Copper Sulfate, 2 g/L

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 02/05/2014 Version: 1.0

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

1.1. Product identifier

Product form : Mixture

Product name : Copper Sulfate, 2 g/L

Product code : LC13410

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

Use of the substance/mixture : For laboratory and manufacturing use only.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labelling

No labelling applicable

2.3. Other hazards

Other hazards not contributing to the classification : None.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

Full text of H-phrases: see section 16

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Water	(CAS No) 7732-18-5	99.8	Not classified
Copper (II) Sulfate, Pentahydrate	(CAS No) 7758-99-8	0.2	Acute Tox. 3 (Oral), H301 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Safety glasses.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.

Hygiene measures : Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use.

Incompatible products : Strong reducing agents. Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Wear protective gloves.

Eye protection	:	Chemical goggles or safety glasses.
Respiratory protection	:	Wear appropriate mask.
Other information	:	Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Bluish liquid.
Odour	:	None.
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Self ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	No data available
Density	:	1 g/ml
Solubility	:	Soluble in water.
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	Not applicable.
Oxidising properties	:	No data available.
Explosive limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong reducing agents. Strong bases.

10.6. Hazardous decomposition products

Sulfur compounds.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	Not classified

Copper (II) Sulfate, Pentahydrate (7758-99-8)	
LD50 oral rat	300 mg/kg (482 mg/kg bodyweight; Rat; Rat; Experimental value,482 mg/kg bodyweight; Rat; Rat; Experimental value)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)

Water (7732-18-5)	
LD50 oral rat	≥ 90000 mg/kg

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : Not classified
Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.
Likely routes of exposure : Skin and eye contact

SECTION 12: Ecological information

12.1. Toxicity

Copper (II) Sulfate, Pentahydrate (7758-99-8)	
LC50 fishes 1	1.5 mg/l (24 h; Lepomis macrochirus; Toxicity test)
EC50 Daphnia 1	0.109 - 0.798 mg/l (48 h; Daphnia magna; Anhydrous form)
LC50 fish 2	0.17 mg/l (24 h; Salmo gairdneri (Oncorhynchus mykiss); Anhydrous form)
TLM fish 1	3.8 ppm 24 h; Salmo gairdneri (Oncorhynchus mykiss)
Threshold limit algae 1	0.01 - 0.28,72 h; Selenastrum capricornutum; Anhydrous form
Threshold limit algae 2	0.368 mg/l (72 h; Pseudokirchneriella subcapitata; Anhydrous form)

12.2. Persistence and degradability

Copper Sulfate, 2 g/L	
Persistence and degradability	Not readily biodegradable.

Copper (II) Sulfate, Pentahydrate (7758-99-8)	
Persistence and degradability	Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

Water (7732-18-5)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Copper Sulfate, 2 g/L	
Bioaccumulative potential	Not established.

Copper (II) Sulfate, Pentahydrate (7758-99-8)	
Bioaccumulative potential	Bioaccumable. Not established.

Water (7732-18-5)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

Copper Sulfate, 2 g/L	
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

Copper (II) Sulfate, Pentahydrate (7758-99-8)	
Ecology - soil	Toxic to flora.

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

No dangerous good in sense of transport regulations

Additional information

Other information : No supplementary information available.

ADR

Transport document description :

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Copper (II) Sulfate, Pentahydrate (7758-99-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	10 lb

Water (7732-18-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Copper Sulfate, 2 g/L	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Copper (II) Sulfate, Pentahydrate (7758-99-8)	
Listed on the Canadian DSL (Domestic Sustances List) inventory.	
WHMIS Classification	Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects

Water (7732-18-5)	
Listed on the Canadian DSL (Domestic Sustances List) inventory.	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

15.2.2. National regulations

Copper (II) Sulfate, Pentahydrate (7758-99-8)
Listed on the Canadian Ingredient Disclosure List

Water (7732-18-5)
Not listed on the Canadian Ingredient Disclosure List

15.3. US State regulations

No additional information available

SECTION 16: Other information

Other information : None.

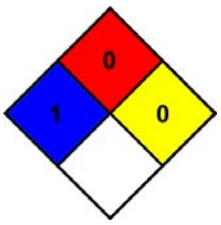
Full text of H-phrases: see section 16:

Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Aquatic Acute 1	Hazardous to the aquatic environment — AcuteHazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
H301	Toxic if swallowed
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

Personal Protection : A

SDS US (GHS HazCom 2012)