

# Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 02.09.2018

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**Cupric Sulfate, Pentahydrate,**

## SECTION 1: Identification

### Product identifier

**Product name:** Cupric Sulfate, Pentahydrate,

**Product code:** FEDCU1001-K

### Recommended use of the product and restriction on use

**Relevant identified uses:** Not determined or not applicable.

**Uses advised against:** Not determined or not applicable.

**Reasons why uses advised against:** Not determined or not applicable.

### Manufacturer or supplier details

**Manufacturer:**

AquaPhoenix Scientific  
860 Gitts Run Road  
Hanover  
PA 17331  
(717) 632-1291

**Supplier:**

Fisher Science Education  
6771 Silver Crest Road  
Nazareth  
PA 18064  
800 955-1177

### Emergency telephone number:

**United States**

Emergency Telephone No.: 800-255-3924

## SECTION 2: Hazard identification

### GHS classification:

Acute toxicity (oral), category 4

Skin irritation, category 2

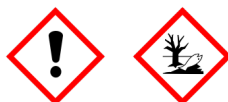
Eye irritation, category 2A

Acute aquatic hazard, category 1

Chronic aquatic hazard, category 1

### Label elements

**Hazard pictograms:**



**Signal word:** Warning

### Hazard statements:

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

### Precautionary statements:

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- P264 Wash skin thoroughly after handling
- P270 Do not eat, drink or smoke when using this product
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P273 Avoid release to the environment
- P301+P330+P312 IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
- P321 Specific treatment (see supplemental first aid instructions on this label).
- P362 Take off contaminated clothing and wash before reuse
- P302+P352 If on skin: Wash with soap and water
- P332+P313 If skin irritation occurs: Get medical advice/attention
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
- P391 Collect spillage
- P405 Store locked up
- P501 Dispose of contents and container as instructed in Section 13

**Hazards not otherwise classified:** None

### SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 7758-99-8	Copper (II) Sulfate Pentahydrate	100

**Additional Information:** None

### SECTION 4: First-aid measures

#### Description of first-aid measures

##### General notes:

Not determined or not available.

##### After inhalation:

Loosen clothing as necessary and position individual in a comfortable position  
Maintain an unobstructed airway

##### After skin contact:

Rinse affected area with soap and water  
If symptoms develop or persist, seek medical attention  
Wash affected area with soap and water  
Seek medical attention if symptoms develop or persist

##### After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes  
If symptoms develop or persist, seek medical attention  
Remove contact lens(es) if able to do so during rinsing  
Seek medical attention if irritation persists or if concerned

##### After ingestion:

Rinse mouth thoroughly  
Seek medical attention if irritation, discomfort, or vomiting persists  
Call a POISON CONTROL CENTER or seek medical attention if you feel unwell  
Do not induce vomiting

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Rinse mouth and then drink plenty of water

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

#### Acute symptoms and effects:

Not determined or not available.

#### Delayed symptoms and effects:

Not determined or not available.

### Immediate medical attention and special treatment

#### Specific treatment:

Not determined or not available.

#### Notes for the doctor:

Not determined or not available.

## SECTION 5: Fire-fighting measures

### Extinguishing media

#### Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

#### Unsuitable extinguishing media:

Not determined or not applicable.

### Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

### Special protective equipment for firefighters:

Wear protective eye wear, gloves and clothing

Refer to Section 8

### Special precautions:

Avoid inhaling gases, fumes, dust, mist, vapor and aerosols

Avoid contact with skin, eyes and clothing

## SECTION 6: Accidental release measures

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

Ensure adequate ventilation

Ensure air handling systems are operational

Wear protective eye wear, gloves and clothing

### Environmental precautions:

Should not be released into the environment

Prevent from reaching drains, sewer or waterway

### Methods and material for containment and cleaning up:

Wear protective eye wear, gloves and clothing

### Reference to other sections:

Not determined or not applicable.

