

SAFETY DATA SHEET
Magnesium Sulphate Anhydrous

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Issued: 07/05/2019
Revision No: 1

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product identifier:

Product form: Substance

Substance name: Magnesium sulphate

Chemical name: Magnesium sulphate

EC-No.: 231-298-2

CAS-No.: 7487-88-9

REACH registration No: 01-2119486789-11-xxxx

This supplier assumes the responsibility to provide the full registration number upon request for enforcement purposes.

Type of product: Pure substances

Formula: MgSO₄

Synonyms: Magnesium Sulphate 7487-88-9 / Magnesium Sulphate Heptahydrate 10034-99-8 / Magnesium Sulphate Monohydrate 14168-73-1 / Magnesium Sulphate Trihydrate 7487-88-9 / Magnesium Sulphate Dihydrate --- / Magnesium Sulphate Anhydride 7487-88-9

Relevant identified uses of the substance or mixture and uses advised against:

Relevant identified uses:

Main use category: Industrial use, Professional use, Consumer use.

Use of the substance/mixture: Fertilisers.
Intermediates.
Laboratory chemicals.
Pharmaceuticals.
Ink and Toners.
Leather tanning, dye, finishing, impregnation and care products.
Textile dyes, finishing and impregnating products; including bleaches and other processing aids.
Adhesives, sealants Paper and Board dye, finishing and impregnation products: including bleaches and other processing aids

Uses advised against: No additional information available.

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[cont...]

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Classification according to Regulation (EC) No. 1272/2008 [CLP] with its amendment Regulation (EU) 2016/1179:

Not classified

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.

Label elements:

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

Other hazards:

PBT: Not relevant – no registration required.

vPvB: Not relevant – no registration required.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances:

| Name | Product identifier | % |
|--------------------|---|-------|
| Magnesium sulphate | (CAS-No.) 7487-88-9 (EC-No.) 231-298-2 | >= 80 |

May contain the following forms of Magnesium sulphate:

| Name | Product identifier | % |
|---|--|--------|
| Magnesium sulphate anhydrous (Constituent) | (CAS-No.) 7758-99-8 (EC-No.) 231-298-2 | <= 100 |
| Magnesium sulphate monohydrate (Constituent) | (CAS-No.) 14168-73-1 (EC-No.) 231-298-2 | <= 100 |
| Magnesium sulphate dihydrate (Constituent) | (CAS-No.) 17830-05-6 (EC-No.) 231-298-2 | <= 100 |
| Magnesium sulphate trihydrate (Constituent) | (CAS-No.) 15320-30-6 (EC-No.) 231-298-2 | <= 100 |
| Magnesium sulphate heptahydrate (Constituent) | (CAS-No.) 10034-99-8 (EC-No.) 231-298-2 | <= 100 |

Mixtures: Not applicable

4. FIRST AID MEASURES

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 eyes with water as a precaution.

First-aid measures after ingestion: Call a poison centre or a doctor if you feel unwell.

[cont...]

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Most important symptoms and effects, both acute and delayed: No additional information available.

Indication of any immediate medical attention and special treatment needed: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media: Water spray. Dry powder. Foam.

Special hazards arising from the substance or mixture:

Hazardous decomposition products in case of fire: Toxic fumes may be released.

Advice for firefighters:

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel Emergency procedures: Ventilate spillage area.

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".

Environmental precautions: Avoid release to the environment.

Methods and material for containment and cleaning up:

Methods for cleaning up: Mechanically recover the product.

Other information: Dispose of materials or solid residues at an authorized site.

Reference to other sections: For further information refer to section 13.

7. HANDLING AND STORAGE

Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

Conditions for safe storage, including any incompatibilities:

Storage conditions: Store in a well-ventilated place. Keep cool.

Specific end use(s): No additional information available.

[cont...]

