

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

## Copper Sulphate Pentahydrate

Version 2.0

Print Date 2012/07/16

Revision Date 2012/07/16

MSDS code: MYYY814

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Trade name : Copper Sulphate Pentahydrate  
 Substance name : copper sulphate pentahydrate  
 Index-No. : 029-004-00-0  
 CAS-No. : 7758-99-8  
 EC-No. : 231-847-6

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

Use of the Substance/Mixture : At this time we do not yet have information on identified uses. They will be included in this safety data sheet when available.

Uses advised against : At this moment we have not identified any uses advised against

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

Company : Brenntag UK & Ireland  
 Albion House, Rawdon Park  
 GB LS19 7XX Leeds Yeadon  
 Telephone : +44 (0) 113 3879 200  
 Telefax : +44 (0) 113 3879 280  
 E-mail address : msds@brenntag.co.uk

#### 1.4. Emergency telephone number

Emergency telephone number : Emergency only telephone number (open 24 hours):  
 +44 (0) 1865 407333 (N.C.E.C. Culham)

### 2. Hazards identification

#### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

REGULATION (EC) No 1272/2008			
Hazard class	Hazard category	Target Organs	Hazard statements
Acute toxicity (Oral)	Category 4	---	H302

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Serious eye damage/eye irritation	Category 2	---	H319
Skin corrosion/irritation	Category 2	---	H315
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**

Directive 67/548/EEC or 1999/45/EC	
Hazard symbol / Category of danger	Risk phrases
Harmful (Xn)	R22
Irritant (Xi)	R36/38
Dangerous for the environment (N)	R50, R53

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

**Most important adverse effects**

- Human Health : See section 11 for toxicological information.
- Physical and chemical hazards : See section 9 for physicochemical information.
- Potential environmental effects : See section 12 for environmental information.

**2.2. Label elements**

**Labelling according to Regulation (EC) No 1272/2008**

Hazard symbols :



Signal word : Warning

Hazard statements : H302 Harmful if swallowed.  
H319 Causes serious eye irritation.

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	H315	Causes skin irritation.
	H410	Very toxic to aquatic life with long lasting effects.
Precautionary statements		
Prevention	: P273 P280	Avoid release to the environment. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response	: P301 + P312 P305 + P351 + P338 P337 + P313 P302 + P352	IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention. IF ON SKIN: Wash with plenty of soap and water.

**Hazardous components which must be listed on the label:**

- copper sulphate pentahydrate

### 2.3. Other hazards

For Results of PBT and vPvB assessment see section 12.5.

## 3. Composition/information on ingredients

### 3.1. Substances

Hazardous components	Amount [%]	Classification (REGULATION (EC) No 1272/2008)		Classification (67/548/EEC)
		Hazard class / Hazard category	Hazard statements	
copper sulphate pentahydrate				

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Index-No.	: 029-004-00-0	Acute Tox.4	H302	Xn; R22
CAS-No.	: 7758-99-8	Eye Irrit.2	H319	Xi; R36/38
EC-No.	: 231-847-6	Skin Irrit.2	H315	N; R50-R53
	<= 100	Aquatic Acute1	H400	
		Aquatic Chronic1	H410	

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

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

**4. First aid measures**

**4.1. Description of first aid measures**

General advice	: Take off all contaminated clothing immediately.
If inhaled	: Remove to fresh air. If breathing is labored, administer oxygen. If symptoms call a physician.
In case of skin contact	: After contact with skin, wash immediately with plenty of water. If skin irritation persists, call a physician.
In case of eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible.
If swallowed	: Rinse the mouth and spit the fluids out. Immediately give plenty of water (if possible charcoal slurry). Never give anything by mouth to an unconscious person. Induce vomiting if person is conscious. Call a physician immediately.

**4.2. Most important symptoms and effects, both acute and delayed**

Symptoms	: See Section 11 for more detailed information on health effects and symptoms.
Effects	: See Section 11 for more detailed information on health effects and symptoms.

**4.3. Indication of any immediate medical attention and special treatment needed**

Treatment	: Treat symptomatically.
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**5. Firefighting measures**

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**MSDS code: MYYY814****5.1. Extinguishing media**

Suitable extinguishing media : The product itself does not burn. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : No information available.

**5.2. Special hazards arising from the substance or mixture**

Specific hazards during firefighting : Fire may cause evolution of: Sulphur oxides

**5.3. Advice for firefighters**

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit)

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**6. Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment. Provide adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing. Do not breathe dust.

**6.2. Environmental precautions**

Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

**6.3. Methods and materials for containment and cleaning up**

Methods and materials for containment and cleaning up : Use mechanical handling equipment. Keep in suitable, closed containers for disposal.

Further information : Treat recovered material as described in the section "Disposal considerations".

