



**Tessenderlo  
KERLEY**

## Material Safety Data Sheet

**MagThio®**

MSDS Number 5500 (Revised: 3/27/08)

7 Pages

**Section 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION**

- 1.1 Product Name** ..... MagThio®  
**Chemical Family** ..... Inorganic salt solution  
**Synonyms** ..... Magnesium thiosulfate, Thiosulfuric acid (H<sub>2</sub>S<sub>2</sub>O<sub>3</sub>),  
 magnesium salt, magnesium hyposulfite  
**Formula** ..... MgS<sub>2</sub>O<sub>3</sub>
- 1.2 Use of Substance** ..... Liquid fertilizer
- 1.3 Manufacturer** ..... Tessenderlo Kerley Inc.  
 2255 N. 44<sup>th</sup> Street, Suite 300  
 Phoenix, Arizona 85008-3279  
 Information ..... (602) 889-8300
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- 1.4 Emergency Contact** ..... (800) 877-1737 (Tessenderlo Kerley)  
 (800) 424-9300 (CHEMTREC)

**Section 2: COMPOSITION, INFORMATION ON INGREDIENTS**

This product and the ingredients listed below are considered non-hazardous.

**2.1 Chemical Ingredients:**

<u>Ingredient Name</u>	<u>CAS No.</u>	<u>EC No.</u>	<u>% Weight</u>
Magnesium thiosulfate	10124-53-5	233-340-5	20 - 25
Water	7732-18-5	231-791-2	75 - 80

(See Section 8 for exposure guidelines)

**Section 3: HAZARDS IDENTIFICATION**

This product does not meet the criteria for a Hazardous Material as defined by U.S. DOT nor a Dangerous Good as defined by European Commission (EC) directives transposed into national legislation.

**NFPA:**      **Health - 1**      **Flammability - 0**      **Reactivity - 0**

**Section 3: HAZARDS IDENTIFICATION Cont.**

**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.

**3.1 POTENTIAL HEALTH EFFECTS**

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

**3.1.2 Skin Contact:** Prolonged or repeated contact with product mist or solution may cause skin irritation.

**3.1.3 Skin Absorption:** Absorption is unlikely to occur.

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

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

**3.1.6 Chronic Effects/Carcinogenicity:** Not listed as a carcinogen by NTP, IARC or OSHA.

**3.1.7 Environmental:** Avoid releasing product into streams, rivers or lakes due to potential adverse effects on aquatic species.

**Section 4: FIRST AID MEASURES**

**4.1 EYE CONTACT:** 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 CONTACT:** 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.

<b>Section</b>	<b>5:</b>	<b>FIRE FIGHTING MEASURES</b>
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**5.1 FLAMMABLE PROPERTIES**

Not flammable

**5.2 EXTINGUISHING MEDIA:** As appropriate for combustibles involved in fire.

**5.3 FIRE & EXPLOSIVE HAZARDS:** Heating to dryness may cause the release of sulfur and oxides of sulfur and magnesium sulfate.

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

**5.4 FIRE FIGHTING EQUIPMENT:** As in any fire, wear self-contained breathing apparatus, pressure demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

<b>Section</b>	<b>6:</b>	<b>ACCIDENTAL RELEASE MEASURES</b>
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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).

<b>Section</b>	<b>7:</b>	<b>HANDLING and STORAGE</b>
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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. (See Section 10.4 for materials of construction)

**7.3 SPECIFIED USE:** MagThio<sup>®</sup> is a liquid fertilizer supplying magnesium and sulfur to a wide variety of agricultural products.

<b>Section</b>	<b>8:</b>	<b>EXPOSURE CONTROLS, PERSONAL PROTECTION</b>
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<b>8.1 EXPOSURE GUIDELINES:</b>	OSHA		ACGIH	
	TWA	STEL	TLV	STEL
None	NA	NA	NA	NA

**8.2 EXPOSURE CONTROLS:**

<b>Section</b>	<b>8: EXPOSURE CONTROLS, PERSONAL PROTECTION, Cont.</b>
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**8.2.1 Respiratory Protection:** None generally required. If conditions exist where mist may be generated, a NIOSH/MSHA approved mist respirator should be worn.

**8.2.2 Hand Protection:** Neoprene rubber gloves should be worn to prevent repeated or prolonged contact with the liquid.

**8.2.3 Eye Protection:** Chemical goggles and a full face shield.

**8.2.4 Skin Protection:** Neoprene rubber apron should be worn to prevent repeated or prolonged contact with the liquid. Wash contaminated clothing prior to reuse.

