

Safety Data Sheet

According to Regulation (EC) No 2015/830



Magnesium Sulphate Horticultural Grade

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

1.1. Product identifier

Trade Name: Van Iperen Magnesium Sulphate Horticultural Grade
Chemical Name: magnesium sulfate, heptahydrate
Chemical formula: $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$
CAS N°: 10034-99-8
EC N°: 231-298-2
Index No: No data available
Reach No: 01-2119486789-11-0014

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

Relevant identified uses: Used in weighting cotton and silk; increasing the bleaching action of chlorinated lime; manufacture of mother of pearl and frosted papers; fire-proofing fabrics; dyeing and printing calicos; in fertilizers. Used in explosives, matches, mineral water, tanning leather and dietary supplements.

Uses advised against : No data 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

In case of emergency contact the national emergency telephone number: UK and Ireland: 112 or 999

Country	Official advisory body	Address	Emergency number
Ireland (Republic of)	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	: +353 1 8379964
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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Not considered a hazardous substance according to Reg. (EC) No 1272/2008 and its amendments. Not classified as Dangerous Goods for transport purposes.
Not Applicable

2.2. Label elements

CLP label elements

Not Applicable

Signal word

not applicable

Hazard statement(s)

Not Applicable

Supplementary statement(s)

Not Applicable

CLP classification (additional)

Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

2.3. Other hazards

REACH - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

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SECTION 3: Composition/information on ingredients

3.1. Substances

Name	CAS No.	EC No.	Index No.	REACH No.	%wt/wt
Magnesium sulphate, heptahydrate	10034-99-8	231-298-2	-	01-2119486789-11-0014	>95

3.2. Mixtures

See 'Information on ingredients' in section 3.1

SECTION 4: First aid measures

4.1 Description of first aid measures

General:

If skin or hair contact occurs:

Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.

If this product comes in contact with the eyes: Wash out immediately with fresh running water.

Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention.

Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. If fumes, aerosols or combustion products are inhaled remove from contaminated area.

Other measures are usually unnecessary. If swallowed do NOT induce vomiting.

If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

Observe the patient carefully.

Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.

Seek medical advice.

Eye Contact

If this product comes in contact with the eyes: Wash out immediately with fresh running water.

Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention.

Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin Contact

If skin or hair contact occurs:

Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.

Inhalation

If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.

Ingestion

If swallowed do NOT induce vomiting.

If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

Observe the patient carefully.

Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.

Seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11

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

Magnesium is present in the blood, as a normal constituent, at concentrations between 1.6 to 2.2 meq/L. Some 30% is plasma bound. At serum magnesium levels of 3-4 meq/L, signs of CNS depression, loss of reflexes, muscular tone and power, and bradycardia occur. Cardiac arrest (sometimes fatal) and/or respiratory paralysis can occur at plasma levels of 10-15 meq/L. For acute or short term repeated exposures to magnesium:

- Symptomatic hypermagnesaemia appears rarely in the absence of intestinal or renal disease.
- Elevated magnesium levels may cause hypocalcaemia because of decreased parathyroid hormone activity and decreased end-organ responsiveness.
- Patients with severe hypermagnesaemia may develop sudden respiratory arrest and must be watched closely for apnoea.
- Use fluids, then vasopressors for hypotension. Frequently hypotension responds to calcium administration.
- Induce emesis or administer lavage if patient presents within 4 hours of ingestion. Use sodium cathartics, with caution, in presence of cardiac or renal failure.
- Activated charcoal is not useful.
- Calcium is an antagonist of magnesium action and is an effective antidote when serum levels exceed 5 meq/L and the patient exhibits symptoms. The adult dose of calcium gluconate is 10 ml of a 10% solution over several minutes. [Ellenhorn and Barceloux: Medical Toxicology]

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SECTION 5: Firefighting measures

5.1. Extinguishing media

There is no restriction on the type of extinguisher which may be used.
Use extinguishing media suitable for surrounding area.

5.2. Special hazards arising from the substrate or mixture

Fire Incompatibility None known.

5.3. Advice for firefighters

Fire Fighting

Alert Fire Brigade and tell them location and nature of hazard.

Wear breathing apparatus plus protective gloves in the event of a fire.

Prevent, by any means available, spillage from entering drains or water courses.

Use fire fighting procedures suitable for surrounding area.

Fire/Explosion Hazard

Non combustible.

Not considered a significant fire risk, however containers may burn.

Decomposition may produce toxic fumes of: sulfur oxides (SOx) May emit poisonous fumes. May emit corrosive fumes.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

Minor Spills

Remove all ignition sources.

Clean up all spills immediately.

Avoid contact with skin and eyes.

Control personal contact with the substance, by using protective equipment.

Major Spills

Moderate hazard.

CAUTION: Advise personnel in area.

Alert Emergency Services and tell them location and nature of hazard.

Control personal contact by wearing protective clothing.

6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Safe handling

Avoid all personal contact, including inhalation.

Wear protective clothing when risk of exposure occurs.

Use in a well-ventilated area.

