

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

1.1. Product identifier

Trade name	: Magasul
EC no	: 231-298-2
CAS No	: 10034-99-8
REACH registration No	: 01-2119486789-11
Type of product	: Pure substance, Hygroscopic substance. Preventive measures apply to the substance in dry state only
Formula	: $MgSO_4 \cdot 7H_2O$
Synonyms	: epsom salts / magnesium sulfate (1:1) / magnesium sulfate, anhydrous, crystalline / magnesium sulfate, dried, pure / magnesium sulphate / magnesiumsulfate, anhydrous / magnesiumsulfate, dried / PST13510 / sal angalis / sal de sedlitz / sulfuric acid magnesium salt / sulfuric acid magnesium salt (1:1)
BIG no	: 10637

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.
Function or use category	: Fertilisers

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
Greece	Poisons Information Centre Children's Hospital "Aglaia. Kyriakou"	11527 Athens	+30 10 779 3777	
Iceland	Eitrunarmiðstöð Landspítali	Fossvogi 108 Reykjavik	+354 543 22 22	
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+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	0844 892 0111	UK only, Monday to Friday, 08.00 to 18.00 hours

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

2.2. Label elements

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

Security closing plug for children	: No
Tactile warning	: No

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according to Regulation (EU) 2015/830

2.3. Other hazards

Adverse physicochemical, human health and environmental effects : To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

SECTION 3: Composition/information on ingredients

3.1. Substance

Name : magnesium sulfate heptahydrate
CAS No : 10034-99-8
EC no : 231-298-2

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
magnesium sulfate heptahydrate	(CAS No) 10034-99-8 (EC no) 231-298-2 (REACH-no) 01-2119486789-11	100	Not classified

Full text of H-statements: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice (show the label where possible).
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. Take off contaminated clothing. Take victim to a doctor if irritation persists.
First-aid measures after eye contact : Consult an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.
First-aid measures after ingestion : Rinse mouth. Drink plenty of water as a precaution. Induce vomiting if person is conscious. Consult a doctor/medical service if you feel unwell. Call a poison center or a doctor if you feel unwell.

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

Symptoms/injuries after inhalation : Slight irritation. Coughing.
Symptoms/injuries after skin contact : Insufficient data available.
Symptoms/injuries after eye contact : May cause slight irritation.
Symptoms/injuries after ingestion : Diarrhea.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Water spray. Dry powder. Foam.
Unsuitable extinguishing media : None.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Non combustible.
Explosion hazard : Not applicable.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: consider evacuation. Exposure to fire/heat: keep upwind. 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. Wear respiratory protection. Complete protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Protective clothing. See "Material-Handling" to select protective clothing.
- Emergency procedures : Ventilate spillage area. Mark the danger area. Avoid dust formation. No naked flames. Wash contaminated clothes.
- Measures in case of dust release : In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

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".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Collect spillage. Knock down/dilute dust cloud with water spray.
- Methods for cleaning up : Recover mechanically the product. Minimize generation of dust. On land, sweep or shovel into suitable containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
- 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 adequate ventilation. Wear personal protective equipment. Comply with applicable regulations. Thoroughly clean/dry the installation before use. Avoid raising dust. Keep away from naked flames/heat. Observe normal hygiene standards. Keep container tight closed.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Avoid raising dust. Keep away from naked flames/heat. Observe normal hygiene standards. Keep container tight closed. Carry out operations in the open/under local exhaust/ventilation or with respiratory protection.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in a well-ventilated place. Keep cool.
- Heat and ignition sources : Keep away from heat sources.
- Prohibitions on mixed storage : oxidizing materials. Keep away from water.
- Storage area : Store in a dry area. Keep container in a well-ventilated place. May be stored under inert gas. Meet the legal requirements. Keep out of direct sunlight.
- Special rules on packaging : SPECIAL REQUIREMENTS: hermetical. watertight. dry. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
- Packaging materials : SUITABLE MATERIAL: synthetic material.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Magasul (10034-99-8)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	< mg/kg bodyweight/day
Long-term - systemic effects, dermal	21,3 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	37,6 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	12,8 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	11,1 mg/m ³
Long-term - systemic effects, dermal	12,8 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	≈ 0,68 mg/l
PNEC aqua (marine water)	0,068 mg/l
PNEC aqua (intermittent, freshwater)	6,8 mg/l
PNEC (STP)	

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Magasul (10034-99-8)

