

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	: Substance
Substance name	: Magnesium Nitrate Hexahydrate
Chemical name	: $Mg(NO_3)_2 \cdot 6H_2O$
IUPAC name	: Magnesium dinitrate hexahydrate
EC-No.	: 233-826-7
CAS-No.	: 13446-18-9
REACH registration No	: 01-2119491164-38
Type of product	: Fertilizer
Synonyms	: Maganit
Product group	: Raw material

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

1.2.1. Relevant identified uses

Main use category	: Professional use
Industrial/Professional use spec	: Fertilizer
Use of the substance/mixture	: Agriculture, forestry, fishery

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Anorel NV
 Lintsesteenweg 632
 2540 Hove
 T +3234880233
anorel@anorel.net - www.anorel.net

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
Israel	Israel Poison Information Center Rambam Health Care Campus	6 Ha'Aliya Street 31096 Haifa	+972 4 854 1900	
Malta	Medicines & Poisons Info Office	Mater Dei Hospital MSD Msida	+356 2545 6504	
United Kingdom	National Poisons Information Service (Cardiff Centre) Gwenwyn Ward, Llandough Hospital	Penarth CF64 2XX Cardiff	0344 892 0111	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Serious eye damage/eye irritation, Category 2

H319

Full text of H statements : see section 16

Magnesium Nitrate Hexahydrate

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according to Regulation (EU) 2015/830

Adverse physicochemical, human health and environmental effects

Causes serious eye irritation.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS07

Signal word (CLP)

: Warning

Hazard statements (CLP)

: H319 - Causes serious eye irritation.

Precautionary statements (CLP)

: P264 - Wash hands, forearms and face thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

PBT: not relevant – no registration required

vPvB: not relevant – no registration required

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type

: Mono-constituent

Name	Product identifier	%
Magnesium Nitrate Hexahydrate	(CAS-No.) 13446-18-9 (EC-No.) 233-826-7 (REACH-no) 01-2119491164-38	> 90

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation

: Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact

: Wash skin with plenty of water.

First-aid measures after eye contact

: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion

: Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation

: May cause respiratory irritation.

Symptoms/effects after skin contact

: May cause moderate irritation.

Symptoms/effects after eye contact

: Eye irritation.

Symptoms/effects after ingestion

: None known.

Symptoms/effects upon intravenous administration

: Not expected to be a primary route of exposure.

Chronic symptoms

: None known.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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according to Regulation (EU) 2015/830

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam.
Unsuitable extinguishing media	: earth, sand, dry chemical powder or foam.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Reactivity in case of fire	: Stable in use and storage conditions as recommended in item 7.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Advice for firefighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to heat: have neighbourhood close doors and windows.
Firefighting instructions	: Dilute toxic gases with water spray.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
Other information	: On exposure to high temperature, may decompose, releasing toxic gases. Collect leaking and spilled liquid in sealable containers as far as possible.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Do not eat, drink or smoke in areas where product is used. Avoid all eye and skin contact and do not breathe vapour and mist. Eliminate every possible source of ignition. Use appropriate ventilation.
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6.1.1. For non-emergency personnel

Protective equipment	: Protective clothing.
Emergency procedures	: Ventilate spillage area. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Contain leaking substance, pump over in suitable containers.
Methods for cleaning up	: Mechanically recover the product.
Other information	: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Keep only in the original container in a cool well ventilated place away from acids. Protect material from direct sunlight. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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according to Regulation (EU) 2015/830

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Store in original container. Store in a well-ventilated place. Keep cool.
Incompatible products	: Iron.
Storage temperature	: 0 – 30 °C
Heat and ignition sources	: Keep away from ignition sources.
Information on mixed storage	: Strong acids, strong bases and oxidation agents.
Storage area	: Store at ambient temperature. Store in a well-ventilated place.
Special rules on packaging	: watertight. Store in a closed container. correctly labelled. meet the legal requirements.
Packaging materials	: Polyethylene. polypropylene.

