

Safety Data Sheet

Cell Guard

SECTION 1: Identification

1.1 GHS Product identifier

Product name	Cell Guard
Substance name	Copper(II) sulfate pentahydrate
EC no.	231-847-6
CAS no.	7758-99-8
Index no.	029-023-00-4

1.3 Recommended use of the chemical and restrictions on use

Additive, A water acidifier, Supplemental source of Copper. Not for human consumption.

1.4 Supplier's details

Name	Wynco Provisions, LLC
Address	451 Agnes Drive Tontitown, AR 72770 USA
Telephone	866-361-4689
Website	www.cvear.com

1.5 Emergency phone number CHEMTEL: 1-888-255-3924 Account# MIS005177

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200, 2024)

- Long-term hazards to the aquatic environment, Cat. 1
- Acute hazards to the aquatic environment, Cat. 1
- Eye damage/irritation, Cat. 1
- Acute toxicity, oral, Cat. 4

2.2 GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

H302	Harmful if swallowed
H318	Causes serious eye damage
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

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P264	Wash ... 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.
P301+P312	IF SWALLOWED: Call a POISON CENTER /doctor/...if you feel unwell,
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor/...
P330	Rinse mouth.
P391	Collect spillage.
P501	Dispose of contents/container to ...

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Substance name: Copper(II) sulfate pentahydrate; EC no.: 231-847-6; CAS no.: 7758-99-8; Index no.: 029-023-00-4; Formula: $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$; Molecular weight: 159.6

Other names / synonyms: copper sulfate pentahydrate; copper sulphate pentahydrate; Sulfuric acid, copper(2+) salt (1:1), pentahydrate; Blue copper; Blue stone; Blue vitriol; Copper monosulfate; Copper sulfate; Copper sulfate (1:1); Copper sulfate (CuSO_4); Copper(2+) sulfate; Copper(2+) sulfate (1:1); Copper(II) sulfate; Copper(II)sulfate; Copper(II)sulfate pentahydrate; Cupric sulfate; Cupric sulfate anhydrous; Cupric sulphate; Kupfer(2+)sulfat; Kupfer(2+)sulfat (1:1); Kupfer(II)-sulfat (Pentahydrat); Kupfer(II)-sulfat (wasserfrei); Kupfer(II)sulfat; Kupfermonosulfat; Kupfersulfat; Kupfersulfat (1:1); Kupfersulfat (CuSO_4); Kupfervitriol; Monocopper sulfate; Monokupfersulfat; Schwefelsaures Kupfer; Schwefelsäure, Kupfer(2+)-Salz (1:1); Sulfate of copper; Sulfuric acid copper (2+) salt; Sulfuric acid copper (2+) salt, anhydrous; Sulfuric acid copper(2+) salt (1:1); Sulfuric acid, copper(2+) salt (1:1); Sulphate of copper; Blaustein; Kupfer(II)-sulfat; copper sulphate; Kupfer(II)-sulfat; copper sulphate pentahydrate; Sulfuric acid copper(2+) salt (1:1); Copper sulfate; Copper(II) sulfate pentahydrate; Copper sulphate; Copper sulfate pentahydrate; copper sulphate pentahydrate; Sulfuric acid copper(2+) salt (1:1); Cupric sulfate anhydrous; Copper (II) Sulfate; Cupric sulfate

SCLs/M-factors/ATEs: Oral: ATE = 481 mg/kg bw

M=10

M=1

Hazardous components

Component	Concentration
Copper(II) sulfate pentahydrate (CAS no.: 7758-99-8; EC no.: 231-847-6; Index no.: 029-023-00-4)	10 - 40 %
CLASSIFICATIONS: Acute toxicity, oral, Cat. 4; Eye damage/irritation, Cat. 1; Hazardous to the aquatic environment, short-term (acute), Cat. 1; Hazardous to the aquatic environment, long-term (chronic), Cat. 1. HAZARDS: H302 - Harmful if swallowed; H318 - Causes serious eye damage; H400 - Very toxic to aquatic life; H410 - Very toxic to aquatic life with long lasting effects. [SCLs/M-factors/ATEs]: Oral: ATE = 481 mg/kg bw; M=10; M=1	
Sulfuric acid (CAS no.: 7664-93-9; EC no.: 231-639-5; Index no.: 016-020-00-8)	5 - 15 %
CLASSIFICATIONS: Skin corrosion/irritation, Cat. 1A. HAZARDS: H314 - Causes severe skin burns and eye damage. [SCLs/M-factors/ATEs]: Skin Corr. 1A; H314: $C \geq 15 \%$; Skin Irrit. 2; H315: $5 \% \leq C < 15 \%$; Eye Irrit. 2; H319: $5 \% \leq C < 15 \%$	

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled	Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Immediately call a POISON CENTRE or doctor/physician.
In case of skin contact	Seek immediate medical attention/advice. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Do not rub area of contact. Wash contaminated clothing before reuse.
In case of eye contact	Seek immediate medical attention/advice. Immediately flush eyes with running water for at least 20 minutes. Protect unharmed eye. Do not rub area of contact.