PNEC sewage treatment plant	10 mg/l
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8.2. Exposure controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Materials for protective clothing	: Butyl rubber gloves. Good resistance:
Hand protection	: In case of repeated or prolonged contact wear gloves. Nitrile rubber gloves. Permeation time: minimum >480min long term exposure; material / thickness [mm]:
Eye protection	: Safety glasses. In case of dust production: protective goggles. Safety glasses
Skin and body protection	: Protective clothing
Respiratory protection	: Dust production: dust mask with filter type P1
Environmental exposure controls	: Avoid release to the environment.
Other information	: Use good personal hygiene practices. Regular cleaning of equipment and work area.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline powder.
Molecular mass	: 246,48 g/mol
Colour	: Colourless. white.
Odour	: odourless.
Odour threshold	: No data available
pH	: 7 (5,5 - 8,5) (5 %)
pH solution	: 5 %
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: 1124 °C
Freezing point	: Not applicable
Boiling point	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: 1124 °C
Flammability (solid, gas)	: Non flammable
Vapour pressure	: 0,13 hPa
Relative vapour density at 20 °C	: No data available
Relative density	: Not applicable
Density	: 1670 kg/m ³
Solubility	: Soluble in water. Soluble in glycerol. Water: 71 g/100ml Ether: 1,2 g/100ml
Log Pow	: < 1
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable

9.2. Other information

Minimum ignition energy	: Not applicable
VOC content	: 0 %
Other properties	: Hygroscopic. Substance has neutral reaction.

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

Hygroscopic.

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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).

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 : Not classified

Magasul (10034-99-8)	
LD50 oral rat	> 4000 mg/kg (Rat)
LD50 dermal rat	> 2000 mg/kg (Rat)

Skin corrosion/irritation : Not classified
pH: 7 (5,5 - 8,5) (5 %)

Serious eye damage/irritation : Not classified
pH: 7 (5,5 - 8,5) (5 %)

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)
In the event of exposure to high concentrations :
May cause irritation to the respiratory tract

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity : Not classified

Magasul (10034-99-8)	
NOAEL (chronic, oral, animal/male, 2 years)	284 mg/kg bodyweight
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified

Magasul (10034-99-8)	
NOAEL (oral, rat, 90 days)	256 mg/kg bodyweight/day
NOAEL (subchronic, oral, animal/male, 90 days)	1500 mg/kg bodyweight

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 : Mild water pollutant (surface water). Not harmful to fish. Not harmful to algae. Not harmful to aquatic organisms.

Magasul (10034-99-8)	
LC50 fish 1	14000 mg/l 48h; Leuciscus idus; ANHYDROUS FORM
LC50 fish 2	15500 mg/l (LC50; 96 h; Gambusia affinis)
EC50 Daphnia 1	1700 mg/l (EC50; 24 h)
Threshold limit other aquatic organisms 1	27,4 g/l 0.5h; Photobacterium phosphoreum (Anhydrous form))
Threshold limit algae 2	220 mg/l (72 h; Scenedesmus subspicatus; anhydrous form)

12.2. Persistence and degradability

Magasul (10034-99-8)	
Persistence and degradability	Biodegradability. Not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

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12.3. Bioaccumulative potential

Magasul (10034-99-8)	
Log Pow	< 1
Bioaccumulative potential	Low bioaccumulation potential.

12.4. Mobility in soil

Magasul (10034-99-8)	
Ecology - soil	soluble in water. Low potential for adsorption.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Waste disposal recommendations	: Precipitate/make insoluble. Remove to an authorized dump (Class I). Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.
Additional information	: LWCA (the Netherlands): KGA category 05. Can be considered as non hazardous waste according to Directive 2008/98/EC.
European List of Waste (LoW) code	: 06 03 14 - solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13

SECTION 14: Transport information

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

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable
Proper Shipping Name (ADN)	: Not applicable
Proper Shipping Name (RID)	: Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	: Not applicable
	:

IMDG

Transport hazard class(es) (IMDG)	: Not applicable
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IATA

Transport hazard class(es) (IATA)	: Not applicable
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ADN

Transport hazard class(es) (ADN)	: Not applicable
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RID

Transport hazard class(es) (RID)	: Not applicable
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14.4. Packing group

Packing group (ADR)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable
Packing group (ADN)	: Not applicable
Packing group (RID)	: Not applicable

14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No

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Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Transport regulations (ADR) : Not subject

- Transport by sea

Transport regulations (IMDG) : Not subject

- Air transport

Transport regulations (IATA) : Not subject

- Inland waterway transport

No data available

- Rail transport

Transport regulations (RID) : Not subject

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Magasul is not on the REACH Candidate List

VOC content : 0 %

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 1, low hazard to waters

WGK remark : Classification water polluting in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 2)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

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 giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

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