7.3. Specific end use(s)

Fertilizer.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Magnesium Nitrate Hexahydrate (13446-18-9)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	20.8 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	36.7 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	0.45 mg/l
PNEC aqua (marine water)	0.045 mg/l
PNEC aqua (intermittent, freshwater)	4.5 mg/l
PNEC (STP)	
PNEC sewage treatment plant	18 mg/l

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

EN 374. Safety glasses.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

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Personal protective equipment symbol(s):



Environmental exposure controls:

Local exhaust and general ventilation must be adequate to meet exposure standards. Avoid release to the environment.

Consumer exposure controls:

Do not eat, drink or smoke in areas where product is used.

Other information:

Use good personal hygiene practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Flakes.
Colour	: White.
Odour	: odourless.
Odour threshold	: No data available
pH	: 7 5% solution
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 95 °C at 1013hPa
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: < 0.00001 Pa
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.46 g/cm ³
Solubility	: Water: 225 g/100ml
Partition coefficient n-octanol/water (Log Pow)	: -0.61
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive.
Oxidising properties	: ANHYDROUS FORM. May intensify fire; oxidiser.
Explosive limits	: Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

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10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Magnesium Nitrate Hexahydrate (13446-18-9)

LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 5000 mg/kg

Skin corrosion/irritation : Not classified
pH: 7 5% solution
Serious eye damage/irritation : Causes serious eye irritation.
pH: 7 5% solution
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

Magnesium Nitrate Hexahydrate (13446-18-9)

NOAEL (oral, rat, 90 days)	> 1500 mg/kg bodyweight/day
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Ecology - water : there is no direct test for magnesium nitrate, the data were based on studies of similar substances.
Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

Magnesium Nitrate Hexahydrate (13446-18-9)

LC50 fish 1	1378 mg/l
EC50 Daphnia 1	490 mg/l
EC50 72h algae (1)	1700 mg/l
ErC50 (algae)	> 1700 mg/l 10 d

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NOEC (acute)	> 180 mg/l
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12.2. Persistence and degradability

Magnesium Nitrate Hexahydrate (13446-18-9)	
Persistence and degradability	degradable in water in anaerobic conditions.

12.3. Bioaccumulative potential

Magnesium Nitrate Hexahydrate (13446-18-9)	
Partition coefficient n-octanol/water (Log Pow)	-0.61
Bioaccumulative potential	Low bioaccumulation potential.

12.4. Mobility in soil

Magnesium Nitrate Hexahydrate (13446-18-9)	
Ecology - soil	soluble in water.

12.5. Results of PBT and vPvB assessment

Magnesium Nitrate Hexahydrate (13446-18-9)	
PBT: not relevant – no registration required	
vPvB: not relevant – no registration required	

12.6. Other adverse effects

Other adverse effects : No other effects known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information : Non-hazardous waste.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

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14.6. Special precautions for user

Overland transport

No data available

Transport by sea

No data available

Air transport

No data available

Inland waterway transport

No data available

Rail transport

No data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Magnesium Nitrate Hexahydrate is not on the REACH Candidate List

Magnesium Nitrate Hexahydrate is not on the REACH Annex XIV List

Magnesium Nitrate Hexahydrate is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Magnesium Nitrate Hexahydrate is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

Germany

Water hazard class (WGK)

: WGK 1, Slightly hazardous to water (Classification according to AwSV; ID No. 363)

Hazardous Incident Ordinance (12. BImSchV)

: Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen

: The substance is not listed

SZW-lijst van mutagene stoffen

: The substance is not listed

NIET-limitatieve lijst van voor de voortplanting

: The substance is not listed

giftige stoffen – Borstvoeding

NIET-limitatieve lijst van voor de voortplanting

: The substance is not listed

giftige stoffen – Vruchtbaarheid

NIET-limitatieve lijst van voor de voortplanting

: The substance is not listed

giftige stoffen – Ontwikkeling

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

Section	Changed item	Change	Comments
	Supersedes	Added	
	Revision date	Modified	
4.1	First-aid measures after eye contact	Modified	
5.1	Suitable extinguishing media	Modified	
7.1	Precautions for safe handling	Modified	

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7.2	Storage conditions	Modified	
8.2	Environmental exposure controls	Modified	

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BLV	Biological limit value
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC-No.	European Community number
EN	European Standard
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

Full text of H- and EUH-statements:

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H319	Causes serious eye irritation.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.