



Material Safety Data Sheet

CAPTOR®

MSDS Number 835BSP1 (Revised 9/1/09)

6 Pages

Section 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION

- 1.1 Product Name** CAPTOR®
Chemical Family Inorganic salt solution
Synonyms Calcium thiosulfate, Thiosulfuric acid (H₂S₂O₃),
calcium salt, calcium hyposulfite
Formula CaS₂O₃
- 1.2 Manufacturer** Tessenderlo Kerley Inc.
2255 N. 44th Street, Suite 300
Phoenix, Arizona 85008-3279
Information (602) 889-8300
- 1.3 Emergency Contact** (800) 877-1737 (Tessenderlo Kerley)
(800) 424-9300 (CHEMTREC)
- 1.4 Use:** Water treatment. NSF certified maximum rate use of 50 mg/L for potable water.

Section 2: COMPOSITION, INFORMATION ON INGREDIENTS

2.1 Chemical Ingredients (% by wt.)

Calcium thiosulfate	CAS #:10124-41-1	20-30%
Water	CAS #:7732-18-5	70-80%

(See Section 8 for exposure guidelines)

Section 3: HAZARDS IDENTIFICATION

NFPA: **Health - 0** **Flammability - 0** **Reactivity - 0**

EMERGENCY OVERVIEW

Contact may cause eye irritation.
Repeated/prolonged skin contact may cause irritation.
Ingestion may irritate gastrointestinal tract.
Heating may cause sulfur dioxide gas to evolve.

Section	3:	HAZARDS IDENTIFICATION (Cont.)
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3.1 POTENTIAL HEALTH EFFECTS

EYE: Contact with the eyes by product mist or solution may cause irritation or a burning sensation.

SKIN CONTACT: Prolonged or repeated contact with product mist or solution may cause skin irritation.

SKIN ABSORPTION: Absorption is unlikely to occur.

INGESTION: Ingestion of product solution may cause irritation of the gastrointestinal tract to include nausea, vomiting and diarrhea. Calcium thiosulfate is considered to have a low toxicity to humans.

INHALATION: Inhalation of product mist may cause irritation of the nose, throat and respiratory tract.

CHRONIC EFFECTS/CARCINOGENICITY: Not listed as a carcinogen by NTP, IARC or OSHA.

Section	4:	FIRST AID MEASURES
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4.1 EYES: Immediately flush with large quantities of water for 15 minutes. Hold eyelids apart during irrigation to insure thorough flushing of the entire area of the eye and lids. Obtain medical attention if irritation occurs.

4.2 SKIN: Immediately flush with large quantities of water. Remove contaminated clothing under a safety shower. Obtain medical attention if irritation occurs.

4.3 INGESTION: If victim is conscious, give 2 to 4 glasses of water and induce vomiting by touching finger to back of throat. Obtain medical attention.

4.4 INHALATION: Remove victim from contaminated atmosphere. If breathing is labored, administer oxygen. If breathing has ceased, clear airway and start mouth to mouth resuscitation. If heart has stopped beating, external heart massage should be applied. Obtain medical attention.

Section	5:	FIRE FIGHTING MEASURES
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5.1 FLAMMABLE PROPERTIES

FLASH POINT: Not flammable

METHOD USED: NA

5.2 FLAMMABLE LIMITS

LFL: NA

UFL: NA

5.3 EXTINGUISHING MEDIA: As appropriate for combustibles involved in fire.

5.4 FIRE & EXPLOSIVE HAZARDS: Heating to dryness may cause the release of oxides of sulfur.

Keep containers/storage vessels in fire area cooled with water spray. Heating may cause the release of oxides of sulfur.

Section	5:	FIRE FIGHTING MEASURES (Cont.)
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5.5 FIRE FIGHTING EQUIPMENT: As in any fire, wear self-contained breathing apparatus, positive pressure type, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section	6:	ACCIDENTAL RELEASE MEASURES
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6.1 Small releases: Confine and absorb small releases on sand earth or other inert absorbent. Use water spray to dilute to weak fertilizer solution.

6.2 Large releases: Confine area to qualified personnel. Shut off release if safe to do so. Dike spill area to prevent runoff into sewers, drains or surface waterways (potential aquatic toxicity). Recover as much of the solution as possible. Treat remaining material as a small release (above).

Section	7:	HANDLING and STORAGE
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7.1 Handling: Avoid contact with eyes. Use only in a well ventilated area. Wash thoroughly after handling. Avoid prolonged or repeated breathing of vapors. Avoid prolonged or repeated contact with the skin.

7.2 Storage: Store in well ventilated areas. Do not store combustibles in the area of storage vessels. Keep away from any sources of heat or flame. Store tote and smaller containers out of direct sunlight at moderate temperatures. For tank storage, fittings, instruments, etc., use 304L, 316 ss, aluminum, fiberglass, poly tanks or lined carbon steel.

Section	8:	EXPOSURE CONTROLS, PERSONAL PROTECTION
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8.1 RESPIRATORY PROTECTION: None generally required. If conditions exist where mist may be generated, a NIOSH/MSHA approved mist respirator should be worn.

8.2 SKIN PROTECTION: Neoprene rubber gloves and apron should be worn to prevent repeated or prolonged contact with the liquid. Wash contaminated clothing prior to reuse.

