


<b>SAFETY DATA SHEET</b>	
Haifa Magnesium sulfate	1 of 10

Complying with 1907/2006/EEC Regulation of 18 December 2006 ("REACH Regulation") and REGULATION (EC) No 1272/2008 (CLP)

**Section 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

**1.1 Product identifier**

**Product name:** Haifa Magnesium sulfate  
**Chemical name (e.g. IUPAC name):** N/A  
**Trade names:** Haifa Magnesium Sulfate, BitterMag  
**Synonyms:** Magnesium sulfate(1:1); Magnesium sulphate; Epson salt,  
**Chemical formula:** O<sub>4</sub>S·Mg  
**Fertilizer formula:** 0-0-0+16MgO+32SO<sub>3</sub>  
**Product type:** Inorganic solid  
**CAS number:** 7487-88-9  
**EC number:** 231-298-2  
**REACH registration no(s):** 01-2119486789-11

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
**Use of the substance/preparation:** Solid or liquid fertilizers.

**1.3 Details of the supplier of the safety data sheet**

**Company/undertaking identification**

**European Importer:** Haifa Chemicals Northern Europe  
 Generaal de Wittelaan 17, bus 16,  
 B-2800 Mechelen, Belgium  
 Tel: +32-15-270811  
 E-mail: [hichem@hichem.be](mailto:hichem@hichem.be)

**Other Countries Importer**

**Supplier/Manufacturer:** Haifa Chemicals Ltd.  
 P.O.B 10809, Haifa Bay 26120, Israel  
 Tel: +972-4-8469616  
 Fax: +972-4-8469953/5

**E-mail address of person responsible for this SDS:** [info@haifachem.com](mailto:info@haifachem.com)

**1.4 Emergency telephone number**

**Emergency telephone number (including hours of operation):** +972-4-8469616

CHEMTREC (U.S.): 1-800-424-9300

**Section 2. HAZARDS IDENTIFICATION**

**2.1 Classification of the substance or mixture**

**Classification in accordance to Regulation(EC) No. 1272/2008 (CLP/GHS)**

Ingredient name	GHS Classification
Magnesium sulfate	-

<b>SAFETY DATA SHEET</b>	
Haifa Magnesium sulfate	2 of 10

Classification according to Directive 67/548/EEC (DSD) or 1999/45/EC

Ingredient name	GHS Classification
Magnesium sulfate	-

See section 16 for full text of the R phrases or H statements declared above.  
See section 11 for more detailed information on health effects and symptoms.

## 2.2 Label elements

Labeling in accordance with Regulation 1272/2008 (CLP)

Hazard pictograms: Not required

Signal word: Not classified

Hazard statements: Not classified

Precautionary Statements: Not required

## 2.3 Other hazard

Substance meets the criteria for BBT according to Regulation (EC) No. 1907/2006, Annex XIII:

Not applicable

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII:

Not applicable

Other hazard which do not result in classification:

Not applicable

## **Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance/preparation:


Product/ Ingredient name	Identifiers	%	EU Classification	GHS Classification
Magnesium sulfate	CAS number: 7487-88-9 EC number: 231-298-2 REACH: 01-2119486789-11	100	-	-

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8.

## **Section 4. FIRST AID MEASURES**

### 4.1 Description of first aid measures

<b>SAFETY DATA SHEET</b>	
Haifa Magnesium sulfate	3 of 10

- Eyes contact:** In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if irritation occurs.
- Skin contact:** Avoid prolonged or repeated contact with skin. After handling, always wash hands thoroughly with soap and water. Get medical attention if irritation develops.
- Inhalation:** Avoid breathing dust. If inhaled, remove to fresh air.
- Ingestion:** If large quantities of this material are swallowed, call a physician immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

#### **4.2 Most important symptoms and effects, both acute and delayed**

##### **Potential acute health effects**

Inhalation: May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

Skin contact: Not irritating

Eyes contact: Dust may cause mechanical eye irritation.

##### **Over-exposure sign/symptoms:**

Eyes contact: No special data

Inhalation: No special data

Ingestion: No special data

Skin contact: No special data

#### **4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician:** In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposure person may need to be kept under medical surveillance for 48 hours.

**Special treatments:** No specific treatment

### **Section 5: FIRE-FIGHTING MEASURES**

#### **5.1 Extinguishing media**

Suitable: Use an extinguishing agent suitable for surrounding fire.

Not suitable: N/A


#### **5.2 Special hazards arising from the substance or mixture**

Non-combustible.

Hazardous thermal decomposition products: Sulphur oxides (if heated to dryness).

#### **5.3 Advice for firefighters**

**Special protective equipment for fire fighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

<b>SAFETY DATA SHEET</b>	
Haifa Magnesium sulfate	4 of 10

**Remark:** Move containers from fire area if possible to do so without risk.

## Section 6: ACCIDENTAL RELEASE MEASURES

### **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective clothing. Ventilate area of spill.

### **6.2 Environmental precautions**

Do not let this chemical enter the environment. Avoid contact of spilt material and runoff with soil and surface waterways.