Prevent concentration in hollows and sumps.

Fire and explosion protection

See section 5

Other information

Store in original containers.

Keep containers securely sealed.

Store in a cool, dry area protected from environmental extremes.

Store away from incompatible materials and foodstuff containers.

7.2. Conditions for safe storage, including any incompatibilities

Suitable container

Glass container is suitable for laboratory quantities

Polyethylene or polypropylene container.

Check all containers are clearly labelled and free from leaks.

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Storage incompatibility
None known

7.3. Specific end use(s)

See section 1.2

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DERIVED NO EFFECT LEVEL (DNEL)

Not Available

PREDICTED NO EFFECT LEVEL (PNEC)

Not Available

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
magnesium sulfate, heptahydrate	Magnesium sulfate heptahydrate	3.6 mg/m ³	40 mg/m ³	5200 mg/m ³
magnesium sulfate, heptahydrate	Magnesium sulfate (1:1)	0.18 mg/m ³	2 mg/m ³	160 mg/m ³

Ingredient	Original IDLH	Revised IDLH
magnesium sulfate, heptahydrate	Not Available	Not Available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard 'physically' away from the worker and ventilation that strategically 'adds' and 'removes' air in the work environment.

8.2.2. Personal protection



Eye and face protection

Safety glasses with side shields.

Chemical goggles.

Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

Skin protection See Hand protection below

Hands/feet protection

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Suitability and durability of glove type is dependent on usage.

Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.

polychloroprene.

nitrile rubber.

butyl rubber.

Body protection See Other protection below

Other protection

Overalls.

P.V.C. apron.

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Barrier cream.

Thermal hazards Not Available

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:000 & 149:001, ANSI Z88 or national equivalent)

8.2.3. Environmental exposure controls

See section 12

SECTION 9: Physical and chemical properties

9.1 information on basic physical & chemical properties

Appearance	Colorless solid
Physical state	Solid
Relative density (Water = 1)	Not Available
Odour	Almost odourless
Partition coefficient	
n-octanol / water	Not Available
Odour threshold	Not Available
Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available
Decomposition temperature	Not Available
Melting point / freezing point (°C)	150
Viscosity (cSt)	Not Available
Initial boiling point and boiling range(°C)	200
Molecular weight (g/mol)	Not Available
Flash point (°C)	Not Available
Taste	Not Available
Evaporation rate	Not Available
Explosive properties	Not Available
Flammability	Not flammable
Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available
Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Available
Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available
Gas group	Not Available
Solubility in water (g/L)	70 g / 100 cc (20 °C), 91 g / 100 cc (40 °C)
pH as a solution (1%)	7±0.5
Vapour density (Air = 1)	Not Available
VOC g/L	Not Available

9.2. Other information

Not Available

SECTION 10: Stability and reactivity

10.1.Reactivity

See section 7.2

10.2. Chemical stability

Unstable in the presence of incompatible materials.

Product is considered stable.

Hazardous polymerisation will not occur.

10.3. Possibility of hazardous reactions

See section 7.2

10.4. Conditions to avoid

Strong acids, alkalies, and oxidizing agents

10.5. Incompatible materials

Metals and their oxides or salts may react violently with chlorine trifluoride and bromine trifluoride.

10.6. Hazardous decomposition products

Thermal decomposition products- sulfur oxides (S_{ox}), metal oxides

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Inhaled

The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

Ingestion

Accidental ingestion of the material may be damaging to the health of the individual.

Magnesium salts are generally absorbed so slowly that swallowing these cause few toxic effects, with purging being the most significant. If it cannot be removed (for example in bowel obstruction or paralysis), it may irritate the gut lining and be absorbed into the body.

Side effects of magnesium salts include upset stomach, dry mouth, dry nose, dry throat, drowsiness, nausea, heartburn, and thickening of the lining of the throat and nose.

The magnesium ion causes salt disturbances, central nervous system depression, involvement of the heart, loss of reflexes and death from paralysis of breathing; these effects, however, are rare without pre-existing kidney or bowel disorders.

Skin Contact

The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

Open cuts, abraded or irritated skin should not be exposed to this material.

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

Eye

There is some evidence to suggest that this material can cause eye irritation and damage in some persons.

Chronic

Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

TOXICITY

dermal (rat) LD50: >2000 mg/kg[1]

Oral (rat) LD50: >2000 mg/kg[1]

IRRITATION

Not Available

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

MAGNESIUM SULFATE, HEPTAHYDRATE

Oral (man) TDLo: 183 mg/kg/4h-I Nil reported

SECTION 12: Ecological information

12.1. Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
magnesium sulfate, LC50 heptahydrate		96	Fish	>63.6mg/L	2
magnesium sulfate, EC50 heptahydrate		48	Crustacea	343.56mg/L	4
magnesium sulfate, EC50 heptahydrate		96	Algae or other aquatic plants	105.72278mg/L	3
magnesium sulfate, EC0 heptahydrate		72	Algae or other aquatic plants	=220mg/L	1
magnesium sulfate, NOEC heptahydrate		504	Crustacea	360mg/L	4

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

For Inorganic Sulfate:

Environmental Fate - Sulfates can produce a laxative effect at concentrations of 1000 - 1200 mg/liter, but no increase in diarrhea, dehydration or weight loss. The presence of sulfate in drinking-water can also result in a noticeable taste. Sulfate may also contribute to the corrosion of distribution systems. No health-based guideline value for sulfate in drinking water is proposed.

