



## MAGNESIUM SULPHATE MONOHYDRATE Safety Data Sheet- MSDS

Update version -IV-

### Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product identifier:

Product form:	Substance
Substance name:	Magnesium sulphate
Chemical name:	Magnesium sulphate
EC-No.:	231-298-2
CAS-No.:	7487-88-9
Formula:	MgSO <sub>4</sub>
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: Fertilizers 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

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### Section 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.

### Section 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

### Section 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 center or a doctor if you feel unwell.

**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.

### Section 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.

### Section 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.

## Section 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.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

**Magnesium sulphate (7487-88-9):**

Russian Federation	Local name	Магний сульфат
Russian Federation	OEL Ceiling (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
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<sup>3</sup> NOAEC: 451.2 mg/m<sup>3</sup>

**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<sup>3</sup> NOAEC: 222.0 mg/m<sup>3</sup>  
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
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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.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical

properties: Physical state: Solid

<b>Appearance:</b>	Crystals. Powder.
<b>Color:</b>	No data available on color.
<b>Oduor:</b>	No data available on odor.
<b>Oduor threshold:</b>	No data available.
<b>pH:</b>	No data available.
<b>Relative evaporation rate (butyl acetate=1):</b>	No data available.
<b>Melting point:</b>	1124 °C (@ 1013 hPa)
<b>Freezing point:</b>	Not applicable
<b>Boiling point:</b>	No data available.
<b>Flash point:</b>	Not applicable <b>Auto-</b>
<b>ignition temperature:</b>	Not applicable
<b>Decomposition temperature:</b>	No data available.
<b>Flammability (solid, gas):</b>	Non-flammable.
<b>Vapour pressure:</b>	No data available.
<b>Relative vapour density at 20 °C:</b>	No data available.
<b>Relative density:</b>	2.66 (@ 20 °C)
<b>Solubility:</b>	Water: 360 g/l (@ 20 °C)
<b>Log Pow:</b>	No data available.
<b>Viscosity, kinematic:</b>	Not applicable
<b>Viscosity, dynamic:</b>	No data available.
<b>Explosive properties:</b>	Not explosive.
<b>Oxidising properties:</b>	Non oxidizing.
<b>Explosive limits:</b>	No applicable
<b>Other information:</b>	No additional information available.

## Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

**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.

## Section 11 - TOXICOLOGICAL INFORMATION

Information on toxicological effects:

<b>Acute toxicity (oral):</b>	Not classified
<b>Acute toxicity (dermal):</b>	Not classified
<b>Acute toxicity (inhalation):</b>	Not classified

Magnesium sulphate (7487-88-9):

LD50 oral rat	> 2000 mg/kg (OECD 425)
LD50 dermal rat	> 2000 mg/kg (OECD 402)

**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

## Section 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 Pamphiles 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 Desmosomes subspicatus), MgSO4, INNOLAB GmbH & Co. KG, (1994c)
NOEC chronic algae	>= 100 mg/l

**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.

## Section 13 - DISPOSAL INFORMATION

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

## Section 14 - TRANSPORT INFORMATION

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

	ADR	IMDG	IATA	ADN	RID
<b>UN number:</b>	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>UN proper shipping name:</b>	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>Transport hazard class(es):</b>	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>Packing group:</b>	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>Environmental hazards:</b>	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

## Section 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)

Section 302 (RQ): None of the chemicals in this material have an RQ.

Section 302 (TPQ): None of the chemicals in this product have a TPQ.

SARA Codes: See section 2.

Section 313: No chemicals are reportable under Section 313.

**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

## Section 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.

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.

### **Disclaimer:**

This SDS is provided by DRON INDUSTRIES for safety guidance only and does not replace the user's own ER risk assessment as required by applicable health and safety laws. Information is based on current knowledge and describes safety aspects of the product only. No guarantees are made regarding specific product properties. DRON IDNSUTRIES accepts no legal liability except as required by law.

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