



HazTech Systems, Inc.

SAFETY DATA SHEET

Revision number: 2
Revision date: 07/10/2015

1. IDENTIFICATION

Product name: Copper(II) sulfate pentahydrate, Sodium citrate dihydrate, Sodium carbonate monohydrate, Distilled water

Product code: RE2335

Synonyms: Not available

CAS: 7758-99-8/6132-04-3/5968-11-6/7732-18-5

RTECS # GL8900000/Not available/Not available/Not available

CI#: Not available

Recommended use: Laboratory chemicals, Manufacture of substances

Uses advised against: No information available

Company:
HazTech Systems, Inc.
3919 Bootjack Lane
Mariposa, CA 95338 U.S.A.
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1-800-543-5487 / 1-209-966-8088
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sales@hazcat.com
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Chemical Emergencies:
HazTech Systems, Inc. (8:00am - 5:00pm) PST
1-800-543-5487
Transportation Emergencies:
Chemtrec 24-Hour
1-800-424-9300 (U.S.A.)
1-703-527-3887 (International)

2. HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity , Oral (Category 4), H302

Skin irritation (Category 2), H315

Eye irritation (Category 2A), H319

Acute aquatic toxicity (Category 1), H400

Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H302

Harmful if swallowed.

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P264

Wash skin thoroughly after handling.

P270

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

P273

Avoid release to the environment.

P280

Wear eye protection/ face protection.

P280

Wear protective gloves.

P301 + P312 + P330

IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

P302 + P352

IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2. HAZARDS IDENTIFICATION

P332 + P313	If skin irritation occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P391	Collect spillage.
P501	Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances**

Synonyms	: Cupric sulfatepentahydrate
Formula	: $\text{CuO}_4\text{S} \cdot 5\text{H}_2\text{O}$
Molecular weight	: 249.69 g/mol
CAS -No.	: 7758 -99 -8
EC-No.	: 231 -847 -6
Index -No.	: 029 -004 -00 -0

Hazardous components

Component	Classification	Concentration
Copper sulphate pentahydrate	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; Aquatic Acute 1; Aquatic Chronic 1; H302, H315, H319, H410	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

Synonyms	: Sodium citrate tribasicdihydrate Trisodium citratedihydrate Citric acidtrisodium salt dihydrate
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Formula : $\text{C}_6\text{H}_5\text{Na}_3\text{O}_7 \cdot 2\text{H}_2\text{O}$

Molecular Weight : 294.1 g/mol

CAS -No. : 6132 -04 -3

EC-No. : 200 -675 -3

This ingredient is not hazardous according to OSHA criteria.

Formula : $\text{CNa}_2\text{O}_3 \cdot \text{H}_2\text{O}$

Molecular Weight : 124.00 g/mol

CAS -No. : 5968 -11 -6

EC-No. : 207 -838 -8

Index -No. : 011 -005 -00 -2

Hazardous components

Component	Classification	Concentration
Sodium carbonate monohydrate	Eye Irrit. 2A; H319	-

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES**Description of first aid measures****General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES**Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

Carbon oxides, Sulphur oxides, Copper oxides, Sodium oxides

Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

no data available

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. Avoid breathing dust.

For personal protection see section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE**Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Air sensitive. hygroscopic Handle and store under inert gas.

Storage class (TRGS 510): Non Combustible Solids

Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Components with workplace control parameters**

Component	CAS -No.	Value	Control parameters	Basis
Copper sulphate pentahydrate	7758 -99 -8	TWA	1.000000 mg/m3	USA. NIOSH Recommended Exposure Limits
		TWA	1.000000 mg/m3	USA. NIOSH Recommended Exposure Limits

Exposure controls**Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment**Eye/face protection**

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material : Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time : 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Splash contact

Material : Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time : 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

- | | | |
|---|---------------------------------------|--|
| a) Appearance | Form : liquid | |
| | Colour : blue | |
| b) Odour | No data available | |
| c) Odour Threshold | No data available | |
| d) pH | 3.7 - 4.5 at 50 g/l at 25 °C (77 °F) | |
| e) Melting point/freezing point | Melting point/range : 110 °C (230 °F) | |
| f) Initial boiling point and boiling range | No data available | |
| g) Flash point | No data available | |
| h) Evaporation rate | No data available | |
| i) Flammability (solid, gas) | No data available | |
| j) Upper/lower flammability or explosive limits | No data available | |
| k) Vapour pressure | 9.7 hPa (7.3 mmHg) at 25 °C (77 °F) | |
| l) Vapour density | No data available | |
| m) Relative density | 2.284 g/cm ³ | |
| n) Water solubility | No data available | |
| o) Partition coefficient: n-octanol/water | No data available | |
| p) Auto-ignition temperature | No data available | |
| q) Decomposition temperature | No data available | |
| r) Viscosity | No data available | |
| s) Explosive properties | No data available | |
| t) Oxidizing properties | No data available | |

