

MATERIAL SAFETY DATA SHEET

GREEN CYPRESS LIME-SULFUR SOLUTION

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Issue Date: 1/04

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Chemical Product

GREEN CYPRESS LIME-SULFUR SOLUTION

EPA Reg. No. 66196-2-17545

Chemical Description: Calcium polysulfide 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)
Calcium polysulfide	1344-81-6	29.0	N.A.*	N.P.*

* N.A. - Not Available.

* N.P. - Not Pertinent.

SECTION 3. EMERGENCY/HAZARDS OVERVIEW

Causes irreversible eye damage and skin burns. May be fatal if swallowed, inhaled or absorbed through skin. Smoke from fires may present unusual hazards. Incomplete combustion or thermal decomposition can produce carbon monoxide, oxyhydrocarbon derivatives and sulfur derivatives including hydrogen sulfide.

HEALTH: 2 REACTIVITY: 0 FLAMMABILITY: 0 ENVIRONMENT: 1
(0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme)

SECTION 4. FIRST AID

Remove the patient from immediate source of exposure and assure that the individual is breathing. If not breathing, use artificial respiration. Get medical attention.

Ingestion: Drink promptly a large quantity of milk, egg white, or gelatin solution or if these are not available, large quantities of water. Get medical attention. Do not induce vomiting. (See Note to Physician below.)

Skin: Wash all affected areas with plenty of soap and water while under a safety shower for at least 15 minutes, while removing contaminated clothing and shoes. Do not attempt to neutralize with chemical agents. Seek medical attention immediately. Discard any contaminated clothing and shoes.

Inhalation: Remove victim to fresh air. If not breathing, administer cardiopulmonary resuscitation or artificial respiration. If breathing is difficult or irritation develops, get medical attention.

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes using an eyewash fountain, if available. Lift upper and lower lids and rinse under them with copious amounts of water. Get medical attention.

Note to Physician: Probable mucosal damage may contraindicate gastric lavage. For severe hydrogen sulfide poisoning, successful treatment has involved initial inhalation of amyl nitrate pearls for 15 to 30 seconds of each minute until 10 mls of a 3% solution of sodium nitrite can be administered intravenously at 2.5 to 5 mls per minute. The nitrate-induced methemoglobin is thought to bind the toxic hydro-sulfide ion.

SECTION 5. FIRE AND EXPLOSION HAZARDS

Flash Point:	Not pertinent.
Test Method:	Not pertinent.
LEL Flammable Limits:	Not pertinent.
UEL Flammable Limits:	Not pertinent.
Autoignition Temperature:	Not pertinent.
Flammability Classification:	None.
Known Hazardous Products of Combustion:	Not known.
Properties that Initiate/Contribute to Intensity of Fire:	Not known.
Potential For Explosion:	Not known.
Reactions that Release Flammable Gases or Vapors:	Not known.
Potential for Release of Flammable Vapors:	Not known.
Unusual Fire & Explosion Hazards:	Keep fire-exposed containers cool with water spray.
Extinguishing Media:	CO ₂ dry chemical foam or water spray.
Special Firefighting Procedures:	Smoke from fires may present unusual hazards; avoid breathing smoke. Avoid contact with fall out and runoff. Minimize amount of water used for fire fighting. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Prevent unauthorized entry to fire area. Read entire bulletin. Persons who have been exposed to contaminated smoke should be immediately relieved of duty and checked for symptoms of poisoning. These should not be mistaken for heat exhaustion or smoke inhalation. See Sections 4 and 11 for symptoms of poisoning, first aid procedures and notes to physician.

SECTION 6. SPILLS AND LEAKS

Follow the spill procedures on the container. Do not use acidic cleaning materials. Cover spill with generous amount of absorbent such as clay or loam soil. Use a stiff broom to mix thoroughly. Sweep up and place in a disposable container. Scrub contaminated area with detergent soap and water using a stiff broom. Pick up liquid with more absorbent and place in disposable container.

SECTION 7. STORAGE AND HANDLING

Do not heat drums with any welding equipment as explosion may occur. Avoid breathing gas. Do not get in eyes, on skin or on clothing. Store in a cool, dry place in properly designed vessels.

