

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: CU1001-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:

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

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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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 ³ , as Cu (dusts and mists)
	Copper (II) Sulfate Pentahydrate	7758-99-8	OSHA PEL 0.1 mg/m ³ , as Cu (fume)
ACGIH	Copper (II) Sulfate Pentahydrate	7758-99-8	ACGIH TLV 1 mg/m ³ , as Cu, (dusts and mists)
	Copper (II) Sulfate Pentahydrate	7758-99-8	ACGIH TLV 0.1 mg/m ³ , as Cu, (fume)
NIOSH	Copper (II) Sulfate Pentahydrate	7758-99-8	NIOSH IDLH 100 mg/m ³ , 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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pH-value:	Not determined or not available.
Melting/Freezing point:	110°C
Boiling point/range:	150°C
Flash point:	Not determined or not available.
Evaporation rate:	Not determined or not available.
Flammability (solid, gaseous):	Not determined or not available.
Explosion limit upper:	Not determined or not available.
Explosion limit lower:	Not determined or not available.
Vapor pressure:	7.3 mm Hg @ 25°C
Vapor density:	Not determined or not available.
Density:	Not determined or not available.
Relative density:	Not determined or not available.
Solubilities:	Soluble in water.
Partition coefficient (n-octanol/water):	Not determined or not available.
Auto/Self-ignition temperature:	Not determined or not available.
Decomposition temperature:	Not determined or not available.
Dynamic viscosity:	Not determined or not available.
Kinematic viscosity:	Not determined or not available.
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

Other information

Specific Gravity	2.2840 g/cm ³
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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, CO₂).

SECTION 11: Toxicological information

Acute toxicity

Assessment: Harmful if swallowed

Product data: No data available.

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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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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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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

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End of Safety Data Sheet