



SAFETY DATA SHEET

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Magnisal

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: Magnesium nitrate

Chemical name (e.g. IUPAC name): Magnesium nitrate, hexahydrate

Trade names: Magnisal

Synonyms: Nitric acid, magnesium (II) salt; Magnesium (II) nitrate hexahydrate;

Chemical formula: $Mg(NO_3)_2 \cdot 6H_2O$

Fertilizer formula: 11-0-0+16MgO

Product type: Solid (flakes)

CAS number: 13446-18-9

EC number: 233-826-7 (anhydrous)

REACH registration no(s): 01-2119491164-38

1.2 Relevant identified uses of the substance or mixture and uses advised against

Common/important uses of the substance/preparation: Agriculture – fertilizer, component of mixed and liquid fertilizer.
Industries – textile, ceramics, nitric acid concentration.

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

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

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)



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| Ingredient name | GHS Classification |
|------------------------|---------------------------|
| Magnesium nitrate | - |

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

| Ingredient name | EU Classification |
|------------------------|--------------------------|
| Magnesium nitrate | - |

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 classified

Signal word: Not required

Hazard statements: Not classified

Precautionary Statements: Not classified

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/mixture:

| Product/ Ingredient name | Identifiers | % | EU Classification | GHS Classification |
|---------------------------------|--|----------|--------------------------|---------------------------|
| Magnesium nitrate, hexahydrate | CAS : 13446-18-9 EC :233-826-7 (anhydrous) REACH :01-2119491164-38 | 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.



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Section 4. FIRST AID MEASURES

4.1 Description of first aid measures

- 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: Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Eyes contact: No known significant effects or critical hazards.

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 or 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.



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Hazardous thermal decomposition products: Under fire - oxides of nitrogen, oxides of magnesium.

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.

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

Avoid contact of spilt material and runoff with soil and surface waterways.

6.3 Methods and materials for containment and cleaning up

Small spill: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

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: Minimize dust generation and accumulation. Do not breathe dust. Avoid contact with skin and eyes. Wash thoroughly after handling. Do not permit eating/drinking/smoking near the material.

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



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Section 8: EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limit values: N/A

Derived effects levels:

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

| Exposure pattern | Derived No Effect Level (DNEL) | |
|------------------|--------------------------------|------------------------|
| | Workers | General population |
| Oral | N/A | 12.5 mg/kg bw/day |
| Dermal | 20.8 mg/kg bw/day | 12.5 mg/kg bw/day |
| Inhalation | 36.7 mg/m ³ | 10.9 mg/m ³ |

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 (flakes), white or yellowish-greenish white

Odour: Odorless

Odour threshold: Odorless

pH: 4-9 (Conc. (% w/w): 5) [Acidic to neutral]



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Melting point/Freezing point: 95°C
Initial boiling point/boiling range: >330°C (626°F)
Flash point: Not applicable
Evaporation rate: Not Volatile (butyl acetate=1)
Flammability: Not flammable
Upper/lower flammability or explosive limits: N/A
Vapor pressure: <0.001 kPa (<0.01 mm Hg) at 20°C (68°F) – Not Volatile
Vapor density: Not Volatile
Relative Density: 1.64 g/cm³
Solubility(ies): Water solubility- 225g/100g of water at 20°C (68°F)
Partition coefficient Octanol/Water: The product is more soluble in water; log (octanol/water) <1
Auto-ignition temperature: Not applicable
Decomposition temperature: 330°C
Viscosity: Not Viscous
Explosive properties: Not explosive
Oxidizing properties: Not oxidizer

9.2 Other information:

Molecular weight: 256.45
Miscibility: Not applicable
Fat solubility: Not applicable
Conductivity: Not applicable
Gas group: Not applicable
VOC: Not an organic compound
Apparent (Bulk) Density: 0.6-1.0 g/cm³

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, excess heat.

10.5 Incompatible materials

Reducing agents, organic materials and alkalis.

10.6 Hazardous Decomposition products:

Under fire - oxides of nitrogen, oxides of magnesium.

Section 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:



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| Product/ingredient name | Test | Species | Dose |
|--------------------------------|--------------|---------|-------------|
| Magnesium nitrate, hexahydrate | LD50, Oral | Rat | >2000 mg/kg |
| | LD50, Dermal | Rat | >5000 mg/kg |

Irritation and corrosivity:

Inhalation: Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Eyes contact: No known significant effects or critical hazards.

Sensitization: N/A

Chronic toxicity:

Carcinogenicity: This product does not contain any substances that are considered by IARC, NTP, OSHA, EU or ACGIH to be "probable" or "suspected" human carcinogens.

Mutagenicity: Not applicable.

Reproductive toxicity: Not applicable.

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: N/A

Target organs: No specific data.

Toxicokinetics: No specific data.

Section 12: ECOLOGICAL INFORMATION

12.1 Toxicity



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| Substance name | Toxicity to fish | Toxicity to crustaceans | Toxicity to algae | Toxicity to other aquatic plants | Other toxicity data (birds, bees, plants etc.) |
|-------------------|-------------------------------------|--|--|----------------------------------|--|
| Magnesium nitrate | LC50 for freshwater fish: 1378 mg/L | EC50/LC50 for freshwater invertebrates: 490 mg/L | EC50/LC50 for freshwater algae: >1700 mg/L | - | - |

Predicted effect concentrations

| Product/ Ingredient name | Type | Compartment Detail | Value | Method Detail |
|--------------------------|------|--------------------|------------|--------------------|
| Magnesium nitrate | PNEC | Fresh water | 0.45 mg/l | Assessment Factors |
| | PNEC | Marine | 0.045 mg/l | Assessment Factors |

12.2 Persistence and Degradability

Not applicable, since inorganic substance.

12.3 Bioaccumulative potential

| Substance name | LogPow | BCF | Potential |
|--------------------------------|--------|-----------------------------------|----------------|
| Magnesium nitrate, hexahydrate | <1 | Low potential for bioaccumulation | Not applicable |

12.4 Mobility in soil

Soil/water partition coefficient (Koc): Low potential for adsorption

Mobility: Soluble in water

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: Nitrates

Section 13: DISPOSAL CONSIDERATIONS



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13.1 Waste treatment methods

Provisions relating to waste: Directive 2008/98/EC on waste, of 19 November, 2008: Depending on branch of industry and production process, also other EURAL 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

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Magnisal**Precautionary Statements:** N/A**Training advice:** Before using/handling the product one must read carefully present MSDS.**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.