

# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Printing date: March 01, 2019

Revision: February 28, 2019

## 1 Identification

- **Product identifier**
- **Trade name:** Copper Sulfate Solution
- **Product code:** CU5620SS
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
AquaPhoenix Scientific, Inc.  
860 Gitts Run Road  
Hanover, PA 17331  
Phone: (717)632-1291  
Toll-Free: (866)632-1291  
info@aquaphoenixsci.com
- **Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924 (North America)  
+1 (813)248-0585 (International)





## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
The product is not classified as hazardous according to the Globally Harmonized System (GHS).
- **Label elements**  
The product is not classified as hazardous according to OSHA GHS regulations within the United States.
- **GHS label elements** Not regulated.
- **Hazard pictograms:** None.
- **Signal word:** None
- **Hazard statements:** None.
- **Precautionary statements:** None.
- **Other hazards** There are no other hazards not otherwise classified that have been identified.

## 3 Composition/information on ingredients

- **Chemical characterization:** Mixtures

- **Components:**

7758-99-8	copper sulphate pentahydrate	0.421%
	 Eye Dam. 1, H318  Acute Tox. 4, H302	
7647-01-0	hydrochloric acid	0.004%
	 Met. Corr. 1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318  Acute Tox. 4, H302; STOT SE 3, H335	
7647-14-5	Sodium chloride	0.210%
7732-18-5	Water	99.365%

- **Additional information:**

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For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.  
For the wording of the listed Hazard Statements, refer to section 16.

## 4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
Wash with soap and water.  
If skin irritation is experienced, consult a doctor.
- **After eye contact:**  
Remove contact lenses if worn.  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Do not induce vomiting; immediately call for medical help.
- **Most important symptoms and effects, both acute and delayed:**  
Gastric or intestinal disorders when ingested.  
Nausea in case of ingestion.
- **Danger:** No relevant information available.
- **Indication of any immediate medical attention and special treatment needed:**  
If medical advice is needed, have product container or label at hand.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** No relevant information available.
- **Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Wear fully protective suit.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Ensure adequate ventilation.  
For large spills, wear protective clothing.
- **Environmental precautions** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up**  
Wipe up small spills with paper towel and discard.  
For larger spills, add sawdust, chalk or other inert binding material, then sweep up and discard.  
Dispose of the collected material according to regulations.
- **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.

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## 7 Handling and storage

- **Handling**
- **Precautions for safe handling:** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:**  
Unsuitable material for receptacle: aluminium.  
Store only in the original receptacle.
- **Information about storage in one common storage facility:** No relevant information available.
- **Further information about storage conditions:** Keep containers tightly sealed.
- **Specific end use(s)** No relevant information available.

## 8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Exposure controls**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.  
Keep away from foodstuffs, beverages and feed.
- **Engineering controls:** No relevant information available.
- **Breathing equipment:** Not required under normal conditions of use.
- **Protection of hands:**



Protective gloves

- **Material of gloves**  
Nitrile rubber, NBR  
Neoprene gloves  
Butyl rubber, BR  
Natural rubber, NR  
Sensibilization by the components in the glove materials is possible.
- **Eye protection:**



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment** No special requirements.
- **Risk management measures** No special requirements.

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## 9 Physical and chemical properties

### Information on basic physical and chemical properties

#### Appearance:

**Form:** Liquid  
**Color:** According to product specification

**Odor:** Odorless  
**Odor threshold:** Not determined.

**pH-value:** Not determined.  
**Melting point/Melting range:** Not determined.  
**Boiling point/Boiling range:** 100-102 °C (212-215.6 °F)

**Flash point:** The product is not flammable.

**Flammability (solid, gaseous):** Not applicable.

**Auto-ignition temperature:** Not determined.

**Decomposition temperature:** Not determined.

**Danger of explosion:** Product does not present an explosion hazard.

#### Explosion limits

**Lower:** Not determined.  
**Upper:** Not determined.

**Oxidizing properties:** Non-oxidizing.

**Vapor pressure:** Not determined.

**Density at 20 °C (68 °F):** 1.01 g/cm<sup>3</sup> (8.43 lbs/gal)  
**Relative density:** Not determined.  
**Vapor density:** Not determined.  
**Evaporation rate:** Not determined.