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If swallowed

Seek immediate medical attention/advice. Do NOT induce vomiting. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms/effects, acute and delayed

Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. Chemical burns, corneal damage, and possibly blindness can result from direct contact. Harmful if inhaled. If mists are formed, may cause severe irritation to the nose, throat and respiratory tract. Symptoms may include coughing, choking and wheezing. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. Ingestion may cause severe irritation to the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations and bleeding. Prolonged overexposure may cause liver and kidney effects. Symptoms may include minor liver inflammation (e.g. jaundice, fatigue, weakness) and histopathological changes in the kidneys.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Immediate medical attention is required. Corrosive liquid. Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Dry chemical, foam, carbon dioxide and water fog.

5.2 Specific hazards arising from the chemical

Sulphur oxides, Copper oxides

Sulfuric acid: No data available.

5.3 Special protective actions for fire-fighters

Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. A full-body chemical resistant suit should be worn. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

6.2 Environmental precautions

Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

6.3 Methods and materials for containment and cleaning up

Ventilate area of release. Remove all sources of ignition. Stop spill or leak at source if safely possible. Do not touch or walk through spilled material.

Clean-up methods - small spillage: Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Neutralize with sodium bicarbonate (baking soda). Place spilled material into a suitable, labelled container for later disposal (see Section 13).

Clean-up methods - large spillage: Contact the proper local authorities. Contain spilled liquid with non-combustible, inert absorbent material (e.g. sand). Neutralize with sodium bicarbonate (baking soda). Remove liquid by pumps or vacuum equipment. Place spilled material into a suitable, labelled container for later disposal (see Section 13).

Contaminated absorbent material may pose the same hazards as the spilled product.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use in a well-ventilated area. Wear protective gloves/clothing and eye/face protection. Do not breathe dust or mist. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from bases, metals and other incompatibles. Keep only in original container. Wash thoroughly after handling. Keep containers closed when not in use. Empty containers retain residue (liquid and/or vapour) and can be dangerous. Avoid release to the environment.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, away from incompatibles. Inspect periodically for damage or leaks. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Store in corrosive resistant container with a resistant inner liner. May be corrosive to steel and aluminum.

Strong alkalis; Strong oxidizing agents; Metals; Phosphates; Acetylene; Reducing agents

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Sulfuric acid (CAS: 7664-93-9 EC: 231-639-5)

TWA (Inhalation): 0.2 mg/m³; USA (ACGIH)

USA. ACGIH Threshold Limit Values (TLV)

TWA (Inhalation): 1 mg/m³; USA (OSHA)

USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

PEL (Inhalation): 1 mg/m³; US (US/OSHA)

OSHA Annotated Table Z-1, www.osha.gov

PEL (Inhalation): 0.1 mg/m³, (ST) 3 mg/m³; US (Cal/OSHA)

OSHA Annotated Table Z-1, www.osha.gov

REL (Inhalation): 1 mg/m³; US (NIOSH)

OSHA Annotated Table Z-1, www.osha.gov

8.2 Appropriate engineering controls

Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Chemical splash goggles must be worn when handling this material. A full face shield may also be necessary.

Skin protection

Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers. Wear chemically protective gloves (impervious), boots, aprons, and gauntlets to prevent prolonged or repeated skin contact.

Body protection

An eyewash station and safety shower should be made available in the immediate working area. Other equipment may be required depending on workplace standards.

Respiratory protection

If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. A self contained breathing apparatus should be used in emergency situations or instances where exposure levels are not known. Advice should be sought from respiratory protection specialists. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29CFR 1910.134).

SECTION 9: Physical and chemical properties

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Appearance (physical state, color, etc.)	Bluish Solution
Odor	No data available
Odor threshold	No data available
pH	<1
Melting point/freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	1.2
Solubility(ies)	100%
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Additional properties	
Physical state	Liquid
Color	Blue

SECTION 10: Stability and reactivity

10.1 Reactivity

Contact with some reactive metals may produce flammable hydrogen gas. May be corrosive to metals.

10.2 Chemical stability

Stable under the recommended storage and handling conditions prescribed.

10.3 Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4 Conditions to avoid

Avoid heat and open flame. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation.

10.5 Incompatible materials

Powdered metals, Anhydrous copper(II) sulfate, reacts violently with:, hydroxylamine, Magnesium

Sulfuric acid: Bases, Halides, Organic materials, Carbides, fulminates, Nitrates, picrates, Cyanides, Chlorates, alkali halides, Zinc salts, permanganates, e.g. potassium permanganate, Hydrogen peroxide, Azides, Perchlorates., Nitromethane, phosphorous, Reacts violently with:, cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phosphorous(III) oxide, Powdered metals

10.6 Hazardous decomposition products

Sulfuric acid: Hazardous decomposition products formed under fire conditions. - Sulphur oxides Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Copper(II) sulfate pentahydrate
LD50 Oral - Rat - 482 mg/kg

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LD50 Skin - Rat - >2,000 mg/kg
EC50 - Daphnia magna (water flea) - 0.024 mg/l - 48 h

Sulfuric acid
LD50 Oral - Rat - 2,140 mg/kg
LC50 Inhalation - Rat - 510 mg/m³ - 2 h

Result: The International Agency for Research on Cancer (IARC) has determined that occupational exposure to strong inorganic-acid mists containing sulfuric acid is carcinogenic to humans (group 1).
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.
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.

