

SAFETY DATA SHEET



PRINCE AGRI PRODUCTS, INC.

Advancing Nutrition for Healthy Animals®

Cupric Sulfate Pentahydrate

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

GHS Product Information

Product Name: Cupric Sulfate Pentahydrate
Business Unit Prince Agri
Other means of identification: Not available

Safety data sheet number: 5412-500 -US-E

Recommended use of the chemical and restrictions on use

Recommended use: No information available.

Uses advised against: No information available

Details of the supplier of the safety data sheet

Supplier: Prince Agri Products, Inc 229 Radio Road Quincy, IL 62305 Tel: 217-222-8854 Fax: 217-222-5098 Toll Free: 800-677-4623 Email: prince@princeagri.com	Manufacturer: Prince Agri Products, Inc 229 Radio Road Quincy, IL 62305 Tel: 217-222-8854 Fax: 217-222-5098 Toll Free: 800-677-4623 Email: prince@princeagri.com
--	--

SDS Contact (email of responsible person): prince@princeagri.com

24 Hour Emergency Phone Number: Chemtrec 1-800-424-9300 (CCN17224)

International: +1 703-527-3887

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A

Label elements

Emergency Overview

Warning

Hazard statements

Harmful if swallowed
 Causes skin irritation
 Causes serious eye irritation



Appearance crystalline

Physical state Solid

Odor Odorless

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Specific treatment
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention
 IF ON SKIN: Wash with plenty of soap and water
 If skin irritation occurs: Get medical advice/attention
 Take off contaminated clothing and wash before reuse
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Other Information

Other hazards

- May be harmful in contact with skin
- Very toxic to aquatic life with long lasting effects
- Very toxic to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture Substance

Chemical Name	CAS No	Weight-%	Trade Secret
Copper (II) sulfate pentahydrate (1:1:5)	7758-99-8	60 - 100	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

General advice:	Call 911 or emergency medical service. Remove and isolate contaminated clothing and shoes.
Eye contact:	In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
Inhalation:	Move victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Administer oxygen if breathing is difficult.
Skin Contact:	Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Ingestion:	Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Do NOT induce vomiting.
Self-protection of the first aider:	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Most important symptoms and effects, both acute and delayed

Symptoms: No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Dry chemical, CO₂, water spray or regular foam. Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal.

Unsuitable extinguishing media: Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical: Some may burn but none ignite readily. Those substances designated with a "P" may polymerize explosively when heated or involved in a fire. Some may be transported hot.

Explosion data

Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

Protective equipment and precautions for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions: Do not touch or walk through spilled material. Stop leak if you can do it without risk.

For emergency responders: Use personal protection recommended in Section 8. Use personal protective equipment as required.

Environmental precautions: Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment: Prevent dust cloud.

Methods for cleaning up: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Take up with sand or other non-combustible absorbent material and place into containers for later disposal. Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling: Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

Incompatible materials: None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	CAS No	ACGIH TLV	OSHA PEL	NIOSH IDLH
Copper (II) sulfate pentahydrate (1:1:5)	7758-99-8	TWA: 1 mg/m ³ Cu dust and mist	-	IDLH: 100 mg/m ³ Cu dust and mist TWA: 1 mg/m ³ Cu dust and mist

NIOSH IDLH Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Controls: Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice.

Eye/face protection: Tight sealing safety goggles.

Skin and body protection: No special technical protective measures are necessary.

Respiratory protection: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid	Odor	Odorless
Appearance	crystalline	Odor threshold	No information available
Color	blue		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	
Melting Point / Freezing Point	= 302 °F	
Boiling point / boiling range	= 1040 °F	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	2.284	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available
Percent Volatile	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Extremes of temperature and direct sunlight.

Incompatible materials
None known based on information supplied.

Hazardous Decomposition Products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information: No data available
Inhalation: No data available.
Eye contact: No data available.
Skin Contact: No data available.
Ingestion: No data available.

Chemical Name	CAS No	Oral LD50	Dermal LD50	Inhalation LC50
Copper (II) sulfate pentahydrate (1:1:5)	7758-99-8	= 300 mg/kg (Rat) = 960 mg/kg (Rat)	> 2 g/kg (Rat)	-

Information on toxicological effects

Symptoms: No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization: No information available.
Germ cell mutagenicity: No information available.
Carcinogenicity: No information available.

Reproductive toxicity: No information available.
STOT - single exposure: No information available.
STOT - repeated exposure: No information available.
Chronic toxicity: May cause adverse liver effects.
Target Organ Effects: Eyes, kidney, liver, Respiratory system, Skin.
Aspiration hazard: No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document . mg/kg 300

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects

0% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	CAS No	Algae/aquatic plants	Fish	Crustacea
Copper (II) sulfate pentahydrate (1:1:5)	7758-99-8	-	0.66 - 1.15: 96 h Lepomis macrochirus mg/L LC50 semi-static 0.1478 - 0.165: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.09 - 0.19: 96 h Oncorhynchus mykiss mg/L LC50 static 0.96 - 1.8: 96 h Lepomis macrochirus mg/L LC50 static 0.6752: 96 h Pimephales promelas mg/L LC50 static	0.147 - 0.227: 48 h Daphnia magna mg/L EC50 Static

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility

No information available.

Other adverse effects:

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes:

Refer to all federal, state and local regulations prior to disposal of container and unused contents by reuse, recycle or disposal. Disposal should be in accordance with applicable regional, national and local laws and regulations. Avoid runoff to waterways and sewers. Recover or recycle if possible. Send to a licensed recycler, reclaimer or incinerator.

Disposal methods:

Do not reuse container.

14. TRANSPORT INFORMATION

Note:

Store in a closed container. Keep container upright.

DOT

UN/ID no UN3077
Proper shipping name Environmentally hazardous substance, solid, n.o.s.* (Copper Sulfate Pentahydrate)
Hazard Class 9
Packing Group III
Special Provisions 146, 335, A112, B54, B120, IB8, IP3, N20, T1, TP33, 8
Description UN3077, Environmentally hazardous substance, solid, n.o.s.*, 9, III,
Emergency Response Guide Number 171

IATA

UN/ID no UN3077
Proper shipping name Environmentally hazardous substance, solid, n.o.s.*
Hazard Class 9
Packing Group III
ERG Code 9L
Special Provisions A158, A179, A97
Description UN3077, Environmentally hazardous substance, solid, n.o.s.*, 9, III

IMDG

UN/ID no UN3077
Proper shipping name Environmentally hazardous substance, solid, n.o.s.*
Hazard Class 9
Packing Group III
EmS-No F-A, S-F
Special Provisions 274, 335, 966, 967
Description UN3077, Environmentally hazardous substance, solid, n.o.s.*, 9, III,

TDG

UN/ID no UN3077
Proper shipping name Environmentally hazardous substance, solid, n.o.s.*
Hazard Class 9
Packing Group III

Description UN3077, Environmentally hazardous substance, solid, n.o.s.*, 9, III,

15. REGULATORY INFORMATION

International Inventories

TSCA: Complies
 DSL/NDL: Not Determined
 EINECS/ELINCS: Not Determined
 ENCS: Not Determined
 IECSC: Complies
 KECL: Not Determined
 PICCS: Complies
 AICS: Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
 ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	SARA 313 - Threshold Values %
Copper (II) sulfate pentahydrate (1:1:5)	7758-99-8	1.0

SARA 311/312 Hazard Categories

Acute health hazard Yes
 Chronic Health Hazard No
 Fire hazard No
 Sudden release of pressure hazard No
 Reactive Hazard No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CAS No	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Copper (II) sulfate pentahydrate (1:1:5)	7758-99-8	-	X	-	-

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

No information available

Chemical Name	CAS No	New Jersey	Massachusetts	Pennsylvania
Copper (II) sulfate pentahydrate (1:1:5)	7758-99-8	X	-	X

Canada

No information available

WHMIS Hazard Class Non-controlled

16. OTHER INFORMATION

NFPA	Health hazards 2	Flammability 0	Instability 0	Physical & Chemical Properties 0
HMIS	Health hazards *2	Flammability 0	Physical hazards 0	Personal protection E

Document Review

Revision Number: 2

Revision Note: No information available

Key or legend to abbreviations and acronyms used in the safety data sheet:

- Bioconcentration factor (BCF)
- International Air Transport Association (IATA)
- Globally Harmonized System (GHS)
- International Maritime Dangerous Goods (IMDG)

Disclaimer

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

The information contained in this Material Safety Data Sheet ("MSDS") is provided solely to comply with the requirements of federal, state and other applicable law. The information contained herein applies only to the actual product of Phibro Animal Health Corporation and its affiliates ("PAHC") identified and described herein. This information is not intended to address, nor does it address the use or application of the identified PAHC product either alone or in combination with any material, product or process. All of the information set forth herein is based on technical data regarding the identified product that PAHC believes to be reliable as of the date hereof. Prior to each use of any PAHC product, the user must always read and follow the warnings and instructions on the product's current Technical Data Sheet product label and Material Safety Data Sheet for each PAHC product, which are available by telephone number listed in Section 1 of this MSDS.

PAHC MAKES NO WARRANTIES EXPRESS OR IMPLIED AND ASSUMES NO LIABILITY ARISING FROM THIS INFORMATION OR ITS USE OR APPLICATION. PAHC SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES AND SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER WHICH INFRINGES ANY PATENT OR ANY OTHER INTELLECTUALPROPERTY RIGHTS HELD BY ANY PARTY.

All sales of PAHC products are subject to its current terms and conditions of sale.

End of Safety Data Sheet