hazardous to the Aquatic Environment in category Acute 1 or Chronic 1

##### Deco-Paint Directive

|             |     |
|-------------|-----|
| VOC content | 0 % |
|-------------|-----|

##### Industrial Emissions Directive (IED)

|             |     |
|-------------|-----|
| VOC content | 0 % |
|-------------|-----|

##### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

##### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

##### Water Framework Directive (WFD)

| List of pollutants (WFD)         |   |        |           |         |
|----------------------------------|---|--------|-----------|---------|
| Name of substance                | Name acc. to inventory  | CAS No | Listed in | Remarks |
| Copper(II) sulphate pentahydrate | Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment |        | a)        |         |
| Copper(II) sulphate pentahydrate | Metals and their compounds  |        | a)        |         |

##### Legend

a) Indicative list of the main pollutants

##### Regulation on the marketing and use of explosives precursors

not listed

##### Regulation on drug precursors

not listed

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### Regulation on substances that deplete the ozone layer (ODS)

not listed

### Regulation concerning the export and import of hazardous chemicals (PIC)

not listed

### Regulation on persistent organic pollutants (POP)

not listed

### National regulations(GB)

### List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

not listed

### Restrictions according to GB REACH, Annex 17

not listed

### 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      | AIIC      | substance is listed |
| CN      | IECSC     | substance is listed |
| EU      | ECSI      | substance is listed |
| JP      | CSCL-ENCS | substance is listed |
| KR      | KECI      | substance is listed |
| NZ      | NZIoC     | substance is listed |
| PH      | PICCS     | substance is listed |
| TR      | CICR      | substance is listed |
| TW      | TCSI      | substance is listed |
| VN      | NCI       | substance is listed |

#### Legend

|           |   |
|-----------|---|
| AIIC      | Australian Inventory of Industrial Chemicals                            |
| CICR      | Chemical Inventory and Control Regulation                               |
| CSCL-ENCS | List of Existing and New Chemical Substances (CSCL-ENCS)                |
| ECSI      | EC Substance Inventory (EINECS, ELINCS, NLP)                            |
| IECSC     | Inventory of Existing Chemical Substances Produced or Imported in China |
| KECI      | Korea Existing Chemicals Inventory                                      |
| NCI       | National Chemical Inventory   |
| NZIoC     | New Zealand Inventory of Chemicals                                      |
| PICCS     | Philippine Inventory of Chemicals and Chemical Substances (PICCS)       |
| TCSI      | Taiwan Chemical Substance Inventory                                     |

## 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

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## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

| Section | Former entry (text/value)  | Actual entry (text/value)  | Safety-relevant |
|---------|--|--|-----------------|
| 1.1     | EC number:<br>231-847-6  | EC number:<br>616-477-9  | yes             |
| 2.2     | Labelling of packages where the contents do not exceed 125 ml:<br>Signal word: Danger                |  | yes             |
| 2.2     |  | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table)                | yes             |
| 2.2     |  | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table)                | yes             |
| 2.2     |  | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table)                | yes             |
| 2.3     |  | Endocrine disrupting properties:<br>Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%. | yes             |
| 14.8    |  | Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)Additional information       | yes             |
| 14.8    |  | Classification code:<br>M7   | yes             |
| 14.8    |  | Danger label(s):<br>9, "Fish and tree"   | yes             |
| 14.8    |  | Danger label(s):<br>change in the listing (table)  | yes             |
| 14.8    |  | Environmental hazards:<br>Yes<br>Hazardous to water  | yes             |
| 14.8    |  | Special provisions (SP):<br>274, 335, 375, 601   | yes             |
| 14.8    |  | Excepted quantities (EQ):<br>E1  | yes             |
| 14.8    |  | Limited quantities (LQ):<br>5 kg   | yes             |
| 14.8    |  | Transport category (TC):<br>3  | yes             |
| 14.8    |  | Hazard identification No:<br>90  | yes             |
| 15.1    | Restrictions according to REACH, Annex XVII  |  | yes             |
| 15.1    |  | Dangerous substances with restrictions (REACH, Annex XVII):<br>change in the listing (table)                   | yes             |
| 15.1    | List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list:<br>Not listed. |  | yes             |

# Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Copper(II) sulphate pentahydrate ≥99,5 %, p.a., ACS, ISO

article number: **P024**

| Section | Former entry (text/value) | Actual entry (text/value)  | Safety-relevant |
|---------|---------------------------|--|-----------------|
| 15.1    |                           | National regulations(GB)   | yes             |
| 15.1    |                           | List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list: not listed   | yes             |
| 15.1    |                           | Restrictions according to GB REACH, Annex 17: not listed   | yes             |
| 15.1    |                           | Other information:<br>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. | yes             |
| 15.1    |                           | National inventories:<br>change in the listing (table)   | yes             |

### Abbreviations and acronyms

| Abbr.     | Descriptions of used abbreviations  |
|-----------|---|
| ADR       | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)                     |
| 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   |
| EC No     | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union) |
| ED        | Endocrine disruptor   |
| EINECS    | European Inventory of Existing Commercial Chemical Substances   |
| ELINCS    | European List of Notified Chemical Substances   |
| EmS       | Emergency Schedule  |
| GB CLP    | The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/720 (as amended)                        |
| GB REACH  | The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)  |
| 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   |
| IMDG-Code | International Maritime Dangerous Goods Code   |
| index No  | The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008  |



# Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



## Copper(II) sulphate pentahydrate ≥99,5 %, p.a., ACS, ISO

article number: **P024**

| Abbr.    | Descriptions of used abbreviations   |
|----------|--|
| 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   |
| M-factor | Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present |
| NLP      | No-Longer Polymer  |
| PBT      | Persistent, Bioaccumulative and Toxic  |
| PNEC     | Predicted No-Effect Concentration  |
| REACH    | Registration, Evaluation, Authorisation and Restriction of Chemicals   |
| RID      | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)  |
| VOC      | Volatile Organic Compounds   |
| vPvB     | Very Persistent and very Bioaccumulative   |

### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### 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.                            |
| H400 | Very toxic to aquatic life.                           |
| H410 | Very toxic to aquatic life with long lasting effects. |

### Disclaimer

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