## SECTION 7: Handling and storage

### Precautions for safe handling:

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## Cupric Sulfate, Pentahydrate,

Do not eat, drink, smoke or use personal products when handling chemical substances.  
Avoid breathing mist or vapor.

### Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated area.

## SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

### Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
United States (OSHA)	Copper (II) Sulfate Pentahydrate	7758-99-8	OSHA PEL 1 mg/m <sup>3</sup> , as Cu (dusts and mists)
	Copper (II) Sulfate Pentahydrate	7758-99-8	OSHA PEL 0.1 mg/m <sup>3</sup> , as Cu (fume)
ACGIH	Copper (II) Sulfate Pentahydrate	7758-99-8	ACGIH TLV 1 mg/m <sup>3</sup> , as Cu, (dusts and mists)
	Copper (II) Sulfate Pentahydrate	7758-99-8	ACGIH TLV 0.1 mg/m <sup>3</sup> , as Cu, (fume)
NIOSH	Copper (II) Sulfate Pentahydrate	7758-99-8	NIOSH IDLH 100 mg/m <sup>3</sup> , as Cu (fume)

### Biological limit values:

No biological exposure limits noted for the ingredient(s).

### Information on monitoring procedures:

Not determined or not applicable.

### Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

### Personal protection equipment

#### Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

#### Skin and body protection:

Select glove material impermeable and resistant to the substance.

#### Respiratory protection:

When necessary, use NIOSH-approved breathing equipment.

### General hygienic measures:

Wash hands before breaks and at the end of work.  
Avoid contact with skin, eyes and clothing.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

Appearance (physical state, color):	Blue solid.
Odor:	Odorless.
Odor threshold:	Not determined or not available.

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## Cupric Sulfate, Pentahydrate,

<b>pH-value:</b>	Not determined or not available.
<b>Melting/Freezing point:</b>	110°C
<b>Boiling point/range:</b>	150°C
<b>Flash point:</b>	Not determined or not available.
<b>Evaporation rate:</b>	Not determined or not available.
<b>Flammability (solid, gaseous):</b>	Not determined or not available.
<b>Explosion limit upper:</b>	Not determined or not available.
<b>Explosion limit lower:</b>	Not determined or not available.
<b>Vapor pressure:</b>	7.3 mm Hg @ 25°C
<b>Vapor density:</b>	Not determined or not available.
<b>Density:</b>	Not determined or not available.
<b>Relative density:</b>	Not determined or not available.
<b>Solubilities:</b>	Soluble in water.
<b>Partition coefficient (n-octanol/water):</b>	Not determined or not available.
<b>Auto/Self-ignition temperature:</b>	Not determined or not available.
<b>Decomposition temperature:</b>	Not determined or not available.
<b>Dynamic viscosity:</b>	Not determined or not available.
<b>Kinematic viscosity:</b>	Not determined or not available.
<b>Explosive properties</b>	Not determined or not available.
<b>Oxidizing properties</b>	Not determined or not available.

### Other information

<b>Specific Gravity</b>	2.2840 g/cm <sup>3</sup>
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## SECTION 10: Stability and reactivity

### Reactivity:

Material is hygroscopic.

### Chemical stability:

No decomposition if used and stored according to specifications. Hygroscopic.

### Possibility of hazardous reactions:

None under normal conditions of use and storage.

### Conditions to avoid:

High temperatures, dust generation, exposure to moist air or water. Store away from oxidizing agents, strong acids or bases. Incompatible Materials.

### Incompatible materials:

Aqueous solution of copper (2+) sulfate is an acid. Strong acids. Strong bases. Incompatible with strong bases, hydroxylamine, magnesium.

### Hazardous decomposition products:

Oxides of sulfur. Copper fumes. Carbon oxides (CO, CO<sub>2</sub>).

