

MATERIAL SAFETY DATA SHEET

HI-YIELD[®] IMPROVED LIME SULFUR SPRAY

Date: 7-20-04

Voluntary Purchasing Groups, Inc.
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EPA Reg. No. 71096-6-7401
EPA Est. No. 7401-TX-1

28% Calcium Polysulfide

ACTIVE INGREDIENT:	<u>Percent</u>	<u>CAS No.</u>
Calcium Polysulfide	28%	1344-81-6
INERT INGREDIENTS:	72%	

SECTION 1 - FIRST AID

IF SWALLOWED:	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
IF IN EYES:	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation persists.
IF INHALED:	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
IF ON SKIN OR CLOTHING:	Take off contaminated clothing and shoes. Rinse skin off immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
EMERGENCY PHONE NUMBERS:	CHEMTREC 1-800-424-9300 National Pesticide Telecommunications Network: 1-800-858-7378

NOTE: Have the product label or container with you when calling the poison control center or doctor, or going for treatment.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate gastric lavage.

TOXCITY INFORMATION: Extremely toxic if swallowed; about 1 ounce or more could be enough to be fatal to a 150 lb. Person. Decomposition occurs in the digestive tract releasing hydrogen sulfide gas. (See Health Hazard Data). Causes skin irritation and may produce systemic toxicity by skin absorption. Application of similar material onto skin of rabbits produced severe erythema (abnormal redness of the skin resulting from irritation and dilation of the capillaries) and edema (abnormal accumulation of fluid in tissue resulting in swelling). Corrosive to eyes and causes eye irritation and damage. Application of similar material to rabbits produced severe membrane irritation with corneal damage persisting beyond 7 days.

SECTION 2 - HEALTH HAZARD DATA

(0=INSIGNIFICANT, 1=SLIGHT, 2=MODERATE, 3=HIGH, 4=EXTREME)

FIRE: = 3, oxides of sulfur and hydrogen sulfide are possible combustion products.

REACTIVITY: = 3, stable in alkaline solution, very active with acids.

SPECIAL: = 4, may give off highly toxic and extremely flammable hydrogen sulfide gas if mixed with acids.

HEALTH: = 4, solution causes alkaline burns, and will cause hydrogen sulfide poisoning if ingested.

No OSHA exposure standard of Threshold Limit Value has been established for this material. However, the OSHA exposure standard for hydrogen sulfide is 20 ppm (a ceiling value).

This material decomposes in the digestive tract to release hydrogen sulfide. Signs and symptoms of hydrogen sulfide toxicity may include headache, nausea, vomiting, drowsiness, amnesia, tremors, depressed respiration, convulsions, cyanosis and death due to respiratory paralysis. Severe irritation to the digestive tract may also occur.

SECTION 3 - FIRE HAZARD DATA

Flash Point:	>200 degrees F.
Auto Ignition Temperature:	>200 degrees F.
Extinguishing Media:	Foam, Carbon Dioxide, Dry Chemical, Water.
Special Fire Fighting Procedures:	Wear MSHA/NIOSH approved self-contained breathing apparatus. Water is the extinguishing media of first choice.
Unusual Fire And Explosion Hazards:	May give off highly toxic and extremely flammable hydrogen sulfide gas if mixed with acids, may give off oxides of sulfur during combustion.

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SECTION 4 - PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye Protection: Protective eyewear.
Skin Protection: Coveralls over long-sleeved shirt and long pants, chemical resistant gloves made of any waterproof material, chemical resistant footwear plus socks, chemical resistant headgear for overhead exposure. Chemical resistant apron when cleaning equipment, mixing or loading.
Respiratory: Dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C).

SECTION 5 - PHYSICAL AND CHEMICAL DATA

Appearance:	Dark red brown liquid.	Odor:	Rotten eggs.
Specific Gravity:	1.27 gms/ml.	Boiling Point:	Not Available.
Vapor Pressure:	Not Available.	% Volatile:	Not Available.
Evaporation Rate:	(Butyl Acetate =1) Not Available	Vapor Density:	(Air =1) Not Available
Water Solubility:	Very Soluble.	Density:	10.6 lbs. per gal.
pH:	11.5 to 11.9.		

SECTION 6 - STABILITY AND REACTIVITY

Stability: Stable if undiluted and not mixed with other chemicals.
Conditions To Avoid: Do not introduce acids into a vessel containing calcium polysulfide solution. Acids may form highly toxic and extremely flammable hydrogen sulfide gas.
Incompatibility: Acids (see above), when mixed with strong oxidizers mixture may become unstable if allowed to dry. Depending on concentration of the oxidizer the mixtures can be dried to form contact explosives, e.g. ammonium nitrate can be sensitized by sulfur compounds to form a contact explosive when dry.
Hazardous Decomposition: Hydrogen sulfide gas.
Polymerization: Will not occur.
Note: Hydrogen sulfide gas is more toxic than hydrogen cyanide gas.

SECTION 7 - STORAGE AND HANDLING

Storage Temperature: Maximum: 170 degrees F. Minimum: 30 degrees F.
Storage: Store product in a secure locked place, inaccessible to children, pets and livestock. Store in a cool, dry place. Keep container closed when not in use.
Storage Precaution: Do not store adjacent to acids. Label solution as an alkaline liquid with proper warnings regarding use and handling.

SECTION 8 - TRANSPORTATION

D.O.T. Shipping Description: Not D.O.T. Regulated.
Other Shipping Information: Agricultural NOI – Insecticide or Fungicide. Class #60.

SECTION 9 - SPILLS AND LEAKS

Spill Or Leak: Dike and contain the spill with neutral or alkaline material (e.g. sand, earth, etc.). Transfer as much liquid as possible to containers for recovery. Transfer contaminated diking material to treatment facility. (Follow NPDES permit requirements). Remove contaminated clothing and wash affected skin areas with soap and water. Wash clothing before reuse. Keep spill out of open bodies of water and municipal sewers unless allowed under NPDES permit.

SECTION 10 - DISPOSAL

Waste Disposal Method: Precipitate with suitable equipment. Landfill or recycle precipitated solids in an approved landfill or treatment facility. (Precipitated metals can be smelted to recover metal sulfides).
Container Disposal: Reuse containers for calcium polysulfide solution only. Triple rinse (or equivalent), then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

SECTION 11 – OTHER INFORMATION

The information herein is believed to be accurate as of the preparation date, but is not warranted as being final authority in the use of this product. The information does not purport to be legal or medical advice.