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For Metal:

Atmospheric Fate -Metal-containing inorganic substances generally have negligible vapour pressure and are not expected to partition to air.

Environmental Fate: Environmental processes, such as oxidation, the presence of acids or bases and microbiological processes, may transform insoluble metals to more soluble ionic forms. Environmental processes may enhance bioavailability and may also be important in changing solubilities.

Aquatic/Terrestrial Fate: When released to dry soil, most metals will exhibit limited mobility and remain in the upper layer; some will leach locally into ground water and/ or surface water ecosystems when soaked by rain or melt ice. A metal ion is considered infinitely persistent because it cannot degrade further.

DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
magnesium sulfate, heptahydrate	HIGH	HIGH

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
magnesium sulfate, heptahydrate	LOW (LogKOW = -2.2002)

12.4. Mobility in soil

Ingredient	Mobility
magnesium sulfate, heptahydrate	LOW (KOC = 6.124)

12.5. Results of PBT and vPvB assessment

	P	B	T
Relevant available data	Not Available	Not Available	Not Available

12.6. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product / Packaging disposal

DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal.

In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority.

Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Management Authority for disposal.

Bury residue in an authorized landfill.

Recycle containers if possible, or dispose of in an authorized landfill.

Waste treatment options Not Available

Sewage disposal options Not Available

SECTION 14: Transport information

Labels Required

Marine Pollutant NO

Land transport (ADR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

UN number Not Applicable

UN proper shipping name Not Applicable

Transport hazard class(es)

Class Not Applicable

Subrisk Not Applicable

Packing group Not Applicable

Environmental hazard Not Applicable

Special precautions for user

Hazard identification (Kemler) Not Applicable

Classification code Not Applicable

Hazard Label Not Applicable

Special provisions Not Applicable

Limited quantity Not Applicable

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

UN number Not Applicable

UN proper shipping name Not Applicable

Transport hazard class(es)

ICAO/IATA Class Not Applicable

ICAO / IATA Subrisk Not Applicable

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ERG Code Not Applicable
Packing group Not Applicable
Environmental hazard Not Applicable
Special precautions for user
Special provisions Not Applicable
Cargo Only Packing Instructions Not Applicable
Cargo Only Maximum Qty / Pack Not Applicable
Passenger and Cargo Packing Instructions Not Applicable
Passenger and Cargo Maximum Qty / Pack Not Applicable
Passenger and Cargo Limited Quantity Packing Instructions Not Applicable
Passenger and Cargo Limited Maximum Qty / Pack Not Applicable

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

UN number Not Applicable
UN proper shipping name Not Applicable
Transport hazard class(es)
IMDG Class Not Applicable
IMDG Subrisk Not Applicable
Packing group Not Applicable
Environmental hazard Not Applicable
Special precautions for user
EMS Number Not Applicable
Special provisions Not Applicable
Limited Quantities Not Applicable

Inland waterways transport (ADN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

UN number Not Applicable
UN proper shipping name Not Applicable
Transport hazard class(es) Not Applicable
Packing group Not Applicable
Environmental hazard Not Applicable
Special precautions for user
Classification code Not Applicable
Special provisions Not Applicable
Limited quantity Not Applicable
Equipment required Not Applicable
Fire cones number Not Applicable
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

MAGNESIUM SULFATE, HEPTAHYDRATE(10034-99-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

European Customs Inventory of Chemical Substances ECICS (English)

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : 98/24/EC, 92/85/EC, 94/33/EC, 91/689/EEC, 1999/13/EC, Commission Regulation (EU) 2015/830, Regulation (EC) No 1272/2008 and their amendments.

15.2. Chemical safety assessment

For further information please look at the Chemical Safety Assessment and Exposure Scenarios prepared by your Supply Chain if available.

15.3. Classification of Substances and Mixtures into Water Hazard Classes

Name	WGK	Score	Source
MAGNESIUM SULPHATE HEPTAHYDRATE	1		W: VwVwS

SECTION 16: Other information

Full text Risk and Hazard codes

Other information

Issue Date: 26/08/2016

Revision Date: 20/06/2019

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 166 Personal eye-protection

EN 340 Protective clothing

EN 374 Protective gloves against chemicals and micro-organisms

EN 13832 Footwear protecting against chemicals

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EN 133 Respiratory protective devices

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average

PC—STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit.

IDLH: Immediately Dangerous to Life or Health Concentrations OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level LOAEL: Lowest Observed Adverse Effect Level TLV: Threshold Limit Value

LOD: Limit Of Detection OTV: Odour Threshold Value

BCF: BioConcentration Factors BEI: Biological Exposure Index

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.