Result: The methods for determining the biological degradability are not applicable to inorganic substances.
LC50 - Gambusia affinis (mosquito fish) - 42 mg/l - 96 h
EC50 - Daphnia magna (water flea) - 29 mg/l - 24 h

Skin corrosion/irritation

Severely irritating or corrosive. Prolonged contact, such as when trapped against the skin under clothing or jewelry, may result in severe corrosive burns. Severe irritation, burns, ulcerations and contact dermatitis can result.

Serious eye damage/irritation

Direct contact may strongly irritate or burn the eyes. Could cause burns and permanent eye damage if not promptly removed. Chemical burns, corneal damage, and possibly blindness can result from direct contact.

Respiratory or skin sensitization

Harmful if inhaled. May cause severe irritation to the nose, throat and respiratory tract. Symptoms may include coughing, choking and wheezing. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed.

Severely irritating or corrosive. Prolonged contact, such as when trapped against the skin under clothing or jewelry, may result in severe corrosive burns. Severe irritation, burns, ulcerations and contact dermatitis can result.

Germ cell mutagenicity

Not expected to be mutagenic in humans.

Carcinogenicity

Not known to be carcinogenic. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive toxicity

Not expected to have other reproductive effects.

Specific target organ toxicity (STOT) - single exposure

May cause respiratory irritation.

Specific target organ toxicity (STOT) - repeated exposure

Pre-existing skin, eye and respiratory disorders.

Aspiration hazard

May cause severe irritation to the nose, throat and respiratory tract.

Additional information

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 12: Ecological information

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Toxicity

Very toxic to aquatic life with long lasting effects. No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. The product contains the following substances which are hazardous for the environment: Copper sulfate pentahydrate.

This product contains the following substance which may also be hazardous for the environment: Sulfuric acid.

Toxicity is primarily associated with pH.

Persistence and degradability

Copper(II) sulfate pentahydrate

LD50 Oral - Rat - 482 mg/kg

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

EC50 - Daphnia magna (water flea) - 0.024 mg/l - 48 h

Sulfuric acid

LD50 Oral - Rat - 2,140 mg/kg

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

LC50 - Gambusia affinis (mosquito fish) - 42 mg/l - 96 h

EC50 - Daphnia magna (water flea) - 29 mg/l - 24 h

Bioaccumulative potential

No data is available on the product itself.

Mobility in soil

No data is available on the product itself.

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Handle waste according to recommendations in Section 7. Empty containers retain residue (liquid and/or vapour) and can be dangerous. Avoid release to the environment.

Packaging disposal

Dispose in accordance with all applicable federal, state, territory and local regulations.

SECTION 14: Transport information

DOT (US)

UN Number: UN3264

Class:

Packing Group: III

Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, N.O.S (Sulfuric Acid; Copper Sulfate)

Reportable quantity (RQ):

Marine pollutant:

Poison inhalation hazard:

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

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New Jersey Right To Know Components

Common name: Sulfuric acid

CAS number: 7664-93-9

Listing note: CA-carcinogen; CO-corrosive; R2-reactive 2nd deg.

Pennsylvania Right To Know Components

Chemical name: Sulfuric acid

CAS number: 7664-93-9

Listing note: E-environmental hazard.

SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302:

Sulfuric acid

CAS number: 7664-93-9

SARA 313 Components

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

Sulfuric acid

CAS number: 7664-93-9

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard for: Sulfuric acid.

Massachusetts Toxic Use Reduction Act (TURA) list

Chemical name: Sulfuric acid

CAS number: 7664-93-9

TRI listing: , Q-different TRI/TURA qualifiers; CERCLA listing: X-reportable; TURA-only listing: no; de minimis concentration threshold: 1 percent. Qualifiers/definitions: Report all forms: TRI has qualifiers that TURA lacks. TRI is limited to aerosols. State Only Form R required. Submit Separate Form R to EPA if Federal threshold exceeded. Changes: All forms always TURA reportable -- TRI delisted non-aerosol forms by adding the qualifier "acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size RY1993. However also a CERCLA chemical without the qualifier added RY1993.

US EPA TSCA public inventory

Chemical name: Sulfuric acid

CAS number: 7664-93-9

Massachusetts Right To Know Components (105 CMR 670)

Chemical name: Sulfuric acid

CAS number: 7664-93-9

Asterisk: no; Refs: 2,4,5 *E* F6 F8 F9

Maine Chemicals of Concern (COC, 38 MRSA §1693(2))

Chemical name: Strong inorganic acid mists containing sulfuric acid

CAS number: 7664-93-9

Minnesota Chemicals of High Concern (Minn. Stat. 116.9401)

Chemical name: Strong inorganic acid mists containing sulfuric acid

CAS number: 7664-93-9

Hlth: cancer

NFPA Rating



SECTION 16: Other information