




Safety Data Sheet

1 IDENTIFICATION

Product Name:	SULFORIX [®]
EPA Reg. No.:	61842-31
Chemical Family:	Inorganic salt solution
 Manufacturer/Supplier:	 Tessengerlo Kerley Inc. 2255 N. 44 th Street, Suite 300 Phoenix, Arizona 85008-3279 Information:(602) 889-8300
 For 24-Hour Emergency Assistance (Spill, Leak, Fire, or Exposure), Call CHEMTREC[®]:	 (800) 424-9300 (CHEMTREC) (866) 374-1975 (Tessengerlo Kerley)

2 HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

Pictogram	Hazard Statements	Precautionary Statements
	Harmful if swallowed Harmful if inhaled. Causes skin irritation.	Wash thoroughly with soap and water after handling. Do not eat, drink, or smoke when using this product. If swallowed, contact Poison Control Center if you feel unwell. Rinse mouth. Dispose of contents and container in accordance with procedures approved by state and local authorities. Avoid breathing product mist. Use only outdoors or in a well-ventilated area. Call a Poison Control Center if you feel unwell. Wear protective gloves and clothing when handling product. If on skin: Wash immediately with water for 15 minutes.
	Causes serious eye damage	Wear eye protection. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center.
	Harmful to aquatic life	Do not allow release to aquatic waterways.

Signal word: Danger

Hazard-determining component(s) of labeling:

Calcium Polysulfide

NFPA Hazard Ratings



Health = 2
Fire = 0
Reactivity = 0

HMIS Ratings



Health = *2
Fire = 0
Reactivity = 0

3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization: Mixture
Description: Agricultural fungicide-insecticide-miticide

Active Ingredient:	Component	CAS No.	% by Weight
	Calcium polysulfide, CaS _x	1344-81-6	25 - 30

4 FIRST AID MEASURES

Description of first aid measures

General information:

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For medical emergencies involving this product, call toll free 1-866-374-1975. See Label for Additional Precautions and Directions for Use.

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 INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

IF IN EYES: Hold eyes 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 eyes. Call a poison control center or doctor for treatment advice.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIAN

Probable mucosal damage may contraindicate gastric lavage.

5 FIRE FIGHTING MEASURES

Extinguishing media

Suitable extinguishing agents:

Use firefighting measures that suit the environment.

Special hazards arising from the substance or mixture

When heated or diluted, hydrogen sulfide vapors will evolve. This gas may form explosive mixtures with air. Keep containers/storage vessels in fire area cooled with water spray.

Advice for firefighters

Protective equipment:

Because of the possible presence of toxic gases and the irritating nature of the product firefighters should wear self-contained breathing apparatus and full fire-fighting turnout gear. Do not allow extinguishing media into waterways or storm water systems.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment specified in Section 8. Isolate the release area and deny entry to unnecessary, unprotected and untrained personnel.

Environmental precautions:

Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

6 ACCIDENTAL RELEASE MEASURES *(continued)*

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (ie. sand, diatomite, acid binders, universal binders, sawdust). Released material may contain residual sulfides. Spray with weak (~5%) hydrogen peroxide to oxidize sulfides
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.

7 HANDLING and STORAGE

Precautions for safe handling

Do not get in eyes and avoid contact with skin and clothing.
Ensure good ventilation/exhaustion at the workplace.
Avoid prolonged or repeated exposure.
Personnel must refer to the Product Label and Directions For Use attached to the product for agricultural use requirements in accordance with the EPA Worker Protection Standard.

Information about protection against explosions and fires:

Do not store combustibles in the same area. Keep away from heat, open flame, or ignition sources.
Keep protective respiratory device available.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry place.
Store in a well ventilated place.
Store tote and smaller containers out of direct sunlight at moderate temperatures.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components with occupational exposure limits: *N/A*

Additional information:

Personnel who handle this product in its end-use application should use this product only in accordance with its pesticide labeling and with the "Worker Protection Standard", 40 CFR 170.

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.

Breathing equipment:

Use NIOSH approved, dual cartridge respirators for dusts or mists if local ventilation is inadequate (N, R or P class filter media with NIOSH approved prefix TC-84A).

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product.

Material of gloves

Butyl rubber, BR
Natural rubber, NR
Nitrile rubber, NBR
Neoprene gloves

Penetration time of glove material

The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION *(continued)*

Eye protection:

Tightly sealed goggles
Face protection

Body protection:

Wear long-sleeved shirt and long pants, waterproof shoes and socks. Wash contaminated clothing before reuse.

