

MATERIAL SAFETY DATA SHEET

LIQUID HAWAIIAN HORTICULTURAL MIX

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Issue Date: 10/99

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Chemical Product

LIQUID HAWAIIAN HORTICULTURAL MIX

Common Name: Fertilizing compound, liquid.

Chemical Description: Cobalt/Copper/Iron/Magnesium/Manganese/ Zinc lignosulfonate complex, aqueous solution.

TSCA/CAS No.: This product is a mixture — there is no specific CAS number.

Manufactured For

Monterey Chemical Company

P. O. Box 35000

Fresno, CA 93745-5000

Emergency Phone Numbers

Emergency Telephone: DAYS: (559) 499-2100 EVES.: (559) 431-7390

CHEMTREC (24-Hour Emergency Number): (800) 424-9300

EPA National Response Center: (800) 424-8802

SECTION 2. HAZARDOUS INGREDIENTS

CHEMICAL	CAS NO.	%	TLV OR PEL	RQ (lbs)
Zinc Sulfate	7733-02-0	1.26	N.P.*	1,000
Ferrous Sulfate	7720-78-7	3.99	N.P.	1,000
Copper Sulfate	7758-98-7	0.38	N.P.	10

* N.P. - Not pertinent.

SECTION 3. EMERGENCY/HAZARDS OVERVIEW

Dark brown viscous liquid with slight lignin odor. Mild irritant to eyes and skin. If ingested, may cause stomach cramps and/or nausea. High temperatures may result in sulfur trioxide fumes. Contain any liquid runoff. Not a D.O.T. hazardous material.

HEALTH: 1 REACTIVITY: 0 FLAMMABILITY: 0 ENVIRONMENT: 1

(0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme)

SECTION 4. FIRST AID

Eyes: Flush immediately with water for at least 15 minutes. Call a physician if eye irritation persists.

Skin: Wash thoroughly with soap and water. Remove contaminated clothing and wash before reuse. See a physician if skin becomes irritated.

Ingestion: If conscious and alert, drink water or milk to dilute, then induce vomiting. Call a physician or Poison Control Center immediately.

Inhalation: Move to fresh air. If breathing becomes difficult, call a physician.

SECTION 5. FIRE AND EXPLOSION HAZARDS

Flash Point:	> 200°F.
Test Method:	ASTM D-56.
LEL Flammable Limits:	Not pertinent.
UEL Flammable Limits:	Not pertinent.
Autoignition Temperature:	Not pertinent.
Flammability Classification:	Noncombustible.
Known Hazardous Products of Combustion:	Thermal degradation at > 575°C (1067°F) may produce sulfur trioxide.
Properties that Initiate/Contribute to Intensity of Fire:	None.
Potential For Dust Explosion:	None.
Reactions that Release Flammable Gases or Vapors:	Not known.
Potential For Release of Flammable Vapors:	None.
Unusual Fire & Explosion Hazards:	None.
Extinguishing Media:	Not pertinent.
Special Firefighting Procedures:	Wear positive pressure, self-contained breathing apparatus and goggles. Contain any liquid runoff.

SECTION 6. SPILLS AND LEAKS

Containment:	Prevent product spillage from entering drinking water supplies or streams.
Clean Up:	Collect liquid or absorb onto absorbent material and package for disposal.
Evacuation:	Not necessary.

SECTION 7. STORAGE AND HANDLING

Storage:	Store in plastic or stainless steel container in a cool, well-ventilated, dry place at temperatures above 40°F. Do not store in contact with brass. Do not store near food or feeds. Do not stack pallets more than two (2) high.
Transfer Equipment:	Transfer product using chemical-resistant plastic or stainless steel tanks, pumps, valves, etc.
Work/Hygienic Practices:	Keep out of reach of children. Avoid contact with eyes, skin and clothing. Avoid inhalation of spray mists. Wash thoroughly with water after handling.

SECTION 8. PERSONAL PROTECTIVE EQUIPMENT

Eyes:	Chemical dust/splash goggles or full-face shield to prevent eye contact. As a general rule, do not wear contact lenses when handling.
Skin:	Impervious gloves and clothes.
Respiratory:	Not normally needed. If use generates an aerosol mist or respiratory irritation, use NIOSH-approved dust/mist respirator (such as 3M #8710).
Ventilation:	Recommended but no TLV established.

SECTION 9. PHYSICAL AND CHEMICAL DATA

Appearance:	Dark brown, viscous liquid.
Odor:	Slight lignin odor.
pH:	5.9
Vapor Pressure:	760 mm Hg.
Vapor Density (Air = 1):	< 1.0
Boiling Point:	100°C (212°F)
Freezing Point:	Not available.
Water Solubility:	Completely miscible.
Density:	9.8 lbs./gal.
Evaporation Rate:	Same as water.
Viscosity:	Not available.
% Volatile:	Not available.
Octanol/Water Partition Coefficient:	Not available.
Saturated Vapor Concentration:	Not available.

SECTION 10. STABILITY AND REACTIVITY

Stability:	Stable.
Conditions To Avoid:	None known.
Incompatibility:	Contact with brass or strong oxidizing agents.
Hazardous Decomposition Products:	Thermal degradation at high temperatures above 575°C (1067°F) may produce sulfur trioxide.
Hazardous Polymerization:	Will not occur.

SECTION 11. POTENTIAL HEALTH EFFECTSAcute Effects:

Eyes:	Mild irritant. May cause redness.
Skin:	Mild irritant, especially from prolonged exposure. May cause redness.
Ingestion:	May cause stomach cramps and/or nausea.
Inhalation:	None expected but inhalation of aerosol mist may cause mild irritation of nasal mucous membranes.

Subchronic Effects: None known.Chronic Effects: None known.**SECTION 12. ECOLOGICAL INFORMATION**

Algal/Lemna Growth Inhibition:	Not known.
Toxicity to Fish and Invertebrates:	Not known.
Toxicity to Plants:	Not known.
Toxicity in Birds:	Not known.

SECTION 13. DISPOSAL

Do not contaminate lakes, streams, ponds, estuaries, oceans or other waters by discharge of waste effluents or equipment washwaters. Dispose of waste effluents according to state and local regulations. Also, chemical additions or other alterations of this product may invalidate any disposal information in this MSDS. Therefore, consult local waste regulators for proper disposal. Do not discharge.

SECTION 14.	TRANSPORTATION
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D.O.T.:	Not D.O.T. Regulated.
Other Shipping Description:	Fertilizing Compounds (Manufactured), Liquid. NMFC Item 68140 Sub 6, LTL Class 70

SECTION 15.	REGULATORY INFORMATION
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CERCLA: Cobalt sulfate, copper sulfate, iron sulfate and zinc sulfate are listed as priority pollutants under the Clean Water Act and, as such, fall under the CERCLA spill reporting requirements of 40 CFR 302.

SARA TITLE III, Section 313 Toxic Chemicals: Cobalt compounds (0.08%), Copper compounds (0.38%), Zinc compounds (1.26%).

PROPOSITION 65 (CA): WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SECTION 16.	OTHER
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All information appearing in this document was based on data provided by third party sources and was compiled to comply with the Federal Hazard Communication Standard and the California Hazardous Substances Information and Training Act. The information is believed to be accurate as of the preparation date, but is not warranted as being the final authority in the use of this product. This information does not purport to be legal or medical advice.