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

<b>Section</b>	<b>9: PHYSICAL and CHEMICAL PROPERTIES</b>
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9.1	<b>Appearance/State</b>	Clear to colorless liquid
9.1.1	<b>Odor</b>	May have a slight sulfur odor
9.2	<b>pH</b>	6.5 to 7.5
9.3	<b>Boiling Point (range)</b>	Not determined
9.4	<b>Flash Point</b>	Non-flammable
9.5	<b>Flammable Range</b>	Not Applicable
9.6	<b>Explosive properties</b>	None
9.7	<b>Oxidizing Properties</b>	None
9.8	<b>Vapor Pressure</b>	Not determined
9.9	<b>Specific Gravity</b>	1.236 (10.3 lb/gal)
9.10	<b>Solubility (water)</b>	Complete
9.11	<b>Partition Coefficient, <math>K_{ow}</math></b>	Not determined
9.12	<b>Viscosity</b>	Not determined
9.13	<b>Vapor Density</b>	Not determined
9.14	<b>Salt out Temperature</b>	~15°F (-9.4°C)

<b>Section</b>	<b>10: STABILITY and REACTIVITY</b>
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This product is stable under normal storage and use conditions (ambient temperature and pressure). Hazardous polymerization will not occur.

**10.1 CONDITIONS TO AVOID:** High temperatures, fire conditions.

**10.2 MATERIALS TO AVOID:** 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. Magnesium thiosulfate solution is not compatible with copper or zinc or their alloys including galvanized materials. These materials of construction should not be used in handling systems or storage containers for this product. (SEE Section 7.2, Storage)

**Section 10: STABILITY and REACTIVITY, Cont.**

**10.3 HAZARDOUS DECOMPOSITION PRODUCTS:** Heating this product will evolve sulfur dioxide. Heating to dryness will cause the production of magnesium sulfate, sulfur and oxides of sulfur. Sulfur dioxide is a respiratory hazard.

**Section 11: TOXICOLOGICAL INFORMATION****11.1 ORAL:**

- 11.1.1 Intraperitoneal-Rat LD<sub>50</sub>: 805 mg/kg
- 11.1.2 Intravenous-Rat LD<sub>50</sub>: 103 mg/kg
- 11.1.3 Subcutaneous-Mouse LD<sub>50</sub>: 850 mg/kg

**11.2 DERMAL:** Data not Available

**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**

**12.2 ECOTOXICITY:** No data available

**12.2 MOBILITY:** No data available

**12.3 PERSISTENCE & DEGRADABILITY:** No data available

**12.4 BIOACCUMULATION POTENTIAL:** No data available

**12.5 OTHER ADVERSE EFFECTS:** No data available

**Section 13: DISPOSAL CONSIDERATIONS**

Magnesium 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.

<b>Section</b>	<b>14:</b>	<b>TRANSPORT INFORMATION</b>
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**14.1 BASIC SHIPPING DESCRIPTION:**

<b>14.1.1 DOT Shipping Name:</b>	Magnesium thiosulfate solution ( <i>Non-hazardous</i> )
<b>14.1.2 DOT Hazard Class:</b>	NA
<b>14.1.3 Identification Number:</b>	NA
<b>14.1.4 Packing Group:</b>	NA
<b>14.1.5 Hazardous Substance:</b>	No
<b>14.1.6 Marine Pollutant:</b>	No

**14.2 ADDITIONAL INFORMATION:****14.2.1 Other DOT Requirements:**

<b>14.2.1.1 Reportable Quantity:</b>	No
<b>14.2.1.2 Placard(s):</b>	NA
<b>14.2.1.3 Label(s):</b>	NA
<b>14.2.1.4 RR STCC Number:</b>	Not available
<b>14.2.1.5 Emergency Response Guide</b>	Not applicable

**14.2.2 USCG Classification:** Not Classified

**14.2.3 International Transportation**

<b>14.2.3.1 IMO:</b>	Pollution Category –Not rated
<b>14.2.3.2 IATA:</b>	Proper Shipping Description – Magnesium thiosulphate solution

<b>Section</b>	<b>15:</b>	<b>REGULATORY INFORMATION</b>
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**15.1 US FEDERAL REGULATIONS:**

**15.1.1 OSHA:** This product meets the definition of a hazardous material under criteria of the Federal OSHA Hazard Communication Standard (29 CFR 1910.1200).

**15.1.2 TSCA:** Product is contained in Toxic Substance Control Act Inventory

**15.1.3 CERLA:** Reportable Quantity – Not applicable

**15.1.4 SARA Title III:**

<b>15.1.4.1 Extremely Hazardous Substance (EHS):</b>	Not Listed
<b>15.1.4.2 Section 312 (Tier II) ratings:</b>	Immediate (acute) Yes
	Fire No
	Sudden release No
	Reactivity No
	Delayed (chronic) No
<b>15.1.4.3 Section 313 (FORM R):</b>	Not Applicable

**15.1.5 RCRA** (Resource Conservation and Recovery Act) Status: Not Applicable

**15.1.6 CAA** Hazardous Air Pollutant (HAP): Not Applicable

**15.2 INTERNATIONAL REGULATIONS**

**Section 15: REGULATORY INFORMATION, Cont.**

**15.2.1 Canada** Listed on Non-Domestic Substance List, Thiosulfuric acid (H<sub>2</sub>S<sub>2</sub>O<sub>3</sub>), magnesium salt

**15.2.1.1 WHIMIS:** Not Applicable

**Section 16: OTHER INFORMATION**

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

Address updated, 7/14/99

Section 8.3, Eye Protection revised and revised logo, 4/30/02

All Sections modified to harmonize with European requirements, 4/4/07

Ingredient percentage modified, 3/27/08

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