Magnesium Sulphate Hept 16% HG

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

1.1. Product identifier

Product form	:	Substance
Trade name	:	Magnesium sulfate Hept 16% HG
Chemical name	:	Magnesium(II) sulfate, heptahydrate
IUPAC name	:	Magnesium sulphate
EC no	:	600-073-4 (heptahydrate) 231-298-2 (anhydrous)
CAS No	:	10034-99-8
REACH registration No	:	01-2119486789-11
Formula	:	MgSO4.7H2O
Synonyms	:	Magnesium Sulphate 16% MgO Horticultural Grade
EC-FERTILISER	:	D.5.

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

1.2.1. Relevant identified uses

Use of the substance/mixture	:	Fertilizer. Component of mixed fertilisers

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Van Iperen International BV
Smidsweg 24
3273 LK Westmaas - Nederland
T +31 (0) 186 578 888 - F +31 (0) 186 573 452
info@iperen.com - www.vaniperen.com

1.4. Emergency telephone number

Country	Official advisory body	Address	Emergency number
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0870 243 2241
Ireland (Republic of)	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	+353 1 8379964

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

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

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP].

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	Classification according to Directive 67/548/EEC
Magnesium sulphate heptahydrate (Main constituent)	(CAS No) 10034-99-8 (EC no) 600-073-4 (REACH-no) 01-2119486789-11	> 98	Not classified

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Magnesium sulphate heptahydrate (Main constituent)	(CAS No) 10034-99-8 (EC no) 600-073-4 (REACH-no) 01-2119486789-11	> 98	Not classified

Full text of R-, H- and EUH-phrases: 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

First-aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Rinse with water. Soap may be used. Take victim to a doctor if irritation persists.

First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion : Rinse mouth with water. If victim conscious and alert, give 2-3 glasses of water to drink.
Do not induce vomiting unless directed to do so by medical personnel.
Consult a doctor/medical service if you feel unwell.

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

Symptoms/injuries after inhalation : May cause irritation to the respiratory tract

Symptoms/injuries after skin contact : May cause a (mild) irritation.

Symptoms/injuries after eye contact : May cause slight irritation.

Symptoms/injuries after ingestion : Swallowing large quantities can give complaints to stomach/bowel.
Symptoms may include: nausea, vomiting, diarrhoea.

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

Follow the advices in chapter 4.1. Normally no immediate medical service and special treatment is needed.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use fire extinguishing methods suitable to surrounding conditions.
The following extinguishers can be used: water, foam, dry sand, dry powder.

Unsuitable extinguishing media : For safety reasons unsuitable extinguishing agents. carbon dioxide (CO2), halons.

5.2. Special hazards arising from the substance or mixture

Fire hazard : The product isn't flammable.

Reactivity : The product is not considered as reactive.

5.3. Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: keep upwind, consider evacuation and have neighbourhood close doors and windows.

Firefighting instructions : Dilute toxic gases with water spray.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus. Do not breathe fumes.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Always ensure first your own safety. Ensure adequate air ventilation.
Avoid contact with skin and eyes. Avoid raising dust.

6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing, gloves and eye/face protection.
Dust cloud production: compressed air/oxygen apparatus.

Emergency procedures : Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames.

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 : See also the information in "For non-emergency personnel".

6.2. Environmental precautions

Prevent spreading in sewers. Prevent soil and water pollution. Stop leaks if possible.

6.3. Methods and material for containment and cleaning up

For containment : Minimize generation of dust. Stop leaks if possible.

Methods for cleaning up : Collect spillage. Take up mechanically, placing in appropriate containers for recovery or disposal. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

Other information : Dispose the product, depending on the degree and type of contamination, either as fertilizer or in an authorized waste disposal site.

6.4. Reference to other sections

See section 1 for emergency contact information.
See section 8 for information on appropriate personal protective equipment.
See section 13 for additional waste treatment information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid raising dust. Use sufficient ventilation. In case of inadequate ventilation wear respiratory protection. Avoid contact with skin and eyes. Wear protective gloves/protective clothing/eye protection as adviced in section 8. Protect from moisture.

