SAFETY DATA SHEET

1. Identification

Product Name: Magnesium sulfate heptahydrate
Cat No.: AC423900000; AC423900010; AC423900050; AC423900250; AC423905000
CAS-No: 10034-99-8
Synonyms: No information available

Recommended Use: Laboratory chemicals.
Uses advised against: Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company: Fisher Scientific
112 Colonnade Road,
Ottawa, ON K2E 7L6,
Canada
Tel: 1-800-234-7437

Importor/Distributor: Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Manufacturer: Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
For information US call: 001-800-ACROS-01 / Europe call: +32 14 57 52 11
Emergency Number US:001-201-796-7100 / Europe: +32 14 57 52 99
CHEMTREC Tel. No.US:001-800-424-9300 / Europe:001-703-527-3887

2. Hazard(s) identification

WHMIS 2015 Classification: Not classified under the Hazardous Products Regulations (SOR/2015-17)

Based on available data, the classification criteria are not met

Label Elements
None required

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium sulfate heptahydrate</td>
<td>10034-99-8</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>
**4. First-aid measures**

**Eye Contact**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if symptoms occur.

**Skin Contact**
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if symptoms occur.

**Inhalation**
Remove to fresh air. Get medical attention if symptoms occur. If not breathing, give artificial respiration.

**Ingestion**
Do NOT induce vomiting. Get medical attention.

**Most important symptoms/effects**
No information available.

**Notes to Physician**
Treat symptomatically

**5. Fire-fighting measures**

**Suitable Extinguishing Media**
Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

**Unsuitable Extinguishing Media**
No information available

**Flash Point**
No information available

**Method**
No information available

**Autoignition Temperature**
No information available

**Explosion Limits**
No data available

**Upper**
No data available

**Lower**
No data available

**Sensitivity to Mechanical Impact**
No information available

**Sensitivity to Static Discharge**
No information available

**Specific Hazards Arising from the Chemical**
Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

**Hazardous Combustion Products**
Sulfur oxides. Magnesium oxides.

**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. Accidental release measures**

**Personal Precautions**
Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation.

**Environmental Precautions**
Avoid release to the environment. See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up**
Avoid dust formation. Sweep up and shovel into suitable containers for disposal.

**7. Handling and storage**

**Handling**
Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid
dust formation. Avoid contact with skin and eyes. Do not breathe dust.

**Storage.**
Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Strong bases.

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### 8. Exposure controls / personal protection

**Exposure Guidelines**
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Engineering Measures**
None under normal use conditions.

**Personal protective equipment**

<table>
<thead>
<tr>
<th>Eye Protection</th>
<th>Hand Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.</td>
<td>Protective gloves</td>
</tr>
</tbody>
</table>

**Glove material**
- Natural rubber
- Nitrile rubber
- Neoprene
- PVC

<table>
<thead>
<tr>
<th>Breakthrough time</th>
<th>Glove thickness</th>
<th>Glove comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>See manufacturers recommendations</td>
<td>-</td>
<td>Splash protection only</td>
</tr>
</tbody>
</table>

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

**Respiratory Protection**
No protective equipment is needed under normal use conditions.

**Recommended Filter type:** Particle filter

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### 9. Physical and chemical properties

**Physical State**
Solid

**Appearance**
White

**Odor**
Odorless

**Odor Threshold**
No information available

**pH**
5-8.2  5% aq. sol

**Melting Point/Range**
770 °C

**Boiling Point/Range**
No information available

**Flash Point**
No information available

**Evaporation Rate**
Not applicable

**Flammability (solid,gas)**
No information available
Flammability or explosive limits
- Upper: No data available
- Lower: No data available

Vapor Pressure: <0.1 mmHg @ 20 °C
Vapor Density: Not applicable
Specific Gravity: 1.678
Solubility: No information available
Partition coefficient; n-octanol/water: No data available
Autoignition Temperature: No information available
Decomposition Temperature: > 150°C
Viscosity: Not applicable