SECTION 8. PERSONAL PROTECTIVE EQUIPMENT

Protective equipment should be used during the following procedures:

- Manufacture or formulation of this product.
- Repair and maintenance of contaminated equipment.
- Clean up of leaks and spills.
- Any other activity that may result in hazardous exposure.

Respiratory:	Use a NIOSH/MSHA approved full-face respirator with H ₂ S gas cartridge. Use positive pressure self-contained breathing apparatus for emergency or other conditions requiring a higher level of protection.
Ventilation:	Use local exhaust as needed to maintain airborne exposure below exposure limits.
Skin:	Full-body protective clothing, chemical-resistant gloves and boots.
Eyes:	Chemical worker's goggles and full-face shield. As a general rule, do not wear contact lenses when handling.
Other:	Maintain a sink, safety shower and eyewash fountain in the work area. Have oxygen readily available.

SECTION 9. PHYSICAL AND CHEMICAL DATA

Appearance:	Deep red/orange liquid.
Odor:	Pungent odor of rotten eggs.
pH:	11.5 – 11.8.
Vapor Pressure:	Not determined.
Vapor Density (Air = 1):	Not determined.
Boiling Point:	Not determined.
Freezing Point:	Not determined.
Water Solubility:	Soluble.
Density:	10.62 lbs./gal @ 68°F.
Evaporation Rate:	Not determined.
Viscosity:	Not determined.
% Volatile by Volume:	Not determined.
Octanol/Water Partition Coefficient:	Not determined.
Saturated Vapor Concentration:	Not determined.

SECTION 10. STABILITY AND REACTIVITY

Stability:	Stable to boiling point; will lose water above this temperature.
Conditions to Avoid:	Elevated temperatures can cause containers to burst.
Incompatibility:	Avoid contact with acids. Hydrogen sulfide gas will be generated; dangerous to inhale; explosive at critical concentration.
Hazardous Decomposition Products:	Normal combustion products are carbon dioxide and water vapor. Decomposition may also produce oxides of sulfur. Incomplete combustion or thermal decomposition can produce carbon monoxide, oxyhydrocarbon derivatives and sulfur derivatives including hydrogen sulfide.
Hazardous Polymerization:	None.

SECTION 11. POTENTIAL HEALTH EFFECTSAcute Effects:

Ingestion:	This material decomposes in the digestive tract to release sulfur and hydrogen sulfide (H ₂ S). Signs and symptoms of toxicity may include headache, nausea, vomiting, drowsiness, amnesia, tremors, depressed respiration, convulsions, cyanosis and death due to respiratory paralysis. Severe irritation of the digestive tract may also occur. LD ₅₀ (rat): (M) 820 mg/kg; (F) 820 mg/kg.
Inhalation:	Symptoms are those of hydrogen sulfide (H ₂ S). Inhalation of H ₂ S is irritating to the respiratory tract. If respiratory irritation or any signs or symptoms described in this bulletin occur, move the person to fresh air. If these effects continue, see a medical doctor immediately. LC ₅₀ (rat-4 hr exposure): (M) 3.9 mg/L; (F) 3.1 mg/L.
Skin:	Chemically burned skin as from calcium hydroxide (lye); may produce systemic toxicity by skin absorption. LD ₅₀ (rabbit): > 2000 mg/kg. Mildly irritating to skin.
Eyes:	Chemically burned eye tissue as from calcium hydroxide (lye); may produce severe membrane irritation with corneal damage. Irreversible damage due to high pH.

Chronic Effects: None known.

Medical Conditions

Aggravated by Exposure: Skin irritation may be aggravated in individuals with existing skin lesions. Breathing of H₂S gas may aggravate acute or chronic asthma and chronic pulmonary disease such as emphysema and bronchitis.

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

Contaminated cleanup materials may be hazardous. Refer to Sections 4 and 8 of this MSDS before handling. All contaminated materials should be placed in disposable containers and buried in an approved dumping area. Follow all rules governing waste disposal in your area.

SECTION 14. TRANSPORTATION

D.O.T.: Shipping Description: Not regulated.
Other Shipping Description: Lime and Sulfur Solution.
NMFC Item 102180, LTL Class 60

SECTION 15. REGULATORY INFORMATION

CERCLA: None.
SARA TITLE III, Section 313 Toxic Chemicals: None.
PROPOSITION 65 (CA): None.

SECTION 16. OTHER

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.