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

Revision Date 09.03.2012 Version 4.2

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

1.1 Product identifier

Catalogue No. 106067
Product name Magnesium sulfate anhydrous for analysis EMSURE®
REACH Registration Number A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Identified uses Reagent for analysis
For additional information on uses please refer to the Merck Chemicals portal (www.merck-chemicals.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 EQ-RS * 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

This substance is not classified as dangerous according to European Union legislation.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)
Not a dangerous substance according to GHS.

Labelling (67/548/EEC or 1999/45/EC)
The product does not need to be labelled in accordance with EC directives or respective national laws.

2.3 Other hazards
None known.

SECTION 3. Composition/information on ingredients

Formula MgSO₄ MgO₄S (Hill)
CAS-No. 7487-88-9
EC-No. 231-298-2
Molar mass 120.37 g/mol

For the full text of the H-Statements mentioned in this Section, see Section 16.

The Safety Data Sheets for catalogue items are available at www.merck-chemicals.com
Remarks
No components that are liable to disclose according to Regulation (EC) No. 1907/2006.

SECTION 4. First aid measures
4.1 Description of first aid measures
   After inhalation: fresh air.
   After skin contact: wash off with plenty of water. Remove contaminated clothing.
   After eye contact: rinse out with plenty of water.
   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
   Diarrhoea, Nausea, Vomiting

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.
   Development of hazardous combustion gases or vapours possible in the event of fire.
   Fire may cause evolution of:
   Sulphur oxides

5.3 Advice for firefighters
   Special protective equipment for firefighters
   In the event of fire, wear self-contained breathing apparatus.

   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 empty into 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 7.2 and 10.5). 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
Observe label precautions.

7.2 Conditions for safe storage, including any incompatibilities
Tightly closed. Dry.

Storage temperature: no restrictions.

7.3 Specific end uses
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

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.

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

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 entrepreneur 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 empty into drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>solid</td>
</tr>
<tr>
<td>Colour</td>
<td>white</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No information available.</td>
</tr>
<tr>
<td>pH</td>
<td>ca. 7.9</td>
</tr>
<tr>
<td></td>
<td>at 50 g/l</td>
</tr>
<tr>
<td></td>
<td>25 °C</td>
</tr>
<tr>
<td>Melting point</td>
<td>No information available.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No information available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>does not flash</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available.</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>not applicable</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No information available.</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No information available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>2.66 g/cm³</td>
</tr>
<tr>
<td></td>
<td>at 20 °C</td>
</tr>
<tr>
<td>Water solubility</td>
<td>300 g/l</td>
</tr>
<tr>
<td></td>
<td>at 20 °C</td>
</tr>
</tbody>
</table>
Partition coefficient: n-octanol/water not applicable
Autoignition temperature No information available.
Decomposition temperature 1.124 °C
Viscosity, dynamic No information available.
Explosive properties Not classified as explosive.
Oxidizing properties none

9.2 Other data
Ignition temperature not combustible
Bulk density ca. 600 kg/m³

SECTION 10. Stability and reactivity
10.1 Reactivity
See section 10.3.

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions
no information available

10.4 Conditions to avoid
Heating (decomposition).

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
Specific target organ toxicity - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard
Based on available data the classification criteria are not met.

11.2 Further information
Quantitative data on the toxicity of this product are not available.
Further toxicological data:
Toxic effects are only to be expected at very high doses.
After swallowing of large amounts:
Nausea, Vomiting, Diarrhoea
Further data:
Therapeutically used substance.
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

12.1 Toxicity
  Toxicity to fish
  LC50 Gambusia affinis (Mosquito fish): 15.500 mg/l; 96 h (IUCLID)
  Toxicity to daphnia and other aquatic invertebrates
  EC50 Daphnia magna (Water flea): 1.700 mg/l; 24 h (IUCLID)
  Toxicity to algae
  IC50 Desmodesmus subspicatus (green algae): 2.700 mg/l; 72 h (IUCLID)
  Toxicity to bacteria
  EC50 Photobacterium phosphoreum: 84.000 mg/l; 30 min (IUCLID)

12.2 Persistence and degradability

Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water
not applicable

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

Additional ecological information
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

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. Regulatory information

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

EU regulations
Major Accident Hazard Legislation 96/82/EC
Directive 96/82/EC does not apply

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.