

Safety Data Sheet

Issue Date: 02-May-2013

Revision Date: 20-Mar-2017

Version 1

1. IDENTIFICATION

Product Identifier

Product Name AquaVet Copper Sulfate 15 & 5 lb. Container EPA Reg. #46923-4-12281

Other means of identification

SDS # S7.AQV.Copper

Synonyms Blue Vitrol, Bluestone, Cupric Sulfate, Copper Sulfate Pentahydrate. EPA Reg No
Registration Number(s) 46923-4
UN/ID No UN3077

Recommended use of the chemical and restrictions on use

Recommended Use For industrial use. EPA registered pesticide.

Details of the supplier of the safety data sheet

Manufacturer Address	Dist. Address
Sea 7 Technologies, Inc. 10214 Chestnut Plaza #177 Fort Wayne In. 46814	Durvet, Inc. 100 SE Magellan Dr. Blue Springs, Mo.64014

Emergency Telephone Number

Company Phone Number (816) 229-9101 (normal business hours)
(800) 821-5570 (24 hour number)
Emergency Telephone (24 hr) Chemtrec 1-800-424-9300 (North America) 1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION

This chemical is a product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-EPA registered chemicals. Please see Section 15 for additional EPA information.

Appearance Transparent blue crystals or blue powder	Physical state Solid	Odor Odorless
--	-----------------------------	----------------------

Classification

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

Signal Word

Warning

Hazard statements

Harmful if swallowed
Causes skin irritation
Causes serious eye damage



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

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

Other hazards

Very toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms Blue Vitrol, Bluestone, Cupric Sulfate, Copper Sulfate Pentahydrate.

Chemical Name	CAS No.	Weight-%
Copper sulfate pentahydrate	7758-99-8	100

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES**First Aid Measures**

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin Contact	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. Call a poison center or doctor/physician if you feel unwell.
Inhalation	Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Ingestion	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting. Promptly drink large quantities of milk, egg white, gelatin solution, or if these are not available, drink large quantities of water. Never give anything by mouth to an unconscious person. Avoid alcohol.

Most important symptoms and effects

Symptoms	Causes skin irritation. Repeated or prolonged contact may cause allergic dermatitis. May cause irritation or burns on wet skin. Causes serious eye irritation. Irritates the digestive tract. Abdominal discomfort. Inhalation of dust can result in irritation of nasal mucous membranes and sometimes of the pharynx. On occasion ulceration with perforation of the nasal septum.
-----------------	--

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically. Material may be corrosive. Possible mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be necessary. Wilson's disease can be aggravated by excessive exposure. Symptoms include nausea, vomiting, epigastric pain, diarrhea, jaundice, and general debility.

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Dry chemical, CO2 or water spray. Copper Sulfate does not burn nor will it support combustion.

Unsuitable Extinguishing Media

If dry heated above 600°C/1112°F, SO2 is evolved. If water is used it will solubilize the Copper Sulfate and care should be taken to keep such water out of streams or other bodies of water.

Specific Hazards Arising from the Chemical

Not determined.

Hazardous Combustion Products

If heated above 400°C/ 752°F product can decompose to emit toxic fumes of oxide and sulfur.

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**

Use personal protective equipment as required.

Environmental precautions**Environmental precautions**

See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up**Methods for Containment**

Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up

Avoid the generation of dusts during clean-up. Wear NIOSH or MSHA approved respirator if dust will be generated. Dry sweep up, using a sweeping compound. Shovel spill material into plastic bags and seal with tape. Place in appropriate containers for disposal. Dispose of contents/container to an approved waste disposal plant. Prevent run off to storm sewers and ditches leading to natural waterways.

7. HANDLING AND STORAGE**Precautions for safe handling****Advice on Safe Handling**

Use personal protection recommended in Section 8. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wash thoroughly after handling before eating, drinking, smoking, or using toilet facilities. Wear protective gloves/protective clothing. Wash outside of gloves before removing. Wash and change into clean clothing as soon as possible.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Store away from reducing agents. Keep away from galvanized pipe, aluminum and nylon. Store in original containers. Place damaged containers in plastic bags. Iron and moisture should be avoided. With exposure to air it will oxidize and turn whitish.
Packaging Materials	Solutions are mildly corrosive to steel. Store in plastic or rubber or 304, 347 or 316 stainless steel.
Incompatible Materials	Aluminum powders. Acetylene. Hydroxylamine. Magnesium. Moisture. Contact with magnesium can generate dangerous levels of hydrogen gas.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Copper sulfate pentahydrate 7758-99-8	TWA: 1 mg/m ³ Cu dust and mist	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

Appropriate engineering controls

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Eyewash stations. Showers.
-----------------------------	---

Individual protection measures, such as personal protective equipment

Eye/Face Protection	Wear safety glasses with side shields (or goggles).
Skin and Body Protection	Wear long-sleeved shirt, long pants, and shoes plus socks. Wear waterproof gloves. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with product's concentrate. Do not reuse them. Keep and wash PPE separately from other laundry.
Respiratory Protection	If necessary, wear an approved respirator for dusts or mists: MSHA/NIOSH approved number prefix TC-21C, or a NIOSH approved respirator with any R, P or HE filter. Alternatively, provide respiratory protection in accordance with Paragraph 1910.134 of Title 29 of the Code of Federal Regulations.