### **6.3 Methods and materials for containment and cleaning up**

Small spill: Use a tool to scoop up solid material and place into an appropriate labeled waste container. Do not mix with sawdust or other combustible material. Avoid creating dusty conditions and prevent wind dispersal. Keep out of waterways.

Large spill: As for small spill

**Personal Protection in Case of Large Spill:** Safety glasses. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product.

### **6.4 Reference to other sections**

See Sections 1 for emergency contact information

See Section 8 for information on a appropriate personal protective equipment

See Section 13 for additional waste treatment information

## Section 7: HANDLING AND STORAGE

### **7.1 Precautions for safe handling**

**Handling:** Avoid creating dusty conditions and prevent wind dispersal. Avoid all possible sources of ignition (spark or flame). Avoid contamination by any source including metals, dust and organic materials.

#### **Hygiene Measures:**

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also section 8 for additional information measures.

### **7.2 Conditions for safe storage, including any incompatibilities**


**Storage:** Keep containers tightly closed, in dry, cool and well-ventilated place. Do not store together with reducing agents, organic materials and alkalis. Use original container Packaging materials  
Recommended : Use original container.

**7.3 Specific end use(s):** N/A

## Section 8: EXPOSURE CONTROL / PERSONAL PROTECTION

### **8.1 Control parameters**

**Occupational exposure limit values:** N/A

<b>SAFETY DATA SHEET</b>	
Haifa Magnesium sulfate	5 of 10

#### **Derived effects levels:**

Recommended occupational and consumer exposure limit values (following from the preformed CSA):

<b>Exposure pattern</b>	<b>Derived No Effect Level (DNEL)</b>	
	<b>Workers</b>	<b>General population</b>
Oral	N/A	12.8 mg/kg bw/day
Dermal	21.3 mg/kg bw/day	12.8 mg/kg bw/day
Inhalation	37.6 mg/m <sup>3</sup>	11.1 mg/m <sup>3</sup>

## **8.2 Exposure controls**

### **Engineering Measures**

Use process enclosures, local exhaust ventilation, or others engineering controls to keep airborne levels below recommend exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### **Person Protective measures**

#### **Occupational exposure controls:**

Respiratory protection: Disposable particulate mask. Be sure to use an approved/certified or equivalent. Wear appropriate respirator when ventilation is inadequate.

Hand protection: Wear protective disposable vinyl gloves to prevent skin exposure.

Eye protection: Wear protective safety glasses.

Skin protection: Wear appropriate long-sleeved clothing to minimize skin contact.

Hygiene measures: Keep away from foodstuffs and beverages. Do not eat, drink or smoke during work time. Remove soiled or soaked clothing immediately. Clean skin thoroughly after work; apply skin cream. During use, provide suitable ventilation.

**Environmental exposure controls:** Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## **Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1 Information on basic physical and chemical properties**

Appearance: Solid (crystalline), whitish

Odour: Odourless


Odour threshold: Odourless

pH: N/A

Melting point/Freezing point: 1127°C

Initial boiling point/boiling range: Not applicable

Flash point: Not applicable

<b>SAFETY DATA SHEET</b>	
Haifa Magnesium sulfate	6 of 10

Evaporation rate: N/A (butyl acetate=1)  
 Flammability: Non flammable  
 Upper/lower flammability or explosive limits: N/A  
 Vapor pressure: Not applicable  
 Vapor density: N/A  
 Relative Density: 2.65 g/cm<sup>3</sup>  
 Solubility(ies): Water solubility- Very soluble, 360 g/L at 20 °C, 73.8 g/l at 100 °C  
 Partition coefficient Octanol/Water: Not applicable  
 Auto-ignition temperature: Not applicable  
 Decomposition temperature: 1124°C  
 Viscosity: Not applicable  
 Explosive properties: Not explosive  
 Oxidizing properties: N/A

**9.1 Other information:**

Molecular weight: 120,37 g/mol  
 VOC: Not an organic compound  
 Fat solubility: Not applicable  
 Conductivity: Not applicable  
 Gas group: Not applicable  
 Miscibility: Not applicable

**Section 10: STABILITY AND REACTIVITY**

**10.1 Reactivity**

No specific test data related to reactivity available for this product or its ingredients

**10.2 Chemical stability**

The product is stable under normal handling and storage conditions described in Section 7.

**10.3 Possibility of hazardous reactions**

Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid**

Extreme humidity

**10.5 Incompatible materials**

Strong oxidizing agents

**10.6 Hazardous Decomposition products:**


Sulphur oxides (if heated to dryness)

**Section 11: TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

**Acute toxicity:**

Product/ingredient name	Test	Species	Dose
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<b>SAFETY DATA SHEET</b>	
Haifa Magnesium sulfate	7 of 10

Magnesium Sulphate	LD50, Oral LD50, Dermal LD50, Intraperitoneal	Rat Rat Mouse	> 2000 mg/kg bw > 2000 mg/kg bw 1029 mg/kg
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**Irritation and corrosivity:**

Inhalation: No known significant effects or critical hazards.