Hygiene measures : Always wash hands after handling the product. Do no eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

Incompatible products : Store, in a cool, well ventilated place away from incompatible materials.

Heat and ignition sources : Keep substance away from: ignition sources, heat sources.

Prohibitions on mixed storage : Keep substance away from: oxidizing agents, combustible materials.

Storage area : Store in dry, cool, well-ventilated area. Avoid unnecessarily exposure to air to prevent absorbtion of moisture. Meet the legal requirements. Keep out of direct sunlight.

Special rules on packaging : Meet the legal requirements. Keep packaging closed when not in use.

Packaging materials : Suitable material: cardboard, synthetic material.

PGS7 Fertilizer group : 1.1

7.3. Specific end use(s)

Fertilizers. Not classified as dangerous. Exposure scenarios have not been made.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Magnesium sulfate 16% MgO (10034-99-8)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	21,3 mg/kg bodyweight/day. Repeated dose toxicity
Long-term - systemic effects, inhalation	37,6 mg/m³. Repeated dose toxicity
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	12,8 mg/kg bodyweight/day. Repeated dose toxicity
Long-term - systemic effects, inhalation	11,1 mg/m³. Repeated dose toxicity
Long-term - systemic effects, dermal	12,8 mg/kg bodyweight/day. Repeated dose toxicity
PNEC (Water)	
PNEC aqua (freshwater)	0,68 mg/l
PNEC aqua (marine water)	0,068
PNEC aqua (intermittent, freshwater)	6,8
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

8.2. Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment :

Hand protection : In case of repeated or prolonged contact wear gloves.
Good resistance gives: Nitrile rubber (NBR).
Permeation time: minimum >480min long term exposure; material / thickness [mm]: 0.11 mm.

Eye protection : Safety glasses. In case of dust production: protective goggles.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Carry operations in the open air/under local exhaust or at sufficient ventilation to keep airborne levels below recommend/statutory exposure levels. Dust production: dust mask with filter type P1.

Environmental exposure controls : Do not allow to enter drains or water courses. Emissions from ventilation or work process equipment should be checked to ensure they comply with legislation. In some cases proces modifications will be necessary to reduce emissions to acceptable levels.
See section 13 for additional waste treatment information.

Other information : Use good personal hygiene practices. Regular cleaning of equipment, work area and clothing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Crystalline solid. Powder. Grains.
Molecular mass	:	246,48 g/mol
Colour	:	Colourless to white.
Odour	:	Odourless.
pH	:	(5%) 5,5 - 8,5
Melting point	:	1124 °C Thermal decomposition
Boiling point	:	Not applicable
Flash point	:	Not applicable
Vapour pressure	:	< 0,13 hPa
Relative density	:	1,7
Density	:	1670 kg/m³
Solubility	:	Soluble in water. Water: 71 g/100ml
Log Pow	:	No data available
Self ignition temperature	:	Not applicable
Decomposition temperature	:	> 150 °C
Explosive properties	:	not explosive.
Oxidising properties	:	not oxidising.

9.2. Other information

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

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is not considered as reactive.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

To our knowledge, the product does not present any particular risk, under normal conditions of use.

10.4. Conditions to avoid

Avoid high temperatures. Keep container tightly closed to prevent moisture pick-up.

10.5. Incompatible materials

None reasonably foreseeable.

10.6. Hazardous decomposition products

On heating/burning: release of toxic and corrosive gases/vapours (sulphur oxides).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified
Swallowing large quantities can give complaints to stomach/bowel

Magnesium sulfate 16% MgO (10034-99-8)	
LD50 oral rat	> 2000 mg/kg bodyweight OECD Guideline 425
LD50 dermal rat	> 2000 mg/kg bodyweight Read-Across K2SO4 (OECD Guideline 402)

Skin corrosion/irritation : Not classified
pH: (5%) 5,5 - 8,5
Explanation skin corrosion/irritation: In vitro study K2SO4, EU method B.46

Serious eye damage/irritation : Not classified
pH: (5%) 5,5 - 8,5
Explanation serious eye damage/irritation: OECD Guideline 405, K2SO4

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)
May cause Irritation to respiratory tract at exposure to high concentrations
Explanation respiratory or skin sensitisation: OECD Guideline 429, MgSO4

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

Carcinogenicity : Not classified

Magnesium sulfate 16% MgO (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

Magnesium sulfate 16% MgO (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 : Classification concerning the environment: not applicable.