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

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

Physical state	Solid	Odor	Odorless
Appearance	Transparent blue crystals or blue powder	Odor Threshold	Not determined
Color	Blue		
Property	Values	Remarks • Method	
pH	Not Applicable		
Melting Point/Freezing Point	110°C/230°F		
Boiling Point/Boiling Range	150°C/302°F		
Flash Point	Not determined		
Evaporation Rate	Not Applicable		
Flammability (Solid, Gas)	Not determined		
Flammability Limits in Air			

Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	Not Applicable	
Vapor Density	Not Applicable	
Relative Density	2.284	
Water Solubility	22.37%	@ 0°C/32°F
Solubility in other solvents	Soluble in methanol, glycerol and slightly soluble in ethanol	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing. Does not react with water.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to Avoid

Keep out of reach of children. Solutions are mildly corrosive to steel. Store in plastic or rubber or 304, 347 or 316 stainless steel.

Incompatible Materials

Aluminum powders. Acetylene. Hydroxylamine. Magnesium. Moisture. Contact with magnesium can generate dangerous levels of hydrogen gas.

Hazardous Decomposition Products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. If dry heated above 600°C/1112°F toxic sulfur may evolve.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Causes serious eye irritation.

Skin Contact Causes skin irritation.

Inhalation Avoid inhalation of dust.

Ingestion Harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Copper sulfate pentahydrate 7758-99-8	= 472 mg/kg (Rat)	> 2 g/kg (Rat)	> 2.95 mg/L (Rat)

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

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

Carcinogenicity Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document:

ATEmix (oral) 500.00 mg/kg
ATEmix (dermal) 2,002.00 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Copper sulfate pentahydrate 7758-99-8		0.6752: 96 h Pimephales promelas mg/L LC50 static 0.96 - 1.8: 96 h Lepomis macrochirus mg/L LC50 static 0.1478 - 0.165: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.66 - 1.15: 96 h Lepomis macrochirus mg/L LC50 semi-static 0.09 - 0.19: 96 h Oncorhynchus mykiss mg/L LC50 static	0.147 - 0.227: 48 h Daphnia magna mg/L EC50 Static

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Not determined

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations. With prior approval, the material can be returned to the manufacturer.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Copper sulfate pentahydrate 7758-99-8	Toxic

14. TRANSPORT INFORMATION

Note

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

Class 9 placards are not required for domestic transportation. However, a bulk package or bulk truck (IBC) with more than a Reportable Quantity of 1000 pounds must be marked with the appropriate 3077 ID (Identifications number) number on a white square-on-point display per 49 CFR 172.504(f)(9). In accordance with FMCSR's (Federal Motor Carrier Safety Regulations) only drivers of vehicles transporting hazardous materials that are required to be placarded in accordance with Subpart F of Part 172 of the HMR must have a hazardous materials endorsement to the CDL. Thus, a hazardous materials endorsement is NOT required for a driver transporting class 9 materials because no placard is required, only a marking is required.

UN/ID No	UN3077
Proper Shipping Name	Environmentally Hazardous Substance, solid, n.o.s. (Cupric Sulfate)
Hazard Class	9
Packing Group	III
Reportable Quantity (RQ)	10 lbs
Marine Pollutant	Yes
Emergency Response Guide Number	171

IATA

UN/ID No	UN3077
Proper Shipping Name	Environmentally Hazardous Substance, solid, n.o.s. (Cupric Sulfate)
Hazard Class	9
Packing Group	III
Marine Pollutant	Yes

IMDG

UN/ID No	UN3077
Proper Shipping Name	Environmentally Hazardous Substance, solid, n.o.s. (Cupric Sulfate)
Hazard Class	9
Packing Group	III
Marine Pollutant	Yes

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL/NDSL	EINECS/E LINC	ENCS	IECSC	KECL	PICCS	AICS
Copper sulfate pentahydrate	X				X		X	X

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINC - 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**CERCLA**

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Copper sulfate pentahydrate 7758-99-8	10 lbs	10 lbs	10 lbs

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

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.	Weight-%	SARA 313 - Threshold Values %
Copper sulfate pentahydrate - 7758-99-8	7758-99-8	100	1.0

CWA (Clean Water Act)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Copper sulfate pentahydrate		X		

US State Regulations**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Copper sulfate pentahydrate 7758-99-8	X		X

EPA Pesticide Registration Number EPA Reg No 46923-4

EPA Statement

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Pesticide Label

Signal word: Danger

Corrosive. Causes irreversible eye damage. May be fatal if swallowed. Do not get in eyes or on clothing. For applications in waters destined for use as drinking water, those waters must receive additional and separate potable water treatment. Do not apply more than 1.0 ppm as metallic copper to these waters.

Difference between SDS and EPA pesticide label

	EPA	OSHA
Signal Word	Danger	Warning
Acute toxicity - Oral	May be fatal if swallowed	Harmful if swallowed
Skin corrosion/irritation	N/A	Causes skin irritation
Serious eye damage/eye irritation	Causes irreversible eye damage	Causes serious eye irritation

16. OTHER INFORMATION

<u>NFPA</u>	Health Hazards	Flammability	Instability	Special Hazards
	3	0	0	None
<u>HMIS</u>	Health Hazards	Flammability	Physical hazards	Personal Protection
	3	0	0	See Section 8

Issue Date: 02-May-2013
Revision Date: 20-Mar-2017
Revision Note: Updated information

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet