SAFETY DATA SHEET
COPPER SULPHATE 5 H2O LRG

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

1.1. Product identifier
Product name COPPER SULPHATE 5 H2O LRG
Product number 1515
CAS number 7758-99-8
EC number 231-847-6

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses Laboratory reagent.
Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet
Supplier Reagent Chemical Services
18 Aston Fields Road
Whitehouse Industrial Estate
Runcorn
Cheshire WA7 3DL
T: 01928 716903 (08.30 - 17.00)
F: 01928 716425
E: info@reagent.co.uk

1.4. Emergency telephone number
Emergency telephone OHES Environmental Ltd 24-7
Tel. 0333 333 9939 (24 hour)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification (EC 1272/2008)
Physical hazards Not Classified
Health hazards Acute Tox. 4 - H302 Skin Irrit. 2 - H315 Eye Dam. 1 - H318
Environmental hazards Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

2.2. Label elements
EC number 231-847-6

Pictogram

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COPPER SULPHATE 5 H2O LRG

Signal word

Danger

Hazard statements

H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
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 in accordance with national regulations.

Supplementary precautionary statements

P264 Wash contaminated skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P301+P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P310 Immediately call a POISON CENTER/ doctor.
P321 Specific treatment (see medical advice on this label).
P330 Rinse mouth.
P332+P313 If skin irritation occurs: Get medical advice/ attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name COPPER SULPHATE 5 H2O LRG
CAS number 7758-99-8
EC number 231-847-6

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.

Inhalation

Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.

Ingestion

Rinse mouth thoroughly with water. Remove any dentures. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.

Skin contact

Rinse with water.

Eye contact

Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Continue to rinse for at least 10 minutes.
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Protection of first aiders

First aid personnel should wear appropriate protective equipment during any rescue. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

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

General information

See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation

No specific symptoms known.

Ingestion

May cause discomfort if swallowed. Stomach pain. Nausea, vomiting.

Skin contact

Redness. Irritating to skin.

Eye contact

Irritating to eyes.

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

Notes for the doctor

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards

This product is toxic.

Hazardous combustion products

Thermal decomposition or combustion products may include the following substances: Toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting

Avoid breathing fire gases or vapours. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material.

6.2. Environmental precautions
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Environmental precautions
Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up
Methods for cleaning up
Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Provide adequate ventilation. Approach the spillage from upwind. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into suitable waste disposal containers and seal securely. Containers with collected spillage must be properly labelled with correct contents and hazard symbol.

6.4. Reference to other sections
Reference to other sections
For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Usage precautions
Read and follow manufacturer’s recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene
Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

7.2. Conditions for safe storage, including any incompatibilities
Storage precautions
Store in accordance with local regulations. Store away from the following materials: Alkalis. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

Storage class
Toxic storage.

7.3. Specific end use(s)
Specific end use(s)
The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters
PNEC
- Fresh water: 7.8µg/L
- Marine water: 5.2µg/L
- STP: 230µg/L
- Sediment (Freshwater): 87 mg/kg
- Sediment (Marine water): 676 mg/kg
- Soil: 65 mg/kg

8.2. Exposure controls
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Protective equipment

Appropriate engineering controls
Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.

Eye/face protection
Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection
Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

Other skin and body protection
Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

Hygiene measures
Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.

Respiratory protection
Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is ‘CE’-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

Environmental exposure controls
Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance
Crystals.

Colour
Blue.

Odour
Odourless.

pH
pH (diluted solution): About 4 5%
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Melting point: 110 (Decomposition)°C
Initial boiling point and range: 560°C @
Flash point: Scientifically unjustified.
Flammability (solid, gas): Scientifically unjustified.
Vapour pressure: Scientifically unjustified.
Relative density: 2.29 @ °C
Solubility(ies): 22 g/l water @ 25°C
Auto-ignition temperature: Scientifically unjustified.
Explosive properties: Scientifically unjustified.
Oxidising properties: Does not meet the criteria for classification as oxidising.

SECTION 10: Stability and reactivity

10.1. Reactivity
Reactivity: The following materials may react with the product: Alkalis. Chemically-active metals.

10.2. Chemical stability
Stability: Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions
Possibility of hazardous reactions: May generate heat.

10.4. Conditions to avoid
Conditions to avoid: Avoid exposure to high temperatures or direct sunlight.

10.5. Incompatible materials
Materials to avoid: Alkalis. Amines. Chemically-active metals. May be corrosive to metals.

10.6. Hazardous decomposition products
Hazardous decomposition products: Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Toxic gases or vapours. Sulphurous gases (SOx).

