


Material Safety Data Sheet

Section 1. Chemical Product and Company Identification		
Product Name:	Copper Sulphate	Version: 4 Effective Date: 23 June, 2014
Supplier/ Manufacturer:	Chemfax Products Ltd. 11444 – 42 Street SE Calgary, AB T2C 5C4 Tel: 403-287-2055	
Material Uses	Fungicide / algaecide – when licensed	
24 Hour Emergency	Canutec (613) 996-6666	
WHMIS		
		
This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR		
HMIS Ratings for this product are: Health 2, Flammability 0, Reactivity 0		

Section 2. Composition and Information on Ingredients		
Name	CAS#	% by weight
Copper sulphate	7758-98-7	98 - 100
See Section 8 for information on permissible exposure limits and threshold limit values		

Section 3. Hazards Identification	
Physical State and Appearance	Blue, odourless crystals or powder
Hazard Summary	Toxic
Routes of Exposure	Skin & eye contact, inhalation, ingestion
Potential Acute Health Effects	<p>Skin: Repeated or prolonged contact may cause irritation</p> <p>Eyes: May cause clouding of the cornea</p> <p>Inhalation: May cause ulceration of the nose and throat</p> <p>Ingestion: May cause abdominal pain, nausea and gastritis</p>

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Medical Conditions Aggravated by Exposure	None known
See Toxicological Information – Section 11	
Additional Hazard Identification Remarks	None

Section 4. First Aid Measures	
Eye Contact	Flush eyes with water for 15 minutes. Seek medical attention.
Skin Contact	Flush area with water. If irritation persists seek medical attention. Launder clothing before reuse.
Inhalation	Remove victim to fresh air. If there is difficulty breathing, seek immediate medical attention.
Ingestion	Rinse mouth with water if conscious. Do not induce vomiting. Lay victim on their side to prevent aspiration of any vomit. Seek immediate medical attention.
Notes to Physician	None
Additional First Aid Remarks	None

Section 5. Fire Fighting Measures	
Flammability of the Product	Non flammable
Flash Point	Not applicable
Explosive Limits	Not applicable
Auto Ignition Temperature	Not applicable
Static Discharge	No
Suitable Extinguishing Media	Use extinguishing media suitable for surrounding fire
Hazardous Combustion Products	No data
Precautions for Fire Fighting	Fire fighters should wear self contained breathing apparatus and full protective clothing. Use water spray to cool containers and structures exposed to fire.

Section 6. Accidental Release Measures	
Personal Precautions	Gloves, coveralls, footwear suitable for worksite
Environmental Precautions	Do not allow to enter surface drains or watercourses. Notify local environmental authority.

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Methods for Clean Up	Restrict access. Sweep, scoop or vacuum up material without creating dust. Place spilt material in a suitable container for disposal. Wash area with water, retain washing liquor and dispose of correctly – do not wash residues into drains or sewers.
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Section 7. Handling and Storage	
Handling	Handle with care – toxic material. Avoid breathing dust. Wash thoroughly after using.
Storage	Store in a cool dry place. Keep containers closed when not in use.

Section 8. Exposure Controls and Personal Protection				
Exposure Guidelines	TWA: 8 Hr	STEL: 15 min	Ceiling	IDLH *
Copper sulphate	1 mg / m ³ (ACGIH) * Immediately Dangerous to Life and Health			100 mg/m ³
Exposure Controls	Local exhaust ventilation			
Personal Protection				
Respiratory	If exposure limits are exceeded an air purifying respirator must be worn			
Skin	Gloves, coveralls, footwear suitable for worksite			
Eyes	Safety glasses			
Other	None			

Section 9. Physical and Chemical Properties	
Physical State and Appearance	Blue, odourless crystals or powder
Odour Threshold	Not applicable
pH	4
Boiling Point	150 °C
Melting Point / Freezing point	Copper sulphate pentahydrate loses two water molecules of hydration at 30 °C, two more at 110 °C, and becomes anhydrous by 250 °C. Melts at 110 °C. Decomposes at 560 °C
Evaporation Rate	Not applicable
Vapour Density	Not applicable
Vapour Pressure	Not applicable
Relative Density	2.286
Solubility in Water	17 % by wt @ 20 °C
% Volatile	Not applicable
Other Data	None

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Section 10. Stability and Reactivity	
Chemical Stability	Stable
Hazardous Polymerisation	Will not occur
Conditions to Avoid	Heating to decomposition.
Materials to Avoid	Magnesium. – solution can react with magnesium to evolve hydrogen gas. Hydroxylamine – contact with hydroxylamine will ignite the hydroxylamine. When dissolved, forms an acidic solution which is corrosive to metals. Copper dust or meta; may react with acetylene gas to form shock sensitive copper acetylides.
Hazardous Decomposition Products	Oxides of sulphur. Toxic fumes

Section 11. Toxicological Information	
Principle Routes of Exposure	
Skin:	Repeated or prolonged contact may cause irritation
Eyes:	May cause clouding of the cornea
Inhalation:	May cause ulceration of the nose and throat
Ingestion:	May cause abdominal pain, nausea and gastritis
Additional Information	
Acute Toxicity	
Copper sulphate	LD50: 300 mg/kg (Rat, oral) LD50: 1000 mg/kg (Rabbit, dermal)
Chronic Toxic Effects – None known	
Carcinogenicity – Not listed	
Reproductive Toxicity / Teratogenicity / Embryotoxicity / Mutagenicity – None known	

Section 12. Ecological Information	
Ecotoxicity	LC50: 0.1 mg/L (Oncorhynchus mykiss) 96 hr
BOD and COD	No data
Biodegradability / OECD	No data
Toxicity of the Products of Biodegradation	No data
Special Remarks	Environmentally hazardous substance

Section 13. Disposal Considerations	
Dispose of in accordance with local, provincial and federal regulations	

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Section 14. Transport Information	
TDG Classification	Environmentally Hazardous Substance N.O.S. (Cupric Sulphate) Class 9 UN 3077 Packing Group III (for marine shipping only)
Emergency Response Guide #	ERG # 171
Marine Pollutant	Yes
Special Precautions	None

Section 15. Regulatory Information	
Canada – DSL Inventory	All components of this product are either on the Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL) or exempt
TSCA	All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt
WHMIS Hazard Class	D1B D2B
Additional Information	None

Section 16. Other Information	
Prepared by: Chemfax Products Ltd., Technical Department	
Date Prepared: 27 September, 2012	
Revision Date: 23 June, 2014	
Disclaimer Notice to reader	
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