

Section 1 – Identification.

Chemical Name: Copper Sulphate F20 EPA

CAS #: 7758-99-8

Synonyms: Copper sulphate pentahydrate,
Bluestone; Blue Vitriol; Cupric sulfate

EPA Registration Number: 73385-1

Product Use: For pesticide use and other specialty functions.

Uses advised against: Not for human or animal consumption.

Company Name:

Pestell Minerals & Ingredients

141 Hamilton Rd

New Hamburg, Ontario Phone: (519) 662-2877

Canada, N3A 2H1

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Emergency 24 hr: CANUTEC (613) 996-6666 CAN

CHEMTREC (800) 424-9300 US

Section 2 – Hazards identification.

Product Classification :

GHS Classification (Globally Harmonized System).

Acute Toxicity, Category 4, Oral, H302

Skin Irritation, Category 2, H315

Eye Irritation, Category 2, H319

Acute aquatic toxicity, Category 1, H400

Chronic aquatic toxicity, Category 1, H410

Signal word:

WARNING

Hazard Statements:

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H410 Very toxic to aquatic life with long lasting effects.

Hazard pictograms:



Precautionary Statements:

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

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.

P330 Rinse mouth.

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 ...

P270 Do not eat, drink or smoke when using this product.

P264 Wash ... thoroughly after handling.

P321 Specific treatment (see ... on this label).

OSHA Hazards:

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS and may deviate from GHS information.

Emergency Overview:

Copper Sulfate Crystal is a blue crystalline odorless solid. Potentially fatal if swallowed. May cause irritation to the eyes and skin. Fire may produce irritating, corrosive and / or toxic fumes. Firefighters should use full protective equipment and clothing

Section 3 – Composition / Information on Ingredients

CAS #	Components	Percentage	EHS	NTP	IARC	SUB Z	SARA 313	OSHA PEL	ACGIH TLV	Other Limits
7758-99-8	Copper Sulphate Pentahydrate	99%	N	N	N	Y	Y	1 mg/M3	1 mg/M3	1 mg/M3

Chemical Name: Copper Sulfate Pentahydrate.

Synonymous: Blue Vitriol; Copper Sulfate

Formula: $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$

No. CE: 231-847-6

Molar Mass: 249,68 g/mol

CAS #: 7758-99-8

Section 4 - First aid measures

Route(s) of Entry:

Eye, Skin, Ingestion

Health Hazards (Acute and Chronic):

Can cause skin and eye irritation. Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated contact may cause conjunctivitis.

Signs and Symptoms:

EYE: Can cause severe eye irritation and may result in irreversible eye damage.

SKIN CONTACT: Can cause severe skin irritation. May cause localized discoloration of the skin.

INGESTION: Can result in digestive tract irritation with abdominal pain.

Emergency First Aid Procedure:

If in eyes:

< Flush with plenty of water. Call a physician.

If on skin:

< Wash with plenty of soap and water. Get medical attention.

If swallowed:

< Drink promptly a large quantity of milk, egg white, gelatin solution, or, if these are not available, large quantities of water. Avoid alcohol.

Other Health Warnings:

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

Section 5 – Fire-Fighting Measures

Flash Point: *
Upper Flammable Limit: *
Auto Ignition: *
Rate of Burning: *

Method Used: *
Lower Flammable Limit: *
Flammability Classification: *

* see Section 9.

General Fire Hazards:

Copper Sulfate Pentahydrate is not combustible, but may decompose in the heat of a fire to produce corrosive and/or toxic fumes.

Hazardous Combustion Products:

Sulfur oxides and copper fumes

Extinguishing Media:

Dry chemical, carbon dioxide, water spray or foam. For large fires use water spray, for or alcohol foam.

Fire Fighting Equipment / Instructions:

Firefighters should wear full protective clothing including self-contained breathing apparatus. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. Avoid direct water stream on molten material, move containers from fire area if possible, do not scatter spilled area with more water than needed for fire control, dike fire control water for later disposal. Use agents suitable for type of fire. Avoid breathing vapors or dust.

NFPA Ratings: Health: 2 Fire: 0 Reactivity: 1 Other:

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Section 6 - Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled:

Use clean-up methods that avoid dust generation (vacuum, wet). Wear a NIOSH or MSHA approved respirator if dust will be generated in clean-up. Use protective clothing if skin contact is likely. If spilled solution is in a confined area, introduce lime or soda ash to form insoluble copper salts and dispose of by approved method. Prevent accidental entry of solution into streams and other water bodies. Shovel any spills into plastic bags and seal with tape. Copper sulfate solution may deteriorate concrete.

Section 7 - Handling and Storage

Precautions to be Taken:

Avoid breathing dust or solution mist. Sweep up crystals or powder, vacuum is preferred. Eye wash stations should be available in work areas. Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Other Precautions:

Store in closed containers in cool, dry, well-ventilated area away from heat sources and reducing agents. Store copper sulfates in stainless steel, fiberglass, polypropylene, PVC=s or plastic equipment. If container or bag is damaged, place the container or bag in a plastic bag. Use good housekeeping practices to avoid dust accumulation.

Section 8 - Exposure Controls / Personal Protection

Occupational Exposure Limits: Required to include OSHA Permissible Exposure Limits (PEL) or ACGIH Threshold Limit Values (TLV) if applicable. For the copper sulfate pentahydrate, could provide the ACGIH generic limit assigned to copper, dusts and mists 8-hr TLV of 1 mg/m³.

Ventilation Requirements:

Use adequate general or local ventilation to keep airborne concentrations below the exposure limits.

Personal Protective Equipment:

Respirator:	NIOSH approved respirator for toxic dust mist. The respirator selected must be based on contamination levels found in the work area. Supply air respirator with full-face piece.
Immediately Dangerous Life or Health Conditions:	Self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.
Clothing:	Individuals must wear appropriate protective clothing and equipment to prevent repeated or prolonged skin contact.
Gloves:	Individuals must wear appropriate gloves to prevent contact with substance.
Eye-Protection:	Individuals must wear splash proof or dust resistance safety goggles to prevent eye contact with this substance.

Section 9 - Physical and Chemical Properties

Physical State: Solid.

Appearance and Odor: Blue, odorless crystals.

Vapor Pressure: No information available.

Odor Threshold: Not applicable.

Vapor density: No information available.

pH: 3.5 to 4.5 (at 50 g / l and 20 °C).

Relative density: No information available.

Melting Point: Not applicable.

Solubility (H₂O): 317 g / l at 20 °C.

Solvent solubility: Solvent methanol, glycerol and slightly soluble in ethanol.

Initial boiling point and boiling range: Not applicable.

Evaporation Rate: No information available.

Flash point: Not applicable.

Flammability: Product is not flammable.

Upper / Lower Flammable or Explosive Limit: Not applicable.

Partition coefficient n-octanol / water: No information available.

Autoignition Temperature: No information available.

Decomposition Temperature: 88-245 °C

Removing water from the crystallization

340-650 °C

Viscosity: No information available.

Section 10 - Stability and Reactivity

Reactivity: Stable

Stability: Stable under normal temperatures and pressures.

Incompatibility (Materials to Avoid): None when product remains dry. Acetylene gas, aluminum powder, hydroxylamine, magnesium, moist air. Contact with magnesium metal can generate dangerous levels of hydrogen gas.

Conditions to Avoid: None known

Hazardous Decomposition Products: At temperatures >600 °C material decomposes to cupric oxide and sulfur dioxide.

Possibility of hazardous: Will not occur.

Section 11 - Toxicological Information

Dermal LD50: >5050 mg/kg (rabbit)
Oral LD50: 352 mg/kg (rat)
Inhalation LC50: N/A
Primary Eye Irritation: Irritant
Primary Skin Irritation: Irritant
Carcinogenic: Not listed by NTP, IARC, or OSHA.

Poisoning may affect the liver and/or kidneys and gastrointestinal tract. Persons with a history of chronic respiratory or skin disease may be at increased risk from exposure.

Section 12 - Ecological Information

This pesticide is toxic to fish. Direct application of copper sulfate to water may cause a significant reduction in population of aquatic invertebrates, plants and fish. Do not treat more than one-half of a lake or pond at one time in order to avoid depletion of oxygen from decaying vegetation. Allow 1 to 2 weeks between treatment for oxygen levels to recover. Trout and other species of fish may be killed at application rates recommended on this label, especially in soft or acid waters. However, fish toxicity generally decreases as the hardness of water increases. Do not contaminate water by cleaning of equipment or disposal of wastes.

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority, except when product is labeled for use in sewers and bears such use instructions. For guidance, contact your State Water Board or Regional Office of the EPA.

Subacute Dietary LC50: >10,000 ppm (quail and duck)
96-hr Acute Toxicity LC50: 0.65 ppm (bluegill), 0.056 ppm (trout), 16 ppm (pink shrimp)
48-hr EC50: 54 ppb (eastern oysters)
48-hr LC50: 17 ppm (pink shrimp), 600 ppb (daphnia)
24-hr LC50: 6.9 ppm (blue crab), 600 ppb (daphnia)
Bioaccumulation: Not available.

