

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006  
Print Date 23.10.2014

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

#### 1.1 Product identifiers

Product name : Copper(II) sulfate  
REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.  
CAS-No. : 7758-98-7

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

Identified uses : Laboratory chemicals, Manufacture of substances

#### 1.3 Details of the supplier of the safety data sheet

Company : Vet-Way Ltd,  
1 Harrier court  
Airfield Business Park  
Elvington  
York  
YO41 4EA  
UNITED KINGDOM  
Telephone : +44 (0)1940 607600  
Fax : +44 (0)1904 607601

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

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

Acute toxicity, Oral (Category 4), H302 Skin  
irritation (Category 2), H315  
Eye irritation (Category 2), H319  
Acute aquatic toxicity (Category 1), H400 Chronic  
aquatic toxicity (Category 1), H410

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

##### Classification according to EU Directives 67/548/EEC or 1999/45/EC

Xn	Harmful	R22
Xi	Irritant	R36/38
N	Dangerous for the environment	R50/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

## 2.2 Label elements

### Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Warning

Hazard statement(s)

H302

Harmful if swallowed.

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P273

Avoid release to the environment.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P501

Dispose of contents/ container to an approved waste disposal plant.

Supplemental Hazard Statements None

## 2.3 Other hazards - none

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Synonyms : Cupric sulfate

Formula : CuO<sub>4</sub>S

Molecular Weight : 159.61 g/mol

CAS-No. : 7758-98-7

EC-No. : 231-847-6

Index-No. : 029-004-00-0

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

Component	Classification	Concentration
<b>Copper sulphate</b>		
CAS-No. 7758-98-7 EC-No. 231-847-6 Index-No. 029-004-00-0	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; Aquatic Acute 1; Aquatic Chronic 1; H302, H315, H319, H410	<= 100 %

#### Hazardous ingredients according to Directive 1999/45/EC

Component	Classification	Concentration
<b>Copper sulphate</b>		
CAS-No. 7758-98-7 EC-No. 231-847-6 Index-No. 029-004-00-0	Xn, N, R22 - R36/38 - R50/53	<= 100 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

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

#### If inhaled

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

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

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

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

no data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media Suitable

#### extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

Sulphur oxides, Borane/boron oxides, Copper oxides

### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 5.4 Further information

The product itself does not burn.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

### 6.2 Environmental precautions

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

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

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

## 7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Air sensitive. hygroscopic Store under inert gas.

## 7.3 Specific end use(s)

A part from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact Material:

Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

##### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the

environment must be avoided.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	Form: powder Colour: light grey
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	Melting point/range: 200 °C - dec.
f) Initial boiling point and boiling range	no data available
g) Flash point	not applicable
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	9.7 hPa at 25 °C
l) Vapour density	no data available
m) Relative density	3.603 g/mL at 25 °C
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available

- r) Viscosity no data available
- s) Explosive properties no data available
- t) Oxidizing properties no data available

## 9.2 Other safety information

Bulk density 1 kg/m<sup>3</sup>

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Powdered metals, hydroxylamine, Magnesium, Strong reducing agents

### 10.6 Hazardous decomposition products

Other decomposition products - no data available In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - 482 mg/kg

LD50 Intraperitoneal - rat - 20 mg/kg LD50

Subcutaneous - rat - 43 mg/kg

LD50 Intravenous - rat - 48.9 mg/kg

#### Skin corrosion/irritation

no data available

#### Serious eye damage/eye irritation

no data available

#### Respiratory or skin sensitisation Germ cell mutagenicity

rat liver DNA damage mouse DNA damage

#### Carcinogenicity

Carcinogenicity - Chicken - Parenteral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Endocrine: Tumors.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### Reproductive toxicity

Reproductive toxicity - mouse - Intravenous

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Developmental Toxicity - mouse - Intravenous

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities:

Central nervous system. Specific Developmental Abnormalities: Cardiovascular (circulatory) system.

**Specific target organ toxicity - single exposure**

no data available

**Specific target organ toxicity - repeated exposure**

no data available

**Aspiration hazard**

no data available

**Additional Information**

RTECS: GL8800000

Symptoms of systemic copper poisoning may include: capillary damage, headache, cold sweat, weak pulse, and kidney and liver damage, central nervous system excitation followed by depression, jaundice, convulsions, paralysis, and coma. Death may occur from shock or renal failure. Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has lead to hemolytic anemia and accelerates arteriosclerosis., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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**SECTION 12: Ecological information**

**12.1 Toxicity**

Toxicity to fish mortality LC50 - other fish - 1 - 2.5 mg/l - 96.0 h

Toxicity to daphnia and other aquatic invertebrates

Immobilization EC50 - Daphnia magna (Water flea) - 0.024 mg/l - 48 h

**12.2 Persistence and degradability**

no data available

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

Very toxic to aquatic life.

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**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

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**SECTION 14: Transport information**

**14.1 UN number**

ADR/RID: 3077

IMDG: 3077

IATA: 3077

**14.2 UN proper shipping name**

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper sulphate) IMDG:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper sulphate)

IATA: Environmentally hazardous substance, solid, n.o.s. (Copper sulphate)

<b>14.3 Transport hazard class(es)</b>			
ADR/RID: 9	IMDG: 9	IATA: 9	
<b>14.4 Packaging group</b>			
ADR/RID: III	IMDG: III	IATA: III	
<b>14.5 Environmental hazards</b>			
ADR/RID: yes	IMDG Marine pollutant: yes	IATA: yes	
<b>14.6 Special precautions for user</b>			
no data available			

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## SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

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## SECTION 16: Other information

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

Acute Tox.	Acute toxicity Aquatic
Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Eye Irrit.	Eye irritation
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.

### Full text of R-phrases referred to under sections 2 and 3

N	Dangerous for the environment
Xn	Harmful
R22	Harmful if swallowed.
R36/38	Irritating to eyes and skin.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### Further information

None.

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