Molecular Formula: Mg O₄ S . 7 H₂ O
Molecular Weight: 246.48

10. Stability and reactivity

Reactive Hazard: None known, based on information available
Stability: Stable under normal conditions. Hygroscopic.
Conditions to Avoid: Avoid dust formation. Excess heat. Exposure to moist air or water.
Incompatible Materials: Strong bases

Hazardous Decomposition Products: Sulfur oxides, Magnesium oxides
Hazardous Polymerization: Hazardous polymerization does not occur.
Hazardous Reactions: None under normal processing.

11. Toxicological information

Acute Toxicity
Product Information: No acute toxicity information is available for this product
Oral LD50: Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
Dermal LD50: Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
Mist LC50: Based on ATE data, the classification criteria are not met. ATE > 5 mg/l.

Component Information
Toxicologically Synergistic Products: No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure
Irritation: No information available
Sensitization: No information available

Carcinogenicity: The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
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</thead>
<tbody>
<tr>
<td>Magnesium sulfate heptahydrate</td>
<td>10034-99-8</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Magnesium sulfate</td>
<td>7487-88-9</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects: No information available
Reproductive Effects: No information available.
Developmental Effects: No information available.
Teratogenicity: No information available.
Magnesium sulfate heptahydrate

STOT - single exposure  None known
STOT - repeated exposure  None known
Aspiration hazard  No information available
Symptoms / effects, both acute and delayed  No information available
Endocrine Disruptor Information  No information available
Other Adverse Effects  The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity
Do not empty into drains.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium sulfate</td>
<td>EC50: = 2700 mg/L, 72h (Desmodesmus subspicatus)</td>
<td>LC50: 2610 - 3080 mg/L, 96h static (Pimephales promelas)</td>
<td>= 84000 mg/L EC50 Photobacterium phosphoreum 30 min</td>
<td>EC50: 286.4 - 417.3 mg/L, 48h Static (Daphnia magna)</td>
</tr>
</tbody>
</table>

Persistence and Degradability  Soluble in water Persistence is unlikely based on information available.
Bioaccumulation/ Accumulation  No information available.
Mobility  Will likely be mobile in the environment due to its water solubility.

13. Disposal considerations

Waste Disposal Methods  Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT  Not regulated
TDG  Not regulated
IATA  Not regulated
IMDG/IMO  Not regulated

15. Regulatory information

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>DSL</th>
<th>NDSL</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active-Inactive</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
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<tbody>
<tr>
<td>Magnesium sulfate heptahydrate</td>
<td>10034-99-8</td>
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<tr>
<td>Magnesium sulfate</td>
<td>7487-88-9</td>
<td>X</td>
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<td>X</td>
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<td>231-298-2</td>
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<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IECS</th>
<th>KECL</th>
<th>ENCS</th>
<th>ISHL</th>
<th>TCSI</th>
<th>AICS</th>
<th>NZIoC</th>
<th>PICCS</th>
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<td>7487-88-9</td>
<td>X</td>
<td>KE-22752</td>
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<td>X</td>
<td>X</td>
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Legend:
X - Listed  '-' - Not Listed
KECL - NIER number or KE number (http://ncia.nier.go.kr/en/main.do)
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
Magnesium sulfate heptahydrate

Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

Other International Regulations

Authorisation/Restrictions according to EU REACH

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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>OECD HPV</th>
<th>Persistent Organic Pollutant</th>
<th>Ozone Depletion Potential</th>
<th>Restriction of Hazardous Substances (RoHS)</th>
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16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date
24-February-2014

Revision Date
26-December-2021

Print Date
26-December-2021

Revision Summary
This document has been updated to comply with the requirements of WHMIS 2015 to align with the Globally Harmonised System (GHS) for the Classification and Labelling of Chemicals.

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 a 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 process, unless specified in the text.

End of SDS