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

Magnesium sulphate (7487-88-9):

| | | |
|--------------------|----------------------------------|---|
| Russian Federation | Local name | Магний сульфат |
| Russian Federation | OEL Ceiling (mg/m ³) | 2 mg/m ³ |
| Russian Federation | Remark (RU) | 3 класс опасности - опасное; а (аэрозоль) |
| Russian Federation | Regulatory reference | ГН 2.2.5.1313-03 |

Magnesium sulphate (7487-88-9):

DNEL/DMEL (Workers):

| | |
|--|---|
| Long-term - systemic effects, dermal | 21.3 mg/kg bodyweight/day NOAEL: 255.6 mg/kg bw/day |
| Long-term - systemic effects, inhalation | 37.6 mg/m ³ NOAEC: 451.2 mg/m ³ |

DNEL/DMEL (General population):

| | |
|--|---|
| Long-term - systemic effects, oral | 12.8 mg/kg bodyweight/day NOAEL: 256.0 mg/kg bw/day |
| Long-term - systemic effects, inhalation | 11.1 mg/m ³ NOAEC: 222.0 mg/m ³ |
| Long-term - systemic effects, dermal | 12.8 mg/kg bodyweight/day NOAEL: 256.0 mg/kg bw/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 aqua (intermittent, marine water) | 6.8 mg/l |

PNEC (STP):

| | |
|-----------------------------|---------|
| PNEC sewage treatment plant | 10 mg/l |
|-----------------------------|---------|

Exposure controls:

Appropriate engineering controls: Ensure good ventilation of the work station.

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.

Environmental exposure controls: Avoid release to the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

| | |
|---|------------------------------|
| Physical state: | Solid |
| Appearance: | Crystals. Powder. |
| Colour: | No data available on colour. |
| Odour: | No data available on odour. |
| Odour threshold: | No data available. |
| pH: | No data available. |
| Relative evaporation rate (butyl acetate=1): | No data available. |
| Melting point: | 1124 °C (@ 1013 hPa) |
| Freezing point: | Not applicable |

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| | |
|--|--|
| 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: | No data available. |
| Relative vapour density at 20 °C: | No data available. |
| Relative density: | 2.66 (@ 20 °C) |
| Solubility: | Water: 360 g/l (@ 20 °C) |
| Log Pow: | No data available. |
| Viscosity, kinematic: | Not applicable |
| Viscosity, dynamic: | No data available. |
| Explosive properties: | Not explosive. |
| Oxidising properties: | Non oxidizing. |
| Explosive limits: | Not applicable |
| Other information: | No additional information available. |

10. STABILITY AND REACTIVITY

| | |
|--|--|
| Reactivity: | The product is non-reactive under normal conditions of use, storage and transport. |
| Chemical stability: | Stable under normal conditions. |
| Possibility of hazardous reactions: | No dangerous reactions known under normal conditions of use. |
| Conditions to avoid: | None under recommended storage and handling conditions (see section 7). |
| Incompatible materials: | No additional information available. |
| Hazardous decomposition products: | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

11. TOXICOLOGICAL INFORMATION

| | |
|--|-------------------------|
| Information on toxicological effects: | |
| Acute toxicity (oral): | Not classified |
| Acute toxicity (dermal): | Not classified |
| Acute toxicity (inhalation): | Not classified |
| Magnesium sulphate (7487-88-9): | |
| LD50 oral rat | > 2000 mg/kg (OECD 425) |
| LD50 dermal rat | > 2000 mg/kg (OECD 402) |

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| | |
|---|--|
| Skin corrosion/irritation: | Not irritating. EU method B.46 (Based on available data, the classification criteria are not met). |
| Serious eye damage/irritation: | Not irritating. (OECD 405 method) (Based on available data, the classification criteria are not met). |
| Respiratory or skin sensitisation: | Not classified. (OECD 429 method) (Based on available data, the classification criteria are not met). |
| Germ cell mutagenicity: | Not classified. Mutagenicity tests are negative. (OECD 471 method). (OECD 473 method). (OECD 476 method) (Based on available data, the classification criteria are not met). |
| Carcinogenicity: | Not classified. (OECD 453 method) (Based on available data, the classification criteria are not met). |

Magnesium sulphate (7487-88-9):

NOAEL (chronic, oral, animal/male, 2 years) 284 mg/kg bodyweight Ota Y. et al. (2006)

Reproductive toxicity: Not classified. (OECD 415 method). (OECD 422 method) (Based on available data, the classification criteria are not met).