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### 6.4. Reference to other sections

See Section 1 for emergency contact information.  
See Section 8 for information on personal protective equipment.  
See Section 13 for waste treatment information.

## 7. Handling and storage

### 7.1. Precautions for safe handling

Advice on safe handling : Keep container tightly closed. Provide for appropriate exhaust ventilation and dust collection at machinery. Avoid contact with the skin and the eyes. Avoid dust formation. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately. Avoid contact with the skin and the eyes. Do not breathe dust.

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

Requirements for storage areas and containers : Store in original container.

Advice on protection against fire and explosion : The product is not flammable. Normal measures for preventive fire protection.

Further information on storage conditions : Keep container tightly closed. Keep in a dry place. Product is hygroscopic.

Advice on common storage : Keep away from food, drink and animal feedingstuffs.

German storage class : 13 Non Combustible Solids

### 7.3. Specific end use(s)

Specific use(s) : No information available.

## 8. Exposure controls/personal protection

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### 8.1. Control parameters

#### Other Occupational Exposure Limit Values

(Additional) Information : Contains no substances with occupational exposure limit values.

### 8.2. Exposure controls

#### Personal protective equipment

##### *Respiratory protection*

Advice : Required if dust is released  
Recommended Filter type:  
Particle filter:P2  
Particle filter:P3

##### *Hand protection*

Advice : Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.  
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).  
Protective gloves should be replaced at first signs of wear.  
The following information applies to aqueous, saturated solutions.

Material : Natural Rubber  
Break through time :  $\geq 8$  min  
Glove thickness : 0.5 mm

Material : Nitrile rubber  
Break through time :  $\geq 8$  min  
Glove thickness : 0.35 mm

Material : polychloroprene  
Break through time :  $\geq 8$  min  
Glove thickness : 0.5 mm

Material : Fluorinated rubber

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Break through time :  $\geq 8$  min

Glove thickness : 0.4 mm

Material : butyl-rubber

Break through time :  $\geq 8$  min

Glove thickness : 0.5 mm

Material : Polyvinylchloride

Break through time :  $\geq 8$  min

Glove thickness : 0.5 mm

### Eye protection

Advice : Safety glasses with side-shields

### Skin and body protection

Advice : Dust impervious protective suit

### Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.  
Avoid subsoil penetration.  
If the product contaminates rivers and lakes or drains inform respective authorities.  
If material reaches soil inform authorities responsible for such cases.

## 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Form : solid

Colour : blue

Odour : odourless

Odour Threshold : Currently we do not have any information from our supplier about this.

pH : 3.5 - 4.5 (50 g/l; 20 °C)



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Melting point/range	:	not applicable Thermal decomposition
Boiling point/boiling range	:	no data available
Flash point	:	not applicable
Evaporation rate	:	Currently we do not have any information from our supplier about this.
Flammability (solid, gas)	:	Currently we do not have any information from our supplier about this.
Upper explosion limit	:	Currently we do not have any information from our supplier about this.
Lower explosion limit	:	Currently we do not have any information from our supplier about this.
Vapour pressure	:	Currently we do not have any information from our supplier about this.
Relative vapor density	:	Currently we do not have any information from our supplier about this.
Density	:	2.29 g/cm <sup>3</sup> (20 °C)
Water solubility	:	317 g/l (20 °C)
Partition coefficient: n-octanol/water	:	Currently we do not have any information from our supplier about this.
Ignition temperature	:	Currently we do not have any information from our supplier about this.
Thermal decomposition	:	> 560 °C
Viscosity, dynamic	:	Currently we do not have any information from our supplier about this.
Explosive properties	:	EU legislation: Not explosive
Explosivity	:	Product is not explosive.
Oxidizing properties	:	Currently we do not have any information from our supplier about this.

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### 9.2. Other information

Bulk density : ca. 900 - 1,200 kg/m<sup>3</sup>

## 10. Stability and reactivity

### 10.1. Reactivity

Advice : No decomposition if used as directed.

### 10.2. Chemical stability

Advice : No decomposition if stored and applied as directed.

### 10.3. Possibility of hazardous reactions

Hazardous reactions : No information available.

### 10.4. Conditions to avoid

Conditions to avoid : humid air and water  
Thermal decomposition : > 560 °C  
Product is hygroscopic.

### 10.5. Incompatible materials

Materials to avoid : Hydroxylamine, Strong oxidizing agents, Magnesium powder

### 10.6. Hazardous decomposition products

Hazardous decomposition products : Sulphur oxides, toxic metal oxide fume

## 11. Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity

Oral

Currently we do not have any information from our supplier about

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this.

**Inhalation**

Currently we do not have any information from our supplier about this.

**Dermal**

Currently we do not have any information from our supplier about this.

**Irritation**

**Skin**

Currently we do not have any information from our supplier about this.