Other safety information

No data available

10. STABILITY AND REACTIVITY**Reactivity**

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

10. STABILITY AND REACTIVITY**Conditions to avoid**

Exposure to moisture

Incompatible materials

Powdered metals, Anhydrous copper(II) sulfate, strong oxidizing agents, Strong acids, reacts violently with: hydroxylamine, Magnesium. Aluminum

Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION**Information on toxicological effects****Copper (II) sulfate pentahydrate - Acute toxicity**

LD50 Oral - Rat - 482 mg/kg

(OECD Test Guideline 401)

Remarks : anhydrous

Inhalation : No data available

LD50 Dermal - Rat - > 2,000 mg/kg

Remarks : anhydrous

No data available

Skin corrosion/irritation

Irritating to skin.

Serious eye damage/eye irritation

Irritating to eyes.

Respiratory or skin sensitisation

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS : GL8900000 (Copper(II) sulfate pentahydrate)

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

12. ECOLOGICAL INFORMATION**Toxicity**

Toxicity to daphnia and EC50 - Daphnia magna (Water flea) - 0.024 mg/l - 48 h

other aquatic

invertebrates

Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential

No data available

Product Code(s) RE2335

Copper(II) sulfate pentahydrate, Sodium citrate dihydrate, Sodium carbonate monohydrate, Distilled water

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12. ECOLOGICAL INFORMATION

Mobility in soil

No data available

Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 3077 Class : 9 Packing group : III
Proper shipping name : Environmentally hazardous substances, liquid, n.o.s. (Copper sulfate pentahydrate)
Reportable Quantity (RQ): 10 lbs
Marine pollutant:yes
Poison Inhalation Hazard : No

IMDG

UN number : 3077 Class : 9 Packing group : III EMS-No: F-A , S-F
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Copper sulfate pentahydrate)
Marine pollutant:yes

IATA

UN number: 3077 Class : 9 Packing group : III
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (Copper sulfate pentahydrate)

15. REGULATORY INFORMATION

Copper sulfate pentahydrate

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS -No.	Revision Date
Copper sulfate pentahydrate	7758 -99 -8	1993 -04 -24

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS -No.	Revision Date
Copper sulfate pentahydrate	7758 -99 -8	1993 -04 -24

Pennsylvania Right To Know Components

	CAS -No.	Revision Date
Copper sulphate pentahydrate	7758 -99 -8	1993 -04 -24

	CAS -No.	Revision Date
Trisodium citrate	6132 -04 -3	Revision Date

	CAS -No.	Revision Date
Sodium carbonate monohydrate	5968 -11 -6	Revision Date

New Jersey Right To Know Components

	CAS -No.	Revision Date
Copper sulphate pentahydrate	7758 -99 -8	1993 -04 -24

	CAS -No.	Revision Date
Trisodium citrate	6132 -04 -3	Revision Date

	CAS -No.	Revision Date
Sodium carbonate monohydrate	5968 -11 -6	Revision Date

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION**Full text of H-Statements referred to under sections 2 and 3.****Copper(II) sulfate pentahydrate**

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Eye Irrit.	Eye irritation
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.

HMIS Rating

Health hazard :	2
Chronic Health Hazard :	*
Flammability :	0
Physical Hazard	0

NFPA Rating

Health hazard :	0
Fire Hazard :	0
Reactivity Hazard :	0

Sodium citrate dihydrate**HMIS Rating**

Health hazard :	0
Chronic Health Hazard :	
Flammability :	0
Physical Hazard	0

NFPA Rating

Health hazard :	0
Fire Hazard :	0
Reactivity Hazard :	0

Sodium carbonate monohydrate

Eye Irrit.	Eye irritation
H319	Causes serious eye irritation.

HMIS Rating

Health hazard :	2
Chronic Health Hazard :	
Flammability :	0
Physical Hazard	0

NFPA Rating

Health hazard :	2
Fire Hazard :	0
Reactivity Hazard :	0

Revision Date: 07/10/2015

Prepared by: HazTech Systems, Inc.

This information is based on HazTech Systems, Inc.'s, current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.