Section 13 - Disposal Considerations

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal: (Paper Bag)

If empty: Do not reuse this container. Dispose of empty bag in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

If partly filled: Call your local solid waste agency or 1-800-CLEANUP for disposal instructions. Never place unused product down any indoor or outdoor drain.

Container Disposal: (Plastic Pail)

If empty: Do not reuse this container. Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

If partly filled: Call your local solid waste agency or 1-800-CLEANUP for disposal instructions. Never place unused product down any indoor or outdoor drain.

Section 14 - Transport Information

	Proper Shipping Name	Hazard Class	ID	PG
DOT	Environmentally Hazardous Substance, Solid, N.O.S., (Copper Sulfate Pentahydrate)* Marine Pollutant	9	UN3077	III
	Reportable Quantity (RQ) = 10 pounds (4.54 kg)			

*Applicable when product is shipped in packaging of 10 pounds or greater.

	Proper Shipping Name	Hazard Class	ID	PG
TDG	Environmentally Hazardous Substance, Solid, N.O.S., (Copper Sulfate Pentahydrate)* Marine Pollutant	9	UN3077	III

	Proper Shipping Name	Hazard Class	ID	PG
IATA	Environmentally Hazardous Substance, Solid, N.O.S., (Copper Sulfate Pentahydrate)* Marine Pollutant	9	UN3077	III

	Proper Shipping Name	Hazard Class	ID	PG
IMDG	Environmentally Hazardous Substance, Solid, N.O.S., (Copper Sulfate Pentahydrate)* Marine Pollutant	9	UN3077	III



EmS: F-A, S-F

Section 15 - Regulatory Information

OSHA STATUS: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

Harmful if swallowed.
Skin irritant.
Eye irritant.

TSCA STATUS: This product is exempt from TSCA Regulation under FIFRA Section 3(2)(B)(ii) when used as a pesticide.

SARA TITLE III:

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES: None (No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302).

SECTION 311/312 HAZARD CATEGORIES: Immediate Health Hazard, Delayed Health Hazard (Acute Health Hazard).

Acute: Yes / Chronic: Yes / Fire: No / Pressure: No

SECTION 313 TOXIC CHEMICALS: Copper Sulfate Pentahydrate
CAS # 7758-98-8

RCRA STATUS: When discarded in its purchased form, this product is a listed RCRA hazardous waste and should be managed as a hazardous waste. (40 CFR Part 261.20-24)

Clean Water Act (U.S.), section 311, table 116.4, table 117.3:

Ingredients

Copper sulphate.

DEA List I: Not listed.

DEA List II: Not listed.

US State Regulations

Massachusetts Right To Know Ingredients	Pennsylvania Right To Know Ingredients	New Jersey Right To Know Ingredients	California Prop 65 Components
Copper (II) sulphate pentahydrate			This product does not contain any chemicals known to the State of California to cause cancer, birth or any other reproductive defects.

Hazard Data	Classification FIFRA	Globally Harmonized System
Acute toxicity	Regulation 29 CFR 1910.1200 Harmful if swallowed. Acute oral toxicity. LDLO Human: 1,088 mg/kg DL50 rat: 960 mg/kg	Category 4, Oral H302 Harmful if swallowed.
Skin irritation	Regulation 29 CFR 1910.1200 Acute dermal toxicity. DL50 rat: 2,000 mg/kg	Category 2 H315 Causes skin irritation.
Eyes irritation	Regulation 29 CFR 1910.1200 Eyes irritation. Risk of corneal clouding. Conjunctivitis. Causes serious eyes irritation.	Category 2 H319 Causes serious eyes irritation.
Acute aquatic toxicity	96-hr Acute toxicity LC50: 0,65 ppm (bluegill), 0.056 ppm (trout), 16 ppm (pink shrimp).	Category 1 H400 Very toxic to aquatic life.
Chronic aquatic toxicity	Very Toxic to aquatic organisms. It can cause long-term adverse effects in the aquatic environment. Fungicide effect.	Category 1 H410 Very toxic to aquatic life with long lasting effects.
Carcinogenicity	N/A	N/A

Section 16 - Other Information

HMIS ratings: Health Hazard: 2* Fire Hazard: 0 Physical Hazard: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe *=Chronic Hazard

The information and statements in this Safety Data Sheet are believed to accurately reflect the scientific evidence used in making the hazard determination, but is not to be construed as a warranty or representation for which we assume legal responsibility. Additional information may be necessary or desirable depending on particular, exceptional or variable conditions or circumstances of use or storage or because of locally applicable laws or government regulations. Therefore, you should use this information only as a supplement to other information available to you and must make independent determinations of the suitability of the information for your particular circumstances or conditions and of the completeness of the information available from all sources to assure both the proper use of the material described herein and the safety and health of employees.

Version 1.1

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