Magnesium sulphate (7487-88-9):

NOAEL (animal/male, F0/P) > 1500 mg/kg bodyweight Andres CJ and Cline TR (1989)

STOT-single exposure: Not classified

STOT-repeated exposure: Not classified

Magnesium sulphate (7487-88-9):

NOAEL (oral, rat, 90 days) 256 mg/kg bodyweight/day

Aspiration hazard: Not classified

12. ECOLOGICAL INFORMATION

Toxicity:

Ecology - general: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Acute aquatic toxicity: Not classified

Chronic aquatic toxicity: Not classified

Magnesium sulphate (7487-88-9):

LC50 fish 1 680 mg/l Pimephales promelas, K₂SO₄, Mount, D.R., Gulley, D.D., Hockett, R., Garrison, T.D., and Evans, J.M (1997)

LC50 fish 2 63.6 mg/l Oncorhynchus mykiss, KMgSO₄, OECD203, Madsen, T.J. and Bussard, J.B. (2000)

EC50 Daphnia 1 720 mg/l Daphnia magna, K₂SO₄, Mount, D.R., Gulley, D.D., Hockett, R., Garrison, T.D., and Evans, J.M. (1997)

EC50 72h algae (1) 2700 mg/l Desmodesmus subspicatus), MgSO₄, INNOLAB GmbH & Co. KG, (1994c)

NOEC chronic algae >= 100 mg/l

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Persistence and degradability: No additional information available.

Bioaccumulative potential:

Magnesium sulphate (7487-88-9):

Bioaccumulative potential: Low bioaccumulation potential.

Mobility in soil: No additional information available.

Results of PBT and vPvB assessment:

Magnesium sulphate (7487-88-9):

PBT: Not relevant – no registration required

vPvB: Not relevant – no registration required

Other adverse effects: No additional information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods: Dispose of contents/container in accordance with licensed collector's sorting instructions.

14. TRANSPORT INFORMATION

In accordance with ADR / RID / IMDG / IATA / AND:

| | ADR | IMDG | IATA | ADN | RID |
|------------------------------------|----------------|----------------|----------------|----------------|----------------|
| UN number: | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| UN proper shipping name: | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| Transport hazard class(es): | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| Packing group: | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| Environmental hazards: | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |

| ADR | IMDG | IATA | ADN | RID |
|--|-------------|-------------|------------|------------|
| No supplementary information available | | | | |

Special precautions for user:

Overland transport: Not applicable

Transport by sea: Not applicable

Air transport: Not applicable

Inland waterway transport: Not applicable

Rail transport: Not applicable

Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable

[cont...]

15. REGULATORY INFORMATION

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

EU-Regulations: **No REACH Annex XVII restrictions**
Magnesium sulphate is not on the REACH Candidate List
Magnesium sulphate is not on the REACH Annex XIV List

National regulations:

Germany:

Reference to AwSV: Water hazard class (WGK) 1, low hazard to waters (Classification according to AwSV; ID No. 366).

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

Chemical safety assessment: A chemical safety assessment has been carried out.

Note: The regulatory information given above only indicates the principal regulations specifically Applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Indication of changes:

| Section | Changed item | Change | Comments |
|---------|--------------------------|--------|----------|
| 1.2 | Relevant identified uses | Added | |

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.

BCF Bioconcentration factor.

CLP Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008.

DMEL Derived Minimal Effect level.

DNEL Derived-No Effect Level.

EC50 Median effective concentration.

IARC International Agency for Research on Cancer.

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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.
OECD Organisation for Economic Co-operation and Development.
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.
STP Sewage treatment plant.
TLM Median Tolerance Limit.
vPvB Very Persistent and Very Bioaccumulative.

Data sources:

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. 2010-09-14 CSR-PI-5.2.6.

Legal disclaimer:

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.