

# Safety Data Sheet

according to Regulation (EC) No. 453/2010



## Magnesium Nitrate 37% Liquid

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

#### 1.1. Product identifier

Product form : Substance in aqueous solution  
Trade name : **Van Iperen Magnesium Nitrate 37% Liquid**  
Chemical name : Magnesium nitrate  
IUPAC name : Magnesium dinitrate  
EC no : 233-826-7  
CAS No. : 10377-60-3  
REACH registration No. : 01-2119491164-38  
Formula :  $Mg(NO_3)_2$   
Synonyms : Magnesiumnitrate-solution 7-0-0 + 10MgO / Magnesium(II)nitrate-solution /  
EC-FERTILISER : C.1.4

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

##### 1.2.1. Relevant identified uses

Main use category : Industrial use  
Professional use  
Consumer use  
Use of the substance/preparation : Chemical intermediate. Catalyst. Water treatment.  
Use of the substance for formulation of preparations as: biociden, processing aids, plant protection products. Laboratory chemical.  
Use as raw material for fertilizer solutions in agriculture and horticulture.  
End-use in: ink and toners, anti-icing agent, fertilizers, textile dyes

##### 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](mailto:info@iperen.com) - [www.vaniperen.com](http://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

### 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

Xi; R36/38

Full text of R-phrases: see section 16

**Adverse physicochemical, human health and environmental effects**

No additional information available

#### 2.2. Label elements

Not classified as dangerous according to the criteria of Regulation (EC) No 1272/2008.

#### 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH, annex XIII.

This substance/mixture does not meet the vPvB criteria of REACH, annex XIII.

Other hazards not contributing to the classification : The substance in solution is not classified as oxidizer.

## Magnesium Nitrate 37% Liquid

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Substance type : Mono-constituent  
Name : Magnesium nitrate  
CAS No. : 10377-60-3  
EC no : 233-826-7

Name	Product identifier	%	Classification according to Directive 67/548/EEC
Magnesium nitrate, anhydrous	(CAS No.) 10377-60-3 (EC no) 233-826-7 (REACH-no) 01-2119491164-38	37	O; R8
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Magnesium nitrate, anhydrous	(CAS No.) 10377-60-3 (EC no) 233-826-7 (REACH-no) 01-2119491164-38	37	Ox. Sol. 3, H272

Full text of R-, H- and EUH-phrases: see section 16

#### 3.2. Mixtures

Not applicable

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general : Check the vital functions.  
Unconscious: maintain adequate airway and respiration.  
Respiratory arrest: artificial respiration or oxygen.  
Cardiac arrest: perform resuscitation.  
Victim conscious with laboured breathing: half-seated.  
Victim in shock: on his back with legs slightly raised.  
Vomiting: prevent asphyxia/aspiration pneumonia.  
Prevent cooling by covering the victim (no warming up).  
Keep watching the victim. Give psychological aid.  
Keep the victim calm, avoid physical strain.  
Depending on the victim's condition: doctor/hospital

First-aid measures after inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing.  
Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Wash immediately with lots of water (15 minutes)/shower. Soap may be used. Remove all contaminated clothing and footwear. Take victim to a doctor if irritation persists.  
Wash contaminated clothing before reuse.

First-aid measures after eye contact : Immediately flush eyes with plenty of water (> 15min), occasionally lifting the upper and lower eyelids. Remove contact lenses, if present and easy to do. Continue rinsing.  
Take victim to an ophthalmologist.

First-aid measures after ingestion : Consult a doctor/medical service if you feel unwell. Rinse mouth with water. Immediately after ingestion: give lots of water to drink. If swallowed, do NOT induce vomiting.  
Do not give an unconscious person anything to drink.

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

Symptoms/injuries after inhalation : None under normal use

Symptoms/injuries after skin contact : Contact during a long period may cause light irritation.

Symptoms/injuries after eye contact : Redness of the eye tissue. Irritation of the eye tissue.

Symptoms/injuries after ingestion : Nausea. Abdominal pain. After absorption of high quantities: Methemoglobinemia. Blue/grey discolouration of the skin. Feeling of weakness. Dizziness. Respiratory difficulties.

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

Treat symptomatically. Follow the advices in chapter 4.1.

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## Magnesium Nitrate 37% Liquid

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Water.

#### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Non combustible.

Explosion hazard : No direct explosion hazard.

Reactivity : Stable in use and storage conditions as recommended in item 7.