## SECTION 11: Toxicological information

### Acute toxicity

**Assessment:** Harmful if swallowed

**Product data:** No data available.

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## Cupric Sulfate, Pentahydrate,

### Substance data:

Name	Route	Result
Copper (II) Sulfate Pentahydrate	oral	LD50 Oral - Rat - 300 mg/kg

### Skin corrosion/irritation

**Assessment:** Causes skin irritation

**Product data:** No data available.

### Substance data:

Name	Result
Copper (II) Sulfate Pentahydrate	Causes skin irritation.

### Serious eye damage/irritation

**Assessment:** Causes serious eye irritation

**Product data:** No data available.

### Substance data:

Name	Result
Copper (II) Sulfate Pentahydrate	Causes serious eye irritation.

### Respiratory or skin sensitization

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Carcinogenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**International Agency for Research on Cancer (IARC):** None of the ingredients are listed.

**National Toxicology Program (NTP):** None of the ingredients are listed.

### Germ cell mutagenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Reproductive toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Specific target organ toxicity (single exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Specific target organ toxicity (repeated exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

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## Cupric Sulfate, Pentahydrate,

**Substance data:** No data available.

### Aspiration toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**Information on likely routes of exposure:** No data available.

**Symptoms related to the physical, chemical and toxicological characteristics:** No data available.

**Other information:** No data available.

## SECTION 12: Ecological information

### Acute (short-term) toxicity

**Assessment:** Very toxic to aquatic life

**Product data:** No data available.

**Substance data:**

Name	Result
Copper (II) Sulfate Pentahydrate	EC50 - Daphnia magna - 182 ug/L - 48 h
	LC50 - Oncorhynchus mykiss - 32 ug/L - 96h

### Chronic (long-term) toxicity

**Product data:** No data available.

**Substance data:** No data available.

### Persistence and degradability

**Product data:** No data available.

**Substance data:**

Name	Result
Copper (II) Sulfate Pentahydrate	Readily degradable in the environment.

### Bioaccumulative potential

**Product data:** No data available.

**Substance data:**

Name	Result
Copper (II) Sulfate Pentahydrate	Copper is accumulated by plants and animals, but it does not appear to biomagnify from plants to animals. This lack of biomagnification appears common with heavy metals. In air, copper aerosols (in general) have a residence time of 2 to 10 days in an unpolluted atmosphere and 0.1 to > 4 days in polluted, urban areas.

### Mobility in soil

**Product data:** No data available.

**Substance data:** No data available.

**Other adverse effects:** No data available.

## SECTION 13: Disposal considerations

### Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11)

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## SECTION 14: Transport information


### Canadian Transportation of Dangerous Goods (TDG)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

### International Maritime Dangerous Goods (IMDG)

UN number	3288
UN proper shipping name	TOXIC SOLID, INORGANIC, N.O.S. (Copper sulfate)
UN transport hazard class(es)	6.1 
Packing group	III
Environmental hazards	None
Special precautions for user	None
Excepted quantities	30 g/30 ml
Limited quantity	5KG

### International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	3288
UN proper shipping name	TOXIC SOLID, INORGANIC, N.O.S. (Copper sulfate)
UN transport hazard class(es)	6.1 
Packing group	III
Environmental hazards	None
Special precautions for user	None
Excepted quantities	30 g/30 ml
Passenger and cargo	100KG
Cargo aircraft only	200KG
Limited quantity	5KG

## SECTION 15: Regulatory information

### Canada regulations

#### Domestic substances list (DSL):

7758-99-8	Copper (II) Sulfate Pentahydrate	Not Listed
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**Non-domestic substances list (NDSL):** Not determined.



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**Cupric Sulfate, Pentahydrate,**

### SECTION 16: Other information

**Abbreviations and Acronyms:** None

**Disclaimer:**

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**NFPA:** 2-0-1

**HMIS:** 2-0-1

**Initial preparation date:** 02.09.2018

**End of Safety Data Sheet**