**Eyes**

Currently we do not have any information from our supplier about this.

**Sensitisation**

Currently we do not have any information from our supplier about this.

**CMR effects**

**CMR Properties**

- Carcinogenicity : Currently we do not have any information from our supplier about this.
- Mutagenicity : Currently we do not have any information from our supplier about this.
- Teratogenicity : Currently we do not have any information from our supplier about this.
- Reproductive toxicity : Currently we do not have any information from our supplier about this.

**Specific Target Organ Toxicity**

**Single exposure**

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Currently we do not have any information from our supplier about this.

**Repeated exposure**

Currently we do not have any information from our supplier about this.

**Aspiration toxicity**

Currently we do not have any information from our supplier about this.

**Further information**

Other relevant toxicity information : May cause corneal damage.  
Irritating to respiratory system.

**Component: copper sulphate pentahydrate****CAS-No.  
7758-99-8****Acute toxicity****Oral**

LD50 : 450 - 1000 mg/kg (rat)

**Dermal**

LD50 : &gt; 2000 mg/kg (rabbit)

**Irritation****Skin**

Irritating to skin.

**Eyes**

Irritating to eyes.

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## 12. Ecological information

### 12.1. Toxicity

**Component: copper sulphate pentahydrate**

**CAS-No.  
7758-99-8**

#### Acute toxicity

##### Fish

LC50 : 0.75 - 0.84 mg/l (Oncorhynchus mykiss; 96 h; Test substance: applies to anhydrous substance)

#### Toxicity to daphnia and other aquatic invertebrates

LC50 : 0.024 mg/l (Daphnia magna; 48 h; Test substance: applies to anhydrous substance)

##### algae

EC50 : 0.1 mg/l (scenedesmus quadricauda; 4 h; Test substance: applies to anhydrous substance)

### 12.2. Persistence and degradability

**Component: copper sulphate pentahydrate**

**CAS-No.  
7758-99-8**

#### Persistence and degradability

##### Biodegradability

Result : The methods for determining biodegradability are not applicable to inorganic substances.

### 12.3. Bioaccumulative potential

#### Bioaccumulation

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Result : No information available.

### 12.4. Mobility in soil

#### Mobility

Result : The product is partly soluble in water.

### 12.5. Results of PBT and vPvB assessment

#### Results of PBT and vPvB assessment

Result : not applicable

### 12.6. Other adverse effects

#### Additional ecological information

Result : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
The product should not be allowed to enter drains, water courses or the soil.  
Danger to drinking water if even small quantities leak into soil.

## 13. Disposal considerations

### 13.1. Waste treatment methods

Product : Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.

Contaminated packaging : Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. Packagings that cannot be cleaned are to be disposed of in the same manner as the product.

European Waste : No waste code according to the European Waste Catalogue

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Catalogue Number can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

### 14. Transport information

#### 14.1. UN number

3077

#### 14.2. UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Copper sulfate pentahydrate)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Copper sulfate pentahydrate)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Copper sulfate pentahydrate)

#### 14.3. Transport hazard class(es)

ADR-Class : 9  
(Labels; Classification Code; Hazard identification No; Tunnel restriction code) 9; M7; 90; (E)

RID-Class : 9  
(Labels; Classification Code; Hazard identification No) 9; M7; 90

IMDG-Class : 9  
(Labels; EmS) 9; F-A, S-F

#### 14.4. Packaging group

ADR : III  
RID : III  
IMDG : III

#### 14.5. Environmental hazards

Labeling according to 5.2.1.8 ADR : Fish and tree  
Labeling according to 5.2.1.8 RID : Fish and tree  
Labeling according to 5.2.1.6.3 IMDG : Fish and tree

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Classification as environmentally hazardous according to 2.9.3 IMDG : yes  
 Classified as "P" according to 2.10 IMDG : yes

### 14.6. Special precautions for user

Not applicable.

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IMDG : Not applicable.

## 15. Regulatory information

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

UK ISR : copper sulphate pentahydrate: Annual reporting level threshold: 10 kg

UK ISR : copper sulphate pentahydrate: Annual reporting level threshold: 20.0; kg

#### Notification status

#### copper sulphate pentahydrate:

Regulatory List	Notification	Notification number
AICS	YES	
INV (CN)	YES	
ENCS (JP)	YES	(1)-300
ISHL (JP)	YES	(1)-300

### 15.2. Chemical Safety Assessment

Currently we do not have any information from our supplier about this.

## 16. Other information

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

R22 Harmful if swallowed.  
 R36/38 Irritating to eyes and skin.



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R50 Very toxic to aquatic organisms.  
R53 May cause long-term adverse effects in the aquatic environment.

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

H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.

### **Further information**

Other information : The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text

|| Indicates updated section.