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity - oral
Notes (oral LD₅₀): Acute Tox. 4 - H302 Harmful if swallowed. LD₅₀ 481 mg/kg, Oral, Rat

Acute toxicity - dermal
Notes (dermal LD₅₀): Based on available data the classification criteria are not met.

Acute toxicity - inhalation
Notes (inhalation LC₅₀): Based on available data the classification criteria are not met.

Skin corrosion/irritation

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COPPER SULPHATE 5 H₂O LRG

Animal data

Irritating.

Serious eye damage/irritation

Causes serious eye irritation.

Respiratory sensitisation

Based on available data the classification criteria are not met.

Skin sensitisation

Based on available data the classification criteria are not met.

Germ cell mutagenicity

Based on available data the classification criteria are not met.

Carcinogenicity

Based on available data the classification criteria are not met.

IARC carcinogenicity

None of the ingredients are listed or exempt.

Reproductive toxicity

Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure

Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure

Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Based on available data the classification criteria are not met.

General information

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation

No specific symptoms known.

Ingestion

May cause discomfort if swallowed. Stomach pain. Nausea, vomiting.

Skin contact

Redness. Irritating to skin.

Eye contact

Irritating to eyes.

Target organs

No specific target organs known.

SECTION 12: Ecological Information

Ecotoxicity

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

12.1. Toxicity

Toxicity

Aquatic Acute 1 - H400 Very toxic to aquatic life. Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.

Acute aquatic toxicity

LE(C)₅₀

0.01 < L(E)C50 ≤ 0.1

M factor (Acute)

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Acute toxicity - fish
LC₅₀, 96 hours: 0.81 mg/l, Cyprinus carpio (Common carp)

Acute toxicity - aquatic invertebrates
EC₅₀, 48 hours: 0.035 (Daphnia magna) mg/l, Daphnia magna

Chronic aquatic toxicity
M factor (Chronic) 1

Chronic toxicity - fish early life stage
NOEC, 78 days: 0.016 mg/l, Onchorhynchus mykiss (Rainbow trout)

12.2. Persistence and degradability

Persistence and degradability
The product contains inorganic substances which are not biodegradable.

Stability (hydrolysis)
Scientifically unjustified.

Biodegradation
Scientifically unjustified.

12.3. Bioaccumulative potential

Bioaccumulative potential
BCF: 0.5 (Daphnia Magna),

12.4. Mobility in soil

Mobility
The product is water-soluble and may spread in water systems.

Adsorption/desorption coefficient
Water - : log Kd = 4.66 @ °C

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment
This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects
Dangerous for the environment. Will affect drinking water supplies.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information
The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods
Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

General
For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

14.1. UN number
UN No. (ADR/RID) 3077
COPPER SULPHATE 5 H2O LRG

UN No. (IMDG) 3077
UN No. (ICAO) 3077

14.2. UN proper shipping name

Proper shipping name (ADR/RID) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER (II) SULPHATE)
Proper shipping name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER (II) SULPHATE)
Proper shipping name (ICAO) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER (II) SULPHATE)
Proper shipping name (ADN) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER (II) SULPHATE)

14.3. Transport hazard class(es)

ADR/RID class 9
ADR/RID label 9
IMDG class 9
ICAO class/division 9

Transport labels

14.4. Packing group

ADR/RID packing group III
IMDG packing group III
ICAO packing group III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

EmS F-A, S-F

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

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

Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
COPPER SULPHATE 5 H2O LRG

National regulations
Health and Safety at Work etc. Act 1974 (as amended).
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) "CDG 2009".
EH40/2005 Workplace exposure limits.

EU legislation
Dangerous Preparations Directive 1999/45/EC.
Dangerous Substances Directive 67/548/EEC.

15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

Inventories
EU - EINECS/ELINCS
None of the ingredients are listed or exempt.

US - TSCA
None of the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification
None of the ingredients are listed or exempt.

SECTION 16: Other information

General information
This datasheet is not intended to be a replacement for a full risk assessment, these should always be carried out by competent persons.

Key literature references and sources for data

Classification procedures according to Regulation (EC) 1272/2008

Training advice
Only trained personnel should use this material.

Revision comments
Revised classification.

Revision date
08/08/2017

Revision
4

Supersedes date
19/10/2015

SDS number
20567

Hazard statements in full
H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
COPPER SULPHATE 5 H2O LRG

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.