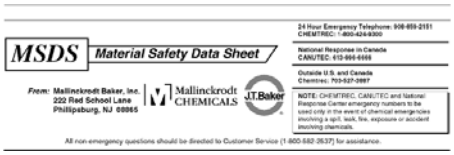
MSDS Number: **M0156** * * * * * *Effective Date:* ***11/04/04*** * * * * * *Supercedes:* ***03/28/02***



MAGNESIUM CHLORIDE

1. Product Identification

Synonyms: Magnesium chloride, hexahydrate; Magnesium chloride, 6-hydrate, crystal
CAS No.: 7786-30-3 (Anhydrous); 7791-18-6 (Hexahydrate)
Molecular Weight: 203.30
Chemical Formula: MgCl2 6H2O
Product Codes:
J.T. Baker: 2444, 2448, 2449, 2450, 4003, 5183
Mallinckrodt: 12131, 5910, 5933, 5954, 5956, 5958, 5960, 7550, 7791

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardou
Magnesium Chloride	7786-30-3	98 - 100%	Yes

3. Hazards Identification

Emergency Overview

CAUTION! MAY BE HARMFUL IF SWALLOWED.

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

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

Potential Health Effects

Inhalation:
Inhalation of dust may cause mild irritation to the mucous membranes.
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.

5. Fire Fighting Measures

Fire:
Not considered to be a fire hazard.
Explosion:
Not considered to be an explosion hazard. At room temperature the addition of magnesium chloride to furan-2-peroxycarboxylic acid, will cause the acid to explode.
Fire Extinguishing Media:
Use any means suitable for extinguishing surrounding fire.
Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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.

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.

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.

9. Physical and Chemical Properties

Appearance:
Colorless flakes or crystals.
Odor:
Odorless.
Solubility:

167g/100ml water @ 20C (68F)
Density:
1.57
pH:
5% in water is neutral to litmus.
% Volatiles by volume @ 21C (70F):
0
Boiling Point:
Not applicable.
Melting Point:
118C (244F)
Vapor Density (Air=1):
No information found.
Vapor Pressure (mm Hg):
No information found.
Evaporation Rate (BuAc=1):
No information found.

10. Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage. By strong ignition is converted into oxychloride.
Hazardous Decomposition Products:
When heated to decomposition it emits corrosive hydrochloric acid vapor. When heated to temperatures above 300C (572F) it emits toxic fumes of chlorine gas.
Hazardous Polymerization:
Will not occur.
Incompatibilities:
Furan-2-peroxycarboxylic acid. Strong oxidizing agents will release chlorine.

Conditions to Avoid:
Heat, moisture, incompatibles.

11. Toxicological Information

Oral rat LD50: 8100mg/kg. Investigated as a mutagen.

Ingredient	Known	Anticipated	IARC Category
Magnesium Chloride (7786-30-3)	No	No	None

12. Ecological Information

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

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.

14. Transport Information

Not regulated.

15. Regulatory Information

Ingredient	TSCA	EC	Japan	Australia
Magnesium Chloride (7786-30-3)	Yes	Yes	Yes	Yes

Ingredient	Korea	DSL	NDSL	Phil.
Magnesium Chloride (7786-30-3)	Yes	Yes	No	Yes

Ingredient	SARA 302 RQ	SARA 302 TPQ	SARA 313 List	SARA 313 Chemical Catg.
Magnesium Chloride (7786-30-3)	No	No	No	No

Ingredient	CERCLA	RCRA 261.33	TSCA 8(d)
Magnesium Chloride (7786-30-3)	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.

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 large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.
Product Use:
Laboratory Reagent.
Revision Information:
MSDS Section(s) changed since last revision of document include: 3.
Disclaimer:
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