Ingestion: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Eyes contact: Dust may cause mechanical eye irritation

**Sensitization:** Not sensitizing

**Chronic toxicity:**

Carcinogenicity: No data available.

Mutagenicity: Negative in Ames and in In-vitro chromosome aberration test.

Reproductive toxicity: No data available.

Specific target organ toxicity (single exposure): Not applicable.

Specific target organ toxicity (repeated exposure): Not applicable.

Aspiration hazard: Not applicable.

**Other effects**

Over exposure signs/symptoms: No data available.

Target organs: No specific data.


**Toxicokinetics, metabolism and distribution**

No data available.

**Section 12: ECOLOGICAL INFORMATION**

**12.1 Toxicity**

Substance name	Toxicity to fish	Toxicity to crustaceans	Toxicity to algae	Toxicity to other aquatic plants	Other toxicity data (birds, bees, plants etc.)

<b>SAFETY DATA SHEET</b>	
Haifa Magnesium sulfate	8 of 10

Magnesium sulfate	LC50 (96 h): 15000 mg/L	LC50 (48 h): 720 mg/L	EC50 (18 d): 2700 mg/L	-	-
	LC50 (96 h): 680 mg/L test mat.	EC50 (24 h): 1700 mg/L	EC50 (72 h): 2700 mg/L		
	LC50 (96 h): > 63.6 mg/L test mat.		EC10 (72 h): 260 mg/L based on: biomass		

### Predicted effect concentrations

#### Exposure controls

Product/ Ingredient name	Type	Compartment Detail	Value	Method Detail
Magnesium sulfate	PNEC	Fresh water	0.68 mg/l	Assessment Factors
	PNEC	Marine	0.068 mg/l	Assessment Factors

### 12.2 Persistence and Degradability

Not applicable, since inorganic substance.

### 12.3 Bioaccumulative potential

Substance name	LogPow	BCF	Potential
Magnesium sulfate	-	-	Low potential for bioaccumulation

### 12.4 Mobility in soil

Soil/water partition coefficient (Koc) : N/A

**Mobility:** Will completely dissociate into ions in water and will partitionate in the water column.

### 12.5 Results of PBT and vPvB assessment

Not applicable

### 12.6 Other adverse effects

Substances which have an unfavorable influence on the oxygen balance and can be measured using parameters such as BOD, COD, etc.: Absent

Substances, which contribute to eutrophication: N/A


## Section 13: DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Provisions relating to waste:** Directive

2008/98/EC on waste, of 19 November, 2008:



<b>SAFETY DATA SHEET</b>	
Haifa Magnesium sulfate	9 of 10

Depending on branch of industry and production process, also other EURL codes may be applicable  
06 03 14: solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13

**Product**

**Methods of disposal:** Waste must be disposed of in accordance with federal, state and local environmental control regulations.

**Hazardous waste:** N/A.

**Packing**

Empty containers should be taken for local recycling, recovery or waste disposal

**Section 14: TRANSPORT INFORMATION**

**International transport regulations**

Regulatory Information	14.1 UN number	14.2 Proper shipping name	14.3 Classes	14.4 Packing group	14.5 Environmental hazard	14.6 Special precautions for user	Additional information
ADR/RID Class	NOT regulated	-	-	-	-	-	
ADNR Class	NOT regulated	-	-	-	-	-	
IMDG class	NOT regulated	-	-	-	-	-	
IATA class	NOT regulated	-	-	-	-	-	

**14.7 Transport to bulk according to Annex II of MARPOL 79/78 and the IBC Code**

Not applicable

**Section 15: REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use

EU Regulation(EC) No.1907/2006 (REACH), No 1272/2008 (CLP)

**15.2 Chemical safety assessment**

In accordance with REACH article 14, a Chemical Safety Assessment has been carried out for this substance.

**Section 16: OTHER INFORMATION**


**Full text of R-phrases referred to in sections 2 and 3:** N/A

**Safety phrases:** N/A

**Full text of Hazards Statements referred to in sections 2 and 3:** N/A

**Precautionary Statements:** N/A

**Training advice:** Before using/handling the product one must read carefully present MSDS.

<b>SAFETY DATA SHEET</b>	
Haifa Magnesium sulfate	10 of 10

**Recommended restriction:** N/A

Key Legend Information:

ACGIH- American Conference of Governmental Industrial Hygienists

OSHA- Occupational Safety and Health Administration

NTP- National Toxicology program

IARC- International Agency for Research on Cancer

ND- Not Determined

N/A- Not available

R-phrases- Risk phrases

S-phrases- Safety phrases

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To the best of our knowledge the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

