



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 (H₂S₂O₃),
 magnesium salt, magnesium hyposulfite
 Formula MgS₂O₃
- 1.2 Use of Substance** Liquid fertilizer
- 1.3 Manufacturer** Tessenderlo Kerley Inc.
 2255 N. 44th Street, Suite 300
 Phoenix, Arizona 85008-3279
 Information (602) 889-8300
- 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.
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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
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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.

Section	5:	FIRE FIGHTING MEASURES
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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.

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. (See Section 10.4 for materials of construction)

7.3 SPECIFIED USE: MagThio[®] is a liquid fertilizer supplying magnesium and sulfur to a wide variety of agricultural products.

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

8.2 EXPOSURE CONTROLS:

Section	8:	EXPOSURE CONTROLS, PERSONAL PROTECTION, Cont.
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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.

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

Section	10:	STABILITY and REACTIVITY
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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.
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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
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11.1 ORAL:

- 11.1.1 Intraperitoneal-Rat LD_{LO}: 805 mg/kg
- 11.1.2 Intravenous-Rat LD_{LO}: 103 mg/kg
- 11.1.3 Subcutaneous-Mouse LD₅₀: 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
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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
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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.

Section	14:	TRANSPORT INFORMATION
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14.1 BASIC SHIPPING DESCRIPTION:

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

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

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

14.2.2 USCG Classification: Not Classified

14.2.3 International Transportation

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

Section	15:	REGULATORY INFORMATION
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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:

15.1.4.1 Extremely Hazardous Substance (EHS):	Not Listed
15.1.4.2 Section 312 (Tier II) ratings:	Yes
Immediate (acute)	Yes
Fire	No
Sudden release	No
Reactivity	No
Delayed (chronic)	No
15.1.4.3 Section 313 (FORM R):	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.
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15.2.1 Canada Listed on Non-Domestic Substance List, Thiosulfuric acid (H₂S₂O₃), magnesium salt

15.2.1.1 WHIMIS: Not Applicable

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.

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

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.
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