**Solubility in / Miscibility with Water:** Fully miscible.

**Partition coefficient (n-octanol/water):** Not determined.

#### Viscosity

**Dynamic:** Not determined.  
**Kinematic:** Not determined.

**Other information** No relevant information available.

## 10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**  
 No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**  
 Reacts with strong acids and alkali.  
 Reacts with strong oxidizing agents.

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- Reacts with certain metals.
- Toxic fumes may be released if heated above the decomposition point.
- **Conditions to avoid** No relevant information available.
- **Incompatible materials**  
Metals.  
Oxidizers, strong bases, strong acids
- **Hazardous decomposition products**  
Under fire conditions only:  
Toxic metal oxide smoke  
Sulfur oxides (SO<sub>x</sub>)  
Chlorine compounds

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.
- **LD/LC50 values that are relevant for classification:** None.
- **Primary irritant effect:**
- **On the skin:** Based on available data, the classification criteria are not met.
- **On the eye:** Based on available data, the classification criteria are not met.
- **Sensitization:** Based on available data, the classification criteria are not met.

### • IARC (International Agency for Research on Cancer):

7647-01-0 hydrochloric acid

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### • NTP (National Toxicology Program):

None of the ingredients are listed.

### • OSHA-Ca (Occupational Safety & Health Administration):

None of the ingredients are listed.

### • Probable route(s) of exposure:

Ingestion.  
Inhalation.  
Eye contact.  
Skin contact.

- **Acute effects (acute toxicity, irritation and corrosivity):** No relevant information available.
- **Repeated dose toxicity:** No relevant information available.
- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity** No relevant information available.
- **Persistence and degradability** No relevant information available.

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- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Additional ecological information**
- **General notes:**
  - Toxic for aquatic organisms
  - Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
  - Smaller quantities can be disposed of with household waste.
  - The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT</b></li> <li>· <b>ADR/RID/ADN, IMDG, IATA</b></li> </ul>                                | <p>Not regulated.<br/>UN3082</p>  |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>ADR/RID/ADN, IATA</b></li> <li>· <b>IMDG</b></li> </ul> | <p>Not regulated.<br/>ENVIRONMENTALLY HAZARDOUS SUBSTANCE,<br/>LIQUID, N.O.S. (copper sulphate pentahydrate)<br/>ENVIRONMENTALLY HAZARDOUS SUBSTANCE,<br/>LIQUID, N.O.S. (copper sulphate pentahydrate),<br/>MARINE POLLUTANT</p> |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT</b></li> <li>· <b>Class</b></li> </ul>                                 | <p>Not regulated.</p>   |
| <ul style="list-style-type: none"> <li>· <b>ADR/RID/ADN</b></li> </ul>  |   |



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• **Class** 9 (M6)  
• **Label** 9

• **IMDG, IATA**



• **Class** 9  
• **Label** 9

• **Packing group**  
• **DOT** Not regulated.  
• **ADR/RID/ADN, IMDG, IATA** III

• **Environmental hazards**  
• **Marine pollutant:** Symbol (fish and tree)

• **Special precautions for user** Warning: Miscellaneous dangerous substances and articles  
• **Danger code (Kemler):** 90  
• **EMS Number:** F-A,S-F

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

## 15 Regulatory information

• **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
• **United States (USA)**  
• **SARA**

• **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

• **TSCA (Toxic Substances Control Act)**

All ingredients are listed.

• **Proposition 65 (California)**

• **Chemicals known to cause cancer:**

None of the ingredients are listed.

• **Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

• **Chemicals known to cause developmental toxicity for males:**

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None of the ingredients are listed.

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

None of the ingredients are listed.

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

7647-01-0 | hydrochloric acid

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· **Canadian Domestic Substances List (DSL) (Substances not listed.):**

All ingredients listed on DSL or NDSL.

## 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.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bio-accumulable, Toxic

vPvB: very Persistent and very Bioaccumulative

OSHA: Occupational Safety & Health Administration

Met. Corr. 1: Corrosive to metals – Category 1

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)

Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

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