#### 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.

Other information : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Ensure adequate air ventilation. Do not get in eyes, on skin, or on clothing.  
Keep away from naked flames/heat.

##### 6.1.1. For non-emergency personnel

Protective equipment : Wear protective gloves/protective clothing/eye protection as advised in section 8.

Emergency procedures : Mark the danger area. No naked flames. Keep containers closed. Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation.

##### 6.1.2. For emergency responders

Protective equipment : Wear protective gloves/protective clothing/eye protection as advised in section 8.  
See also the information in "For non-emergency personnel".

#### 6.2. Environmental precautions

Stop leaks if possible. Dam up the liquid spill. Prevent spreading in sewers. Prevent soil and water pollution. Contain leaking substance, pump over in suitable containers. Turn leaking containers leak-side up to prevent the escape of liquid. Notify authorities if product enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

For containment : Any spillage should be cleaned up immediately. Collect spill in closed and suitable containers for disposal. Take up rest of liquid spill into absorbent material sand, earth, vermiculite. Scoop absorbed substance into closing containers.

Methods for cleaning up : 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

## Magnesium Nitrate 37% Liquid

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Use sufficient ventilation. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection as advised in section 8. Care for eyewashstations and security showers at the workplace. Avoid splashing.
- Hygiene measures : Always wash hands after handling the product. Do not eat, drink or smoke during use. If on skin, take off contaminated clothing. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Do not discharge the waste into the drain.

#### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep preferably in the original container.
- Incompatible materials : Keep away from iron. Do not use with copper/aluminium/zinc - risk of corrosion.
- Storage temperature : -10 - 30 °C
- Heat-ignition : Keep substance away from: heat sources.
- Prohibitions on mixed storage : Keep substance away from: combustible materials, reducing agents, (strong) acids, (strong) bases, organic materials, metals.
- Storage area : Store in dry, cool, well-ventilated area. Keep out of direct sunlight. Provide for a tub to collect spills.
- Special rules on packaging : Meet the legal requirements, correctly labelled. Secure fragile packagings in solid containers. closing.
- Packaging materials : Suitable material: synthetic material, glass, stainless steel.

#### 7.3. Specific end use(s)

Not classified as dangerous.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

<b>Magnesium nitrate (10377-60-3)</b>	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	20,8 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	147 mg/m <sup>3</sup>
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	12,5 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	43,5 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	12,5 mg/kg bodyweight/day
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.  
Care for eyewashstations and security showers at the workplace.

Personal protective equipment :



- Hand protection : Gloves.
- Material selection gloves : Take advice to your gloves' supplier
- Eye protection : Safety glasses.
- Skin and body protection : Normal working clothes are suitable.
- Respiratory protection : Mist formation: aerosol mask with filter type P2.
- Environmental exposure controls : In some cases proces modifications will be necessary to reduce emissions to acceptable levels. Emissions from ventilation or work process equipment should be checked to ensure they comply with legislation.

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## Magnesium Nitrate 37% Liquid

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Molecular mass	: 148,33 g/mol
Colour	: Colourless-yellow.
Odour	: Odourless.
Odour threshold	: No data available
pH	: 4.0 - 5,5
Melting point	: > 129 °C (anhydrous form)
Crystallization temperature	: -15 °C
Flash point	: Not applicable
Vapour pressure	: < 0,00001 Pa (as solid)
Density	: 1,35 kg/l (25°C)
Solubility	: Soluble in water. Soluble in ethanol. Water: complete
Log Pow	: -0,61 (Estimated value)
Decomposition temperature	: 330 °C
Explosive properties	: not explosive.
Oxidising properties	: The anhydrous product is considered to be an oxidizer.

#### 9.2. Other information

VOC content	: Not applicable
Other properties	: Clear. Translucent.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Stable in use and storage conditions as recommended in item 7.

#### 10.2. Chemical stability

The product is stable at normal handling- and storage conditions.

#### 10.3. Possibility of hazardous reactions

Thermal decomposition can lead to the escape of irritating gases and vapours (oxides of nitrogen). Decontamination with reducing agents or strong acids can cause formation of toxic gases (oxides of nitrogen). It can enhance combustion of other substances.

#### 10.4. Conditions to avoid

Avoid high temperatures. Temperatures lower than -10°C.  
Contamination with combustible materials.

#### 10.5. Incompatible materials

May be corrosive to some metals. Keep substance away from: strong acids, oxidation agents and reductor agents, combustible materials.