9 PHYSICAL and CHEMICAL PROPERTIES

Appearance	Deep red-orange liquid
Odor	Strong odor of rotten eggs
Odor Threshold	Not determined
pH	11.5- 11.8
Melting/Freezing Point	Not determined
Boiling Point	N/A
Flash Point	N/A
Evaporation Rate	N/A
Flammability (Solid/Gas)	N/A
Upper/Lower Flammability or Explosive Limits	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Relative Density	N/A
Specific Gravity	1.273 (10.6 lbs/gal)
Solubility (in Water)	Dissolves with precipitation of elemental sulfur

10 STABILITY and REACTIVITY

Reactivity	Strong oxidizers and acids
Chemical stability	Stable to boiling point, will lose water above this temperature.
Conditions to avoid	Exposure to extreme heat or open flames.
Incompatibility	Strong <u>oxidizers</u> such as nitrates, nitrites or chlorates can cause explosive mixtures if heated to dryness. <u>Acids</u> , acidic materials or dilution with water will cause the release of hydrogen sulfide, a highly toxic gas.
Hazardous decomposition products	Heating this product will evolve hydrogen sulfide vapors. Continued heating will also cause oxides of sulfur to be released.

11 TOXICOLOGICAL INFORMATION

Acute toxicity:

LD/LC₅₀ values relevant for classification:

Oral	Rat LD ₅₀	820 mg/kg
Dermal	Rabbit LD ₅₀ :	>2,000 mg/kg
Inhalation	Rat LC ₅₀ :	3.1 mg/L (4 hrs)
Skin effects (rabbit)	Mildly irritating	
Eye effects (rabbit)	Irreversible damage due to high pH	

Chronic/Carcinogenicity:

Teratology:	No evidence available
Reproduction:	Data not available
Mutagenicity:	Data not available

11 TOXICOLOGICAL INFORMATION *(continued)*

Carcinogenic categories

IARC (International Agency for Research on Cancer)	Not listed.
NTP (National Toxicology Program)	Not listed.
OSHA-Ca (Occupational Safety & Health Administration)	Not listed.

12 ECOLOGICAL INFORMATION

AQUATIC TOXICITY

96 hour LC ₅₀	Bluegill sunfish:	52.9 mg/L
96 hour LC ₅₀	Rainbow trout:	8.8 mg/L
96 hour LC ₅₀	Flathead minnow	42.9 mg/L
72 hour EC ₅₀	Green algae:	16.4 mg/L

Aquatic Invertebrates

48 hour EC ₅₀	Water flea (<i>daphnia magna</i>)	13.7 mg/L
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Persistence and Degradability

Calcium polysulfide is expected to rapidly dissociate in the presence of any moisture to form calcium cation and elemental sulfur.

Bioaccumulation potential

Does not bioaccumulate

Motility in Soil

In the soil system, the modest amounts of calcium and sulfur that result from the use of polysulfide are not believed to be significant when compared to natural background levels.

Other Adverse Effects

None known

13 DISPOSAL CONSIDERATIONS

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your state Pesticide or Environmental Control Agency or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Nonrefillable Container (greater than five gallons): Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of container in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Refillable Container: Refillable container. Refill this container with Calcium Polysulfide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. For final disposal, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. For final disposal, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

14 TRANSPORT INFORMATION

UN Number:

DOT	None
ADR, , IATA	UN3077
IMDG	UN3077

UN Proper shipping name:

DOT	Not Regulated
ADR	UN3077 Environmentally hazardous substance, solid, n.o.s. (calcium polysulfide)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (calcium polysulfide)
IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (calcium polysulfide)

Transport hazard class(es)/Label(s):

DOT	None
ADR, IMDG	



9 Miscellaneous dangerous substances and articles

IATA



9 Miscellaneous dangerous substances and articles

Packing group:

ADR, IMDG, IATA	III
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Environmental hazards:

Not known

Marine pollutant:

No

Special marking (ADR):

N/A

Special marking (IATA):

N/A

EMS Number:

N/A

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:

Not applicable

15 REGULATORY INFORMATION

FIFRA:

Product Name: Sulforix

EPA Reg. No. 61842-31

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. 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:

DANGER

Fatal if swallowed.

Fatal if absorbed through the skin.

Fatal if inhaled.

Corrosive. Causes irreversible eye damage.

Causes skin burns.

Do not get in eyes, on skin, or on clothing.

Do not breathe vapor or spray mist.

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

This product is corrosive to flesh because of its caustic alkaline nature.

15 REGULATORY INFORMATION *(continued)*

Safety, health and environmental regulations/legislation specific for the substance or mixture

Section 355 (extremely hazardous substances): Not listed.

Section 313 (Toxic Release Reporting-Form R):

<u>Chemical name</u>	<u>CAS No.</u>	<u>Concentration</u>
Calcium polysulfide	1344-81-6	27.5%

TSCA (Toxic Substances Control Act): Exempt from TSCA

Proposition 65

Not applicable

CERCLA/SUPERFUND:

RQ (Reportable Quantity) Not applicable

RCRA Classification

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances.

16 OTHER INFORMATION

Issue Date: June 3, 2015

REVISIONS: SDS was reformatted in compliance with HCS 29 CFR 1910.1200 Rev. 2012, GHS Rev 05, and ANSI Z400.1.

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