

DEAD SEA WORKS LTD

MATERIAL SAFETY DATA SHEET

Product name	MAG Flakes	
Product id	8677-FL	
Revision date	04/07/2011	Revision: 3
Supersedes	08/09/2009	

1. Identification of the substance & the company

Trade name	MAG Flakes
Chemical formula	Not applicable
Type of product and use	Ice and dust control
Company	Dead Sea Work Ltd P.O.B. 75 Beer Sheva 84100, Israel Tel: +972-8-6465347 Fax: +972-8-6280533 www.dsosalts.com

Emergency telephone number: 972-8-9977577

2. Hazards identification

Adverse human health effects	May irritate eyes Not classified as dangerous
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3. Composition / information on ingredients

Components	Weight %	Index No.	EC No.	EU Classification
Magnesium Chloride Hexahydrate 7791-18-6	46.5		2320946 (anhydrous CAS 7786-30-3)	None
Other Salts	3-5	Not Listed	Not Listed	None
Water of crystallization 7732-18-5	48.5-50.5		231-791-2	None

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4. First-aid measures

Eye contact	Holding the eyelids apart, flush eyes promptly with copious flowing water for at least 20 minutes. Get medical attention if irritation persists.
Skin contact	Wash with water in case of irritation. Get medical attention if irritation occurs and persists.
Inhalation	In case of dust inhalation or breathing fumes released from heated material, remove person to fresh air. Keep him quiet and warm. Apply artificial respiration if necessary and get medical attention immediately.
Ingestion	If swallowed, wash mouth thoroughly with plenty of water. Get medical attention immediately. ***** NOTE: Never give an unconscious person anything to drink. *****
Notes to the physician	In case of ingestion, the salt level in blood must be determined. Treat symptomatically and supportively.

5. Fire - fighting measures

Fire fighting procedure	In closed stores, provide fire-fighters with self-contained breathing apparatus in positive pressure mode
Unusual fire and explosion hazards	When heated to decomposition, may release poisonous and corrosive fumes of HCl

6. Accidental release measures

Personal precautions	Wear protective clothing specified for normal operations (see section 8).
Methods for cleaning up	Sweep up, place in a bag and hold for waste disposal or possible re-use

7. Handling and storage

Handling	Keep containers tightly closed.
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Storage Keep in a dry, well-ventilated place away from incompatible materials (see "materials to avoid").

8. Exposure controls / personal protection

Exposure Limits :

Components	ACGIH-TLV Data	OSHA (PEL) Data
Magnesium Chloride Hexahydrate 7791-18-6	Not determined	Not determined
Other Salts	Not determined	Not determined
Water of crystallization 7732-18-5	Not determined	Not determined

Ventilation requirements

Good general ventilation.
Ventilation must be sufficient to maintain TLV-TWA below 3 mg/m³, respirable particles, and 10 mg/m³, inhalable particles (ACGIH recommendation for Particles (Insoluble or poorly soluble) Not Otherwise Specified (PNOS)).

Personal protective equipment:

- **Respiratory protection** In case of significant or accidental dust emissions, dust mask should be worn
- **Hand protection** Protective gloves
- **Eye protection** Chemical safety goggles
- **Skin and body protection** Body covering clothes and boots

Hygiene measures

Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking.
Safety shower and eye bath should be provided.

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9. Physical and chemical properties

Appearance	White flakes
Boiling point/range	Not applicable
Melting point/range	118°C (244°F)
Flash point	Non-combustible
Auto-ignition temperature	Not applicable
Vapour pressure	Not available
Solubility:	
- Solubility in water	167g/100g
Bulk density	800-900 kg/m ³
Density	1.6 g/cm ³ (20°C)
pH	8.2 @ 10% aqueous solution
Decomposition temperature	>160°C

10. Stability and reactivity

Stability	Stable under normal conditions.
Materials to avoid	oxidizing agents
Conditions to avoid	Exposure to moisture Heating above decomposition temperature
Hazardous decomposition products	Oxides of: potassium, calcium, magnesium, sodium and HCl
Hazardous polymerization	Will not occur

11. Toxicological information

Acute toxicity:	
- Rat oral LD50	8100 mg/kg (for MgCl ₂)
- Mouse oral LD50	7600 mg/kg (for MgCl ₂)
Mutagenicity	Not available
Carcinogenicity	Not classified by IARC Not included in NTP 11th Report on Carcinogens

12. Ecological information

Information on ecological effects	MgCl ₂ is a seawater component
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13. Disposal considerations

Waste disposal	Observe all federal, state and local environmental regulations when disposing of this material.
Disposal of Packaging	Containers can be recycled after proper cleaning.

14. Transportation information

IMO	Not regulated
ICAO/IATA	Not regulated
DOT	Not regulated

15. Regulatory information

EU - Indication of danger	Anhydrous $MgCl_2$ is reported EINECS Not subject to labelling in accordance with EEC Directives.
USA	Reported in the EPA TSCA Inventory.
Australia	Listed in AICS
Canada	Listed in DSL
China inventory Japan	Listed Listed in ENCS
New Zealand Inventory	Listed in NZIoC
Philippines	Listed in PICCS

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16. Other information

This data sheet contains changes from the previous version in section(s)
3, 15

The information herein is based on the present state of our knowledge. It is believed to be correct but is not necessarily all-inclusive and shall be used only as a guide.

DEAD SEA WORKS Ltd, shall not be held liable for any damage resulting from handling or from contact with the above product. For further information, contact DEAD SEA WORKS Ltd.

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End of safety data sheet