#### 10.6. Hazardous decomposition products

On heating/burning: release of toxic and corrosive gases/vapours nitrous vapours.

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## Magnesium Nitrate 37% Liquid

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Magnesium nitrate(10377-60-3)	
LD50 oral rat	> 2000 mg/kg (magnesiumnitrate hexahydrate)
LD50 dermal rat	> 5000 mg/kg (read-across, potassium nitrate)

Skin corrosion/irritation : Not classified  
pH: 4,0 - 5,5

Explanation skin corrosion/irritation: OECD 404, with ammonium nitrate

Serious eye damage/irritation : Not classified  
pH: 4,0 - 5,5

Explanation serious eye damage/irritation: OECD 405

Respiratory or skin sensitisation : Not classified

Explanation respiratory or skin sensitisation: OECD 429, magnesium nitrate hexahydrate

Germ cell mutagenicity : Not classified

Explanation germ cell mutagenicity: OECD 471

Carcinogenicity : Not classified

Explanation carcinogenicity: In accordance with column 2 of REACH Annex X, no carcinogenicity study is needed

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : Classification concerning the environment: not applicable.

Ecology - air : Not dangerous for the ozone layer (Council Regulation (EC) no 1005/2009). TA-Luft Klasse 5.2.1.

Ecology - water : For Flanders: maximum concentration in drinking water: 50 mg/l (magnesium)(M.B. 28/1/2003). Maximum concentration in drinking water: 50 mg/l (nitrate) (Directive 98/83/EC). Not harmful to fishes (LC50(96h) >1000 mg/l). Slightly harmful to invertebrates (Daphnia) (EC50 (48h): 100 - 1000 mg/l). May cause eutrophication. Not harmful to algae (EC50 >1000 mg/l).

Magnesium nitrate (10377-60-3)	
LC50 fish 1	1378 mg/l 96-h (OECD 203, with potassium nitrate)
EC50 Daphnia 1	490 mg/l 48-h (no guideline followed, with potassium nitrate)
ErC50 (algae)	> 1700 mg/l 10-d (seawater, no guideline followed, performed with potassium nitrate)
NOEC (acute)	180 mg/l 3-h EC50: >1000 mg/l (OECD 209, with sodium nitrate)

#### 12.2. Persistence and degradability

Magnesium nitrate (10377-60-3)	
Persistence and degradability	According to literature, easily degradable in the soil.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
Biodegradation	The average biodegradation rate in a wastewater plant at 20 °C (dissolved solid/day): 70 g N/kg

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## Magnesium Nitrate 37% Liquid

### SECTION 12: Ecological information (continue)

#### 12.3. Bioaccumulative potential

Magnesium nitrate (10377-60-3)	
Log Pow	-0,61 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable.

#### 12.4. Mobility in soil

Magnesium nitrate (10377-60-3)	
Ecology - soil	Soluble in water. Low potential for adsorption (based on substance properties).

#### 12.5. Results of PBT and vPvB assessment

Magnesium nitrate (10377-60-3)	
This substance/mixture does not meet the PBT criteria of REACH, annex XIII.	
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII.	

#### 12.6. Other adverse effects

Other information : No other effects known.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

EURLW 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 EURL codes may be applicable*

Regional legislation (waste) : Disposal must be done according to official regulations.

Waste treatment methods : 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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out.

### SECTION 14: Transport information

No dangerous good in sense of transport regulations.

### 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

Contains no REACH candidate substance

VOC content : Not applicable

EURLW code : 06 03 14

Other regulations, restrictions and prohibition regulations : Substance is not listed in Annex I of directive 67/548/EEC and Annex VI of directive (EG) nr. 1272/2008. Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources.

##### 15.1.2. National regulations

Regional legislation : Ensure all national/local regulations are observed.

#### 15.2. Chemical safety assessment

A chemical safety assessment has been carried out

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### SECTION 16: Other information

Version : 5.02  
Revision date : 05-12-2014  
Date of issue : 28-10-2008  
Supersedes : 20-11-2012  
Indication of changes : Refer table below.

SDS changed items			
9	Updated	Modified	

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

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

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

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

Ox. Sol. 3	Oxidising solids Category 3
H272	May intensify fire; oxidizer
R36/38	Irritating to eyes and skin.
R8	Contact with combustible material may cause fire.
O	Oxidising
Xi	Irritant

#### 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.*