MSDS Number: **M0234** * * * * * *Effective Date*: ***10/29/01*** * * * * * *Supercedes*: ***11/17/99***

MSDS MATERIAL SAFETY DATA SHEET

CHEMTREC: 800-424-9300 (USA)
703-527-3887(Outside USA and Canada)
CANUTEC: 613-996-6666

From: Mallinckrodt Baker, Inc
222 Red School Lane
Phillipsburg, NJ 08865

NOTE: Use CHEMTREC and CANUTEC phone numbers only in the event of a chemical emergency.

Emergency Telephone Number: 908-859-2151

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

L I N C K R O D T **J. T. B A K E R**

MAGNESIUM SULFATE

1. Product Identification

Synonyms: Magnesium sulfate (1:1) heptahydrate; Epsom salts; sulfuric acid, magnesium salt (1:1), heptahydrate; Magnesium sulfate, 7- hydrate
CAS No.: 7487-88-9 (Anhydrous) 10034-99-8 (heptahydrate)
Molecular Weight: 246.47
Chemical Formula: MgSO4.7H2O
Product Codes:
J.T. Baker: 2500, 2503, 2504, 2505, 5588
Mallinckrodt: 4200, 5691, 6046, 6066, 7778

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Magnesium Sulfate Anhydrous	7487-88-9	99 - 100%	Yes

3. Hazards Identification

Emergency Overview

CAUTION! MAY BE HARMFUL IF SWALLOWED.

J.T. Baker SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 1 - Slight
Flammability Rating: 0 - None
Reactivity Rating: 0 - None
Contact Rating: 1 - Slight
Lab Protective Equip: GOGGLES; LAB COAT
Storage Color Code: Orange (General Storage)

Potential Health Effects

Inhalation:
Dust may be slightly irritating. Sore throat or coughing may occur.
Ingestion:
Since magnesium salts are slowly absorbed, abdominal pain, vomiting and diarrhea may be the only symptoms. However, if elimination is blocked by bowel blockage or other reasons, CNS depression, lack of reflexes, hypocalcemia (deficiency of calcium in the blood) may occur.
Skin Contact:
No adverse effects expected but may cause minor skin irritation.
Eye Contact:
No adverse effects expected but dust may cause mechanical irritation.
Chronic Exposure:
No information found.
Aggravation of Pre-existing Conditions:
No information found.

4. First Aid Measures

Inhalation:
Remove to fresh air. Get medical attention for any breathing difficulty.
Ingestion:

Give several glasses of water to drink to dilute. If large amounts were swallowed, get medical advice.
Skin Contact:
Remove any contaminated clothing. Wash skin with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.
Eye Contact:
Wash thoroughly with running water. Get medical advice if irritation develops.

Note to Physician:
IV administration of calcium gluconate will partially reverse the effects of acute magnesium toxicity. Ventricular support with calcium chloride infusion and mannitol forced diuresis has also been successful.

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5. Fire Fighting Measures

Fire:
Not considered to be a fire hazard.
Explosion:
Not considered to be an explosion hazard.
Fire Extinguishing Media:
Use any means suitable for extinguishing surrounding fire.
Special Information:
Use protective clothing and breathing equipment appropriate for the surrounding fire.

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6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

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7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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8. Exposure Controls/Personal Protection

Airborne Exposure Limits:
None established.
Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.
Personal Respirators (NIOSH Approved):
For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.
Skin Protection:
Wear protective gloves and clean body-covering clothing.
Eye Protection:
Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

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9. Physical and Chemical Properties

Appearance:
Transparent crystals, or white powder.
Odor:
Odorless.
Solubility:
Very soluble in water.
Density:
1.67 g/ml @ 4C
pH:
Aqueous solution is neutral or slightly acid.
% Volatiles by volume @ 21C (70F):
0
Boiling Point:
Not applicable.
Melting Point:
1124C (2055F) Decomposes. Loses all waters of hydration @ 250C (482F)
Vapor Density (Air=1):
No information found.

Vapor Pressure (mm Hg):
No information found.
Evaporation Rate (BuAc=1):
No information found.

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10. Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage. Loses some moisture on exposure to dry air at room temperatures.
Hazardous Decomposition Products:
Oxides of sulfur and the contained metal.
Hazardous Polymerization:
Will not occur.
Incompatibilities:
Ethoxy ethyl alcohols, arsenates, phosphates, tartrates, lead, barium, strontium, and calcium
Conditions to Avoid:
Heat, moisture, incompatibles.

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11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.
Investigated as a mutagen, reproductive effector.

--------\Cancer Lists\----------

Ingredient	---NTP Carcinogen--- Known	Anticipated	IARC Category
Magnesium Sulfate Anhydrous (7487-88-9)	No	No	None

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12. Ecological Information

Environmental Fate:
No information found.
Environmental Toxicity:
No information found.

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13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

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14. Transport Information

Not regulated.

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15. Regulatory Information

\-------\Chemical Inventory Status - Part 1\--------------------------------

Ingredient	TSCA	EC	Japan	Australia
Magnesium Sulfate Anhydrous (7487-88-9)	Yes	Yes	Yes	Yes

\-------\Chemical Inventory Status - Part 2\--------------------------------

Ingredient	Korea	--Canada-- DSL	NDSL	Phil.
Magnesium Sulfate Anhydrous (7487-88-9)	Yes	Yes	No	Yes

\-------\Federal, State & International Regulations - Part 1\---------------

Ingredient	-SARA 302- RQ	TPQ	------SARA 313----- List	Chemical Catg.
Magnesium Sulfate Anhydrous (7487-88-9)	No	No	No	No

\-------\Federal, State & International Regulations - Part 2\---------------

Ingredient	CERCLA	-RCRA- 261.33	-TSCA- 8(d)
Magnesium Sulfate Anhydrous (7487-88-9)	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No
Reactivity: No (Pure / Solid)

Australian Hazchem Code: None allocated.
Poison Schedule: None allocated.
WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

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16. Other Information

NFPA Ratings: Health: **1** Flammability: **0** Reactivity: **0**
Label Hazard Warning:
CAUTION! MAY BE HARMFUL IF SWALLOWED.
Label Precautions:
Keep container closed.
Wash thoroughly after handling.
Label First Aid:
If swallowed, give several glasses of water to drink to dilute. If large amounts were swallowed, get medical advice.
Product Use:
Laboratory Reagent.
Revision Information:
MSDS Section(s) changed since last revision of document include: 1, 8.
Disclaimer:
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