Ecology - air : TA-Luft Klasse 5.2.7.1.1.

Ecology - water : Mild water pollutant (surface water).
For Flanders: maximum concentration in drinking water: 50 mg/l (magnesium)(M.B. 28/1/2003).
Maximum concentration in drinking water: 250 mg/l (sulfate) (Directive 98/83/EC).
Not harmful to fishes (LC50(96h) >1000 mg/l).
Not harmful to algae (EC50 (72h) >1000 mg/l).
Not harmful to aquatic organisms (EC50 >1000 mg/l). Not harmful to activated sludge.

Magnesium sulfate 16% MgO (10034-99-8)	
LC50 fishes 1	14000 mg/l (48 h; Leuciscus idus; ANHYDROUS FORM)
EC50 Daphnia 1	1700 mg/l (24 h; Daphnia magna; ANHYDROUS FORM)
LC50 fish 2	15500 mg/l (96 h; Gambusia affinis; ANHYDROUS FORM)
Threshold limit other aquatic organisms 1	27,4 g/l (0.5 h; Photobacterium phosphoreum; ANHYDROUS FORM)
Threshold limit algae 2	220 mg/l (72 h; Scenedesmus subspicatus; ANHYDROUS FORM)

12.2. Persistence and degradability

Magnesium sulfate 16% MgO (10034-99-8)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

SECTION 12: Ecological information (continue)

12.3. Bioaccumulative potential

Magnesium sulfate 16% MgO (10034-99-8)	
Bioaccumulative potential	No bioaccumulation or biomagnifications are expected based on substance properties (Log Pow < 1).

12.4. Mobility in soil

Magnesium sulfate 16% MgO (10034-99-8)	
Ecology - soil	Soluble in water. Low potential for adsorption (based on substance properties).

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

EURAL code : 06 03 14 - solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13

Depending on branch of industry and production process, also other EURAL codes may be applicable

Waste treatment methods : Do not dispose of waste into sewer. Dispose the product, depending on the degree and type of contamination, either as fertilizer or in an authorized waste disposal site. Empty and rinsed containers can be disposed as non-hazardous material or be returned for recycling.

Waste disposal recommendations : Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations.

Additional information : Can be considered as non hazardous waste according to Directive 2008/98/EC.

SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number

No dangerous good in sense of transport regulations

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport

Transport regulations (ADR) Not subject

Transport regulations (RID) Not subject

State during transport (ADR-RID) : Rail and road transport: not subject to ADR-RID

14.6.2. Transport by sea

Transport regulations (IMDG) : Not subject

14.6.3. Air transport

Transport regulations (IATA) : 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

VOC content : Not applicable

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.
This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

SECTION 16: Other information

Version : 3.0

Revision date : 16-07-2013

Supersedes : 17-01-2011

Indication of changes : Revised safety data sheet in accordance with commisssion regulation (EU) No 453/2010.

SDS changed items			
1.1		Modified	Trade-name changed EC-nummer improved
4.2		Added	
4.3		Added	
5.1		Modified	
6	Updated	Modified	
8		Modified	Content improved
8.2	Hand protection	Modified	
11		Modified	Content improved

Data sources : Handbook of Chemistry and Physics CRC Press Inc
ECHA Website: Information on Registered Substances
Information from suppliers
REACH registration dossier
BIG-database.

Abbreviations and acronyms : CLP = Classification, labelling and packaging
DNEL = Derivative No Effect Level
PNEC = Predicted No Effect Concentration
REACH = Registration, evaluation and autorisation of chemicals.

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

Company disclaimer

The information provided in this safety data sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any proceed, unless specified in the text.