

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/04/2020

Reviewed on 02/04/2020

1 Identification

- **Product identifier**
- **Trade name:** Cupric Sulfate Pentahydrate
- **Article number:** 195117
- **CAS Number:**
7758-99-8
- **EC number:**
231-847-6
- **Molecular Formula** $CuSO_4 \cdot 5H_2O$
- **Molecular Weight** 249.68
- **Application of the substance / the mixture** For Research Use Only
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
MP Biomedicals, LLC
29525 Fountain Parkway
Solon, OH 44139
United States
www.mpbio.com
- **Information department:** Quality Control Department
- **Emergency telephone number:** CHEMTREC: 1-800-424-9300 (1-703-527-3887)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.

- **Label elements**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labeling:**
Cupric Sulfate Pentahydrate
- **Hazard statements**
Harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 02/04/2020

Reviewed on 02/04/2020

Trade name: Cupric Sulfate Pentahydrate

(Contd. of page 1)

· **Precautionary statements**

- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves / eye protection / face protection.
- If swallowed: Call a poison center/doctor if you feel unwell.
- Rinse mouth.
- If on skin: Wash with plenty of water.
- Specific treatment (see on this label).
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If skin irritation occurs: Get medical advice/attention.
- Take off contaminated clothing and wash it before reuse.
- If eye irritation persists: Get medical advice/attention.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *2
Fire = 0
Reactivity = 0

· **Other hazards**

- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
7758-99-8 Cupric Sulfate Pentahydrate
- **Identification number(s)**
- **EC number:** 231-847-6

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Consult your Doctor. Show the safety data sheet to the Doctor. Away from the dangerous area.
- **After inhalation:** If breathed in, supply fresh air. If not breathing, give artificial respiration. Consult a Doctor.
- **After skin contact:** Wash off with soap and plenty of water. Consult a Doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Never give anything by mouth to an unconscious person. Rinse mouth with water. If symptoms persist consult a Doctor.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 02/04/2020

Reviewed on 02/04/2020

Trade name: Cupric Sulfate Pentahydrate

(Contd. of page 2)

- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **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.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Pick up mechanically, dispose contaminated material as waste according to Section 13.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· PAC-1:	
	12 mg/m ³
· PAC-2:	
	32 mg/m ³
· PAC-3:	
	190 mg/m ³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Avoid direct contact with skin. Use protective clothing including gloves, lab coat, face/eye protection.
- **Information about protection against explosions and fires:** No special requirements.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** 15-30°C
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Further information about storage conditions:** Store in nitrogen.
- **Specific end use(s)** No further relevant information available.

US

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 02/04/2020

Reviewed on 02/04/2020

Trade name: Cupric Sulfate Pentahydrate

(Contd. of page 3)

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see Section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing.
 Wash hands before breaks and at the end of work.
 Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Crystalline powder
Color:	According to product specification
Odor:	Indeterminate
Odor threshold:	Not determined.

- **pH-value:** Not applicable.

- **Change in condition**

Boiling point/Boiling range:	Undetermined.
-------------------------------------	---------------

- **Flash point:** Not applicable.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 02/04/2020

Reviewed on 02/04/2020

Trade name: Cupric Sulfate Pentahydrate

(Contd. of page 4)

· Flammability (solid, gaseous):	Product is not flammable.
· Decomposition temperature:	Not determined.
· Auto igniting:	Not determined.
· Danger of explosion:	See section 10
· Explosion limits:	
Lower:	Not Applicable
Upper:	Not Applicable
· Vapor pressure:	Not applicable.
· Density:	Not Applicable
· Relative density	Not determined.
· Vapor density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with	Not Determined
· Water:	Soluble.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
VOC content:	0.00 %
Solids content:	100.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid**
No further relevant information available.
Avoid contact with acids. Contact liberates a toxic gas.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

ATE (Acute Toxicity Estimate)

Oral	LD50	300 mg/kg (rat)
------	------	-----------------

7758-99-8 Cupric Sulfate Pentahydrate

Oral	LD50	300 mg/kg (rat)
------	------	-----------------

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 02/04/2020

Reviewed on 02/04/2020

Trade name: Cupric Sulfate Pentahydrate

(Contd. of page 5)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
 - Water hazard class 3 (Self-assessment): extremely hazardous for water
 - Do not allow product to reach ground water, water course or sewage system, even in small quantities.
 - Danger to drinking water if even extremely small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
 - Can not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Discard must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleaning agents.

14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN3077

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 02/04/2020

Reviewed on 02/04/2020

Trade name: Cupric Sulfate Pentahydrate

(Contd. of page 6)

· **UN proper shipping name**
 · **DOT** Environmentally hazardous substance, solid, n.o.s. (Cupric Sulfate Pentahydrate)
 · **ADR** 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cupric Sulfate Pentahydrate)
 · **IMDG** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cupric Sulfate Pentahydrate), MARINE POLLUTANT
 · **IATA** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cupric Sulfate Pentahydrate)

· **Transport hazard class(es)**
 · **DOT, ADR, IMDG, IATA**



· **Class** 9 Miscellaneous dangerous substances and articles
 · **Label** 9

· **Packing group**
 · **DOT, ADR, IMDG, IATA** III

· **Environmental hazards:**
 · **Marine pollutant:** Yes (DOT)
 Symbol (fish and tree)
 · **Special marking (ADR):** Symbol (fish and tree)
 · **Special marking (IATA):** Symbol (fish and tree)

· **Special precautions for user** Warning: Miscellaneous dangerous substances and articles
 · **Danger code (Kemler):** 90
 · **Stowage Category** A
 · **Stowage Code** SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**
 · **Quantity limitations** On passenger aircraft/rail: No limit
 On cargo aircraft only: No limit
 · **Remarks:** Special marking with the symbol (fish and tree).

· **ADR**
 · **Excepted quantities (EQ)** Code: E1
 Maximum net quantity per inner packaging: 30 g
 Maximum net quantity per outer packaging: 1000 g

· **IMDG**
 · **Limited quantities (LQ)** 5 kg
 · **Excepted quantities (EQ)** Code: E1
 Maximum net quantity per inner packaging: 30 g
 Maximum net quantity per outer packaging: 1000 g

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 02/04/2020

Reviewed on 02/04/2020

Trade name: Cupric Sulfate Pentahydrate

(Contd. of page 7)

· **UN "Model Regulation":** UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CUPRIC SULFATE PENTAHYDRATE), 9, III

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

· **TSCA (Toxic Substances Control Act):**

Substance is not listed.

· **Hazardous Air Pollutants**

Substance is not listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is not listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

Substance is not listed.

· **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

· **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS07

· **Signal word** Warning

· **Hazard-determining components of labeling:**

Cupric Sulfate Pentahydrate

· **Hazard statements**

Harmful if swallowed.

Causes skin irritation.

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 02/04/2020

Reviewed on 02/04/2020

Trade name: Cupric Sulfate Pentahydrate

(Contd. of page 8)

Causes serious eye irritation.

· **Precautionary statements**

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves / eye protection / face protection.

If swallowed: Call a poison center/doctor if you feel unwell.

Rinse mouth.

If on skin: Wash with plenty of water.

Specific treatment (see on this label).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

If eye irritation persists: Get medical advice/attention.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Quality Control Dept.

· **Date of preparation / last revision** 02/04/2020 / -

· **Abbreviations and acronyms:**

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A