8.3 EYE PROTECTION: Chemical goggles and a full face shield.

8.4 EXPOSURE GUIDELINES:

	OSHA		ACGIH	
	TWA	STEL	TLV	STEL
None	NA	NA	NA	NA

8.5 ENGINEERING CONTROLS: Use adequate exhaust ventilation to prevent inhalation of product vapors.

Section	9:	PHYSICAL and CHEMICAL PROPERTIES
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9.1 APPEARANCE:	Water-white to pale yellow liquid.
9.2 ODOR:	Fresh concrete to no odor at all
9.3 BOILING POINT:	212° F W/ decomposition
9.4 VAPOR PRESSURE:	37 mm Hg @ 100° F
9.5 VAPOR DENSITY:	Not determined
9.6 SOLUBILITY IN WATER:	Complete
9.7 SPECIFIC GRAVITY:	1.20 - 1.32 (10.0 - 11.0 lbs/gal)
9.8 FREEZING POINT:	Not Determined
9.9 pH:	6.5 – 8.0
9.10 VOLATILE:	Not applicable
9.11 SALT OUT TEMPERATURE	24-28°F (-4.4 to -2.2°C)

Section	10:	STABILITY and REACTIVITY
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10.1 STABILITY: This is a stable material

10.2 HAZARDOUS POLYMERIZATION: Will not occur

10.3 HAZARDOUS DECOMPOSITION PRODUCTS: Heating this product will evolve oxides of sulfur. Heating to dryness will cause the production of calcium oxide and oxides of sulfur. Sulfur dioxide is a severe respiratory hazard.

10.4 INCOMPATIBILITY: Strong oxidizers such as nitrates, nitrites or chlorates can cause explosive mixtures if heated to dryness. Acids will cause the release of sulfur dioxide, a severe respiratory hazard (SEE Section 7.2, Storage). The following materials of construction are not compatible with CaTS®: carbon steel, copper or its alloys (brass, bronze) or galvanized steel.

Section	11:	TOXICOLOGICAL INFORMATION
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11.1 ORAL: Oral Rat (female) LD₅₀: > 2,000 mg/kg (OECD 425)

11.11 Interperitoneal-rat LD_{LO} 573 mg/kg

11.12 Intravenous-rat LD_{LO} 344 mg/kg

11.13 Intraperitoneal-mouse LD₅₀ 115 mg/kg

11.2 DERMAL: Subcutaneous-Mouse LD₅₀: 103 mg/kg

11.3 INHALATION: Data not available

11.4 CHRONIC/CARCINOGENICITY: No evidence available

11.5 TERATOLOGY: Data not available

11.6 REPRODUCTION: Data not available

11.7 MUTAGENICITY: Data not available

Section	12:	ECOLOGICAL INFORMATION
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No data available.

Section	13:	DISPOSAL CONSIDERATIONS
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Calcium thiosulfate is not considered a hazardous waste under Federal Hazardous Waste Regulations, 40 CFR 261. Consult state and local regulations for different or more restrictive disposal regulations.

Section	14:	TRANSPORT INFORMATION
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This product does not meet the criteria for a hazardous material in accordance with DOT regulations.

14.1 DOT Shipping Name: Calcium thiosulfate solution

14.2 DOT Hazard Class: NA

14.3 UN/NA Number: NA

14.4 Packing Group: NA

14.5 DOT Placard: NA

14.6 DOT Label(s): NA

14.7 IMO Shipping Name: Calcium thiosulfate solution

14.8 RQ (Reportable Quantity): NA

14.9 RR STCC Number: Not available

Section	15:	REGULATORY INFORMATION
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15.1 OSHA: This product is listed as a hazardous chemical under criteria of the Federal OSHA Hazard Communication Standard, 29 CFR 1910.1200.

15.2 SARA TITLE III:	a.	EHS (Extremely Hazardous Substance) List:	No
	b.	Section 311/312, (Tier I,II) Categories:	Yes
		Fire	No
		Sudden release	No
		Reactivity	No
		Delayed (chronic)	No
	c.	Section 313 (Toxic Release Reporting-Form R):	No
		<u>Chemical Name</u> <u>CAS Number</u>	<u>Concentration</u>
	d.	TPQ (Threshold Planning Quantity):	No

Section	15: REGULATORY INFORMATION (Cont.)
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15.3 CERCLA/SUPERFUND:	RQ (Reportable Quantity)	No
15.4 TSCA (Toxic Substance Control Act) Inventory List:		Yes
15.5 RCRA (Resource Conservation and Recovery Act) Status:		NA
15.6 WHMIS (Canada) Hazard Classification:		NA
15.7 DOT Hazardous Material: (See Section 14)		No
15.8 CAA Hazardous Air Pollutant (HAP)		No
15.9 FIFRA Registration		Yes

Section	16: OTHER INFORMATION
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REVISIONS: The entire MSDS was reformatted to comply to ANSI Standard Z400.1-1993, by Technical Services-Tessenderlo Kerley, Inc.

Revised Section 9.11, 6/25/2008.

Revised Section 11.1, Oral Toxicity, 9/1/2009.

<p>THE INFORMATION PUBLISHED IN THIS MATERIAL SAFETY DATA SHEET HAS BEEN COMPILED FROM OUR EXPERIENCE AND OSHA, ANSI, NFPA, DOT, ERG, AND CHRIS. IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SUITABILITY OF THIS INFORMATION FOR THE ADOPTION OF NECESSARY SAFETY PRECAUTIONS. WE RESERVE THE RIGHT TO REVISE MATERIAL SAFETY DATA SHEETS PERIODICALLY AS NEW INFORMATION BECOMES AVAILABLE.</p>
