SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Revision Date 10.01.2019 Version 6.8

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

1.1 Product identifier

Catalogue No.	814733
Product name	Magnesium chloride anhydrous for synthesis
REACH Registration Number	01-2119485597-19-XXXX
CAS-No.	7786-30-3

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

Identified uses	Chemical for synthesis For additional information on uses please refer to the Merck Chemicals portal (www.merckgroup.com).

1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department	LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number

Please contact the regional company representation in your country.

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

3.1 Substance

Formula	$MgCl_2$	Cl_2Mg (Hill)
EC-No.	232-094-6	
Molar mass	95,22 g/mol	

Remarks No disclosure requirement according to Regulation (EC) No. 1907/2006.

3.2 Mixture
Not applicable

SECTION 4. First aid measures

4.1 Description of first aid measures
After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

After eye contact: rinse out with plenty of water. Remove contact lenses.

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

4.2 Most important symptoms and effects, both acute and delayed
irritant effects, respiratory paralysis, Diarrhoea, Nausea, Vomiting, Circulatory collapse, muscular weakness, Tiredness, paralysis symptoms, Irregular cardiac activity

4.3 Indication of any immediate medical attention and special treatment needed
No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Not combustible.
Ambient fire may liberate hazardous vapours.
Fire may cause evolution of:
Hydrogen chloride gas

5.3 Advice for firefighters
Special protective equipment for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information
Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling
Observe label precautions.

Hygiene measures
Change contaminated clothing. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Tightly closed. Dry.

Recommended storage temperature see product label.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Predicted No Effect Concentration (PNEC)

PNEC Fresh water	3,21 mg/l
PNEC Marine water	0,32 mg/l
PNEC Aquatic intermittent release	5,48 mg/l
PNEC Sewage treatment plant	90 mg/l
PNEC Fresh water sediment	288,9 mg/kg
PNEC Marine sediment	28,89 mg/kg
PNEC Soil	662,77 mg/kg

8.2 Exposure controls

Engineering measures
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures
Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection
Safety glasses

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).
The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.
This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Respiratory protection
required when dusts are generated.
Recommended Filter type: Filter P 1 (acc. to DIN 3181) for solid particles of inert substances
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.
These measures have to be properly documented.

Environmental exposure controls
Do not let product enter drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	solid
Colour	white
Odour	odourless
Odour Threshold	Not applicable
pH	>= 7 at 50 g/l 20 °C
Melting point	712 °C
Boiling point/boiling range	1.412 °C at 1.013 hPa
Flash point	does not flash
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	2,32 g/cm3 at 20 °C
Relative density	No information available.

Water solubility	727 g/l at 100 °C 542 g/l at 20 °C
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	> 300 °C
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

Ignition temperature	not combustible

SECTION 10. Stability and reactivity

10.1 Reactivity
See section 10.3

10.2 Chemical stability
sensitive to moisture

10.3 Possibility of hazardous reactions
Violent reactions possible with:
acids

10.4 Conditions to avoid
no information available

10.5 Incompatible materials
no information available

10.6 Hazardous decomposition products
in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity
LD50 Rat: 2.800 mg/kg

(IUCLID)

Acute inhalation toxicity

Symptoms: slight mucosal irritations

Acute dermal toxicity
LD50 Rat: > 2.000 mg/kg
OECD Test Guideline 402
The value is given in analogy to the following substances: magnesium chloride hexahydrate

Skin irritation
In vitro study
Result: No skin irritation
Human Skin Model Test

The value is given in analogy to the following substances: magnesium chloride hexahydrate

slight irritation

Eye irritation
Rabbit
Result: No eye irritation
OECD Test Guideline 405

The value is given in analogy to the following substances: magnesium chloride hexahydrate

slight irritation

Sensitisation
Maximisation Test Guinea pig
Result: negative
Method: OECD Test Guideline 406

The value is given in analogy to the following substances: magnesium chloride hexahydrate

Germ cell mutagenicity
Genotoxicity in vitro
Ames test
Bacillus subtilis
Result: negative

(Lit.)

Mutagenicity (mammal cell test):
Mouse lymphoma test
Result: negative
Method: OECD Test Guideline 476

Carcinogenicity
This information is not available.

Reproductive toxicity
This information is not available.

Teratogenicity
This information is not available.

Specific target organ toxicity - single exposure
This information is not available.

Specific target organ toxicity - repeated exposure
This information is not available.

Aspiration hazard
This information is not available.

11.2 Further information
After uptake of large quantities:
Nausea, Vomiting, Diarrhoea
Systemic effects:
drop in blood pressure, Cardiac irregularities, muscular weakness, paralysis symptoms, Tiredness
After absorption of large quantities:
respiratory paralysis, Circulatory collapse
However, when the product is handled appropriately, hazardous effects are unlikely to occur.
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

12.1 Toxicity
Toxicity to fish
static test LC50 Pimephales promelas (fathead minnow): 2.120 mg/l; 96 h
Analytical monitoring: yes
US-EPA

Toxicity to daphnia and other aquatic invertebrates
static test EC50 Daphnia magna (Water flea): 548 mg/l; 48 h
Analytical monitoring: yes
(ECHA)

Toxicity to algae
Limit Test EC50 Desmodesmus subspicatus (green algae): > 100 mg/l; 72 h
Analytical monitoring: yes
OECD Test Guideline 201

Toxicity to bacteria
EC50 Photobacterium phosphoreum: 36.300 mg/l; 30 min
(IUCLID)

static test EC50 activated sludge: > 900 mg/l; 3 h
OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)
semi-static test EC10 Daphnia magna (Water flea): 321 mg/l; 21 d
Analytical monitoring: yes

(ECHA)

12.2 Persistence and degradability
No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil
No information available.

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects
Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

Waste treatment methods
See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not relevant

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard Legislation	SEVESO III
	Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC	not regulated
Substances of very high concern (SVHC)	This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of ≥ 0.1 % (w/w).

National legislation
Storage class 10 - 13

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Training advice
Provide adequate information, instruction and training for operators.

Key or legend to abbreviations and acronyms used in the safety data sheet
Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation
This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.

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