

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

**Product Description:** Magnesium sulfate heptahydrate  
**Cat No. :** 213110000; 213115000; 213110025; 213110250  
**CAS No** 10034-99-8  
**Molecular Formula** Mg O4 S . 7 H2 O

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

**Recommended Use** Laboratory chemicals.  
**Sector of use** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites  
**Product category** PC21 - Laboratory chemicals  
**Process categories** PROC15 - Use as a laboratory reagent  
**Environmental release category** ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)  
**Uses advised against** No Information available

### 1.3. Details of the supplier of the safety data sheet

#### Company

**UK entity/business name**  
 Fisher Scientific UK  
 Bishop Meadow Road,  
 Loughborough, Leicestershire LE11 5RG, United Kingdom

**EU entity/business name**  
 Thermo Fisher Scientific  
 Janssen Pharmaceuticaaan 3a, 2440 Geel, Belgium

**E-mail address** begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **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

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

#### Physical hazards

Based on available data, the classification criteria are not met

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## Health hazards

Based on available data, the classification criteria are not met

## Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

## 2.2. Label elements

None required

## 2.3. Other hazards

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

| Component                      | CAS No     | EC No             | Weight % | CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567 |
|--------------------------------|------------|-------------------|----------|---|
| Magnesium sulfate heptahydrate | 10034-99-8 |                   | >95      | -   |
| Magnesium sulfate              | 7487-88-9  | EEC No. 231-298-2 | -        | -   |

Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

|   |  |
|---|--|
| <b>Eye Contact</b>                        | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if symptoms occur.              |
| <b>Skin Contact</b>                       | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if symptoms occur. |
| <b>Ingestion</b>                          | Do NOT induce vomiting. Get medical attention.   |
| <b>Inhalation</b>                         | Remove to fresh air. Get medical attention if symptoms occur. If not breathing, give artificial respiration.                                   |
| <b>Self-Protection of the First Aider</b> | No special precautions required.   |

### 4.2. Most important symptoms and effects, both acute and delayed

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No information available.

## 4.3. Indication of any immediate medical attention and special treatment needed

**Notes to Physician** Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### **Suitable Extinguishing Media**

Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

#### **Extinguishing media which must not be used for safety reasons**

No information available.

### 5.2. Special hazards arising from the substance or mixture

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.

### 5.3. Advice for firefighters

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

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

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

### 6.2. Environmental precautions

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

### 6.3. Methods and material for containment and cleaning up

Avoid dust formation. Sweep up and shovel into suitable containers for disposal.

### 6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

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

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before

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re-use. Wash hands before breaks and after work.

## 7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place.

Technical Rules for Hazardous Substances (TRGS) 510 Class 13  
Storage Class (LGK) (Germany)

## 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure limits

List source(s):

#### Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

#### Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

Workers; See table for values

| Component                          | Acute effects local (Dermal) | Acute effects systemic (Dermal) | Chronic effects local (Dermal) | Chronic effects systemic (Dermal) |
|------------------------------------|------------------------------|---------------------------------|--------------------------------|-----------------------------------|
| Magnesium sulfate<br>7487-88-9 (-) |                              |                                 |                                | DNEL = 21.3mg/kg<br>bw/day        |

| Component                          | Acute effects local (Inhalation) | Acute effects systemic (Inhalation) | Chronic effects local (Inhalation) | Chronic effects systemic (Inhalation) |
|------------------------------------|----------------------------------|-------------------------------------|------------------------------------|---------------------------------------|
| Magnesium sulfate<br>7487-88-9 (-) |                                  |                                     |                                    | DNEL = 37.6mg/m <sup>3</sup>          |

#### Predicted No Effect Concentration (PNEC)

See values below.

| Component                          | Fresh water     | Fresh water sediment | Water Intermittent | Microorganisms in sewage treatment | Soil (Agriculture) |
|------------------------------------|-----------------|----------------------|--------------------|------------------------------------|--------------------|
| Magnesium sulfate<br>7487-88-9 (-) | PNEC = 0.68mg/L |                      | PNEC = 6.8mg/L     | PNEC = 10mg/L                      |                    |

| Component                          | Marine water     | Marine water sediment | Marine water intermittent | Food chain | Air |
|------------------------------------|------------------|-----------------------|---------------------------|------------|-----|
| Magnesium sulfate<br>7487-88-9 (-) | PNEC = 0.068mg/L |                       |                           |            |     |

### 8.2. Exposure controls

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## Engineering Measures

None under normal use conditions.

## Personal protective equipment

### Eye Protection

Wear safety glasses with side shields (or goggles) (European standard - EN 166)

### Hand Protection

Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments        |
|----------------|-------------------|-----------------|-------------|-----------------------|
| Natural rubber | See manufacturers | -               | EN 374      | (minimum requirement) |
| Nitrile rubber | recommendations   |                 |             |                       |
| Neoprene       |                   |                 |             |                       |
| PVC            |                   |                 |             |                       |

### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure 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.

Remove gloves with care avoiding skin contamination.

### Respiratory Protection

No protective equipment is needed under normal use conditions.

### Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Recommended Filter type:** Particle filter

### Small scale/Laboratory use

Maintain adequate ventilation

### Environmental exposure controls

No information available.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

|   |                          |  |
|---|--------------------------|--|
| Physical State                          | Solid                    |  |
| Appearance                              | White                    |  |
| Odor                                    | Odorless                 |  |
| Odor Threshold                          | No data available        |  |
| Melting Point/Range                     | 770 °C                   |  |
| Softening Point                         | No data available        |  |
| Boiling Point/Range                     | No information available |  |
| Flammability (liquid)                   | Not applicable           | Solid                                    |
| Flammability (solid,gas)                | No information available |  |
| Explosion Limits                        | No data available        |  |
| Flash Point                             | No information available | <b>Method -</b> No information available |
| Autoignition Temperature                | No data available        |  |
| Decomposition Temperature               | > 150°C                  |  |
| pH                                      | 5-8.2                    | 5% aq. sol                               |
| Viscosity                               | Not applicable           | Solid                                    |
| Water Solubility                        | 710 g/l (20°C)           |  |
| Solubility in other solvents            | No information available |  |
| Partition Coefficient (n-octanol/water) |                          |  |

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|                            |                   |       |
|----------------------------|-------------------|-------|
| Vapor Pressure             | <0.1 mmHg @ 20 °C |       |
| Density / Specific Gravity | 1.678             |       |
| Bulk Density               | No data available |       |
| Vapor Density              | Not applicable    | Solid |
| Particle characteristics   | No data available |       |

## 9.2. Other information

|                   |                        |
|-------------------|------------------------|
| Molecular Formula | Mg O4 S . 7 H2 O       |
| Molecular Weight  | 246.48                 |
| Evaporation Rate  | Not applicable - Solid |

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

None known, based on information available

### 10.2. Chemical stability

Stable under normal conditions. Hygroscopic.

### 10.3. Possibility of hazardous reactions

|                          |  |
|--------------------------|--|
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions      | No information available.                |

### 10.4. Conditions to avoid

Avoid dust formation. Excess heat. Exposure to moist air or water.

### 10.5. Incompatible materials

Strong bases.

### 10.6. Hazardous decomposition products

Sulfur oxides. Magnesium oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

**Product Information** No acute toxicity information is available for this product

#### (a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

Based on available data, the classification criteria are not met

Inhalation

Based on available data, the classification criteria are not met

#### Toxicology data for the components

**(b) skin corrosion/irritation;** Based on available data, the classification criteria are not met

**(c) serious eye damage/irritation;** Based on available data, the classification criteria are not met

**(d) respiratory or skin sensitization;**

Respiratory

Based on available data, the classification criteria are not met

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|  |   |
|--|---|
| <b>Skin</b>                                      | Based on available data, the classification criteria are not met  |
| <b>(e) germ cell mutagenicity;</b>               | Based on available data, the classification criteria are not met  |
| <b>(f) carcinogenicity;</b>                      | Based on available data, the classification criteria are not met<br>There are no known carcinogenic chemicals in this product |
| <b>(g) reproductive toxicity;</b>                | Based on available data, the classification criteria are not met  |
| <b>(h) STOT-single exposure;</b>                 | Based on available data, the classification criteria are not met  |
| <b>(i) STOT-repeated exposure;</b>               | Based on available data, the classification criteria are not met  |
| <b>Target Organs</b>                             | None known.   |
| <b>(j) aspiration hazard;</b>                    | Not applicable<br>Solid   |
| <b>Other Adverse Effects</b>                     | The toxicological properties have not been fully investigated.  |
| <b>Symptoms / effects,both acute and delayed</b> | No information available.   |

## 11.2. Information on other hazards

**Endocrine Disrupting Properties** Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecotoxicity effects** Do not empty into drains. .

| Component         | Freshwater Fish  | Water Flea   | Freshwater Algae                                 |
|-------------------|--|--|--|
| Magnesium sulfate | LC50: 2610 - 3080 mg/L, 96h static (Pimephales promelas) | EC50: 266.4 - 417.3 mg/L, 48h Static (Daphnia magna) | EC50: = 2700 mg/L, 72h (Desmodesmus subspicatus) |

| Component         | Microtox  | M-Factor |
|-------------------|---|----------|
| Magnesium sulfate | = 84000 mg/L EC50 Photobacterium phosphoreum 30 min |          |

### 12.2. Persistence and degradability

**Persistence** Soluble in water, Persistence is unlikely, based on information available.  
**Degradability** Not relevant for inorganic substances.

**12.3. Bioaccumulative potential** Bioaccumulation is unlikely

**12.4. Mobility in soil** The product is water soluble, and may spread in water systems Will likely be mobile in the

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environment due to its water solubility. Highly mobile in soils

## 12.5. Results of PBT and vPvB assessment

No data available for assessment.

## 12.6. Endocrine disrupting properties

### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

## 12.7. Other adverse effects

### Persistent Organic Pollutant

This product does not contain any known or suspected substance

### Ozone Depletion Potential

This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

#### Waste from Residues/Unused Products

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

#### Contaminated Packaging

Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.

#### European Waste Catalogue (EWC)

According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

#### Other Information

Waste codes should be assigned by the user based on the application for which the product was used.

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

Not regulated

#### 14.1. UN number

#### 14.2. UN proper shipping name

#### 14.3. Transport hazard class(es)

#### 14.4. Packing group

### ADR

Not regulated

#### 14.1. UN number

#### 14.2. UN proper shipping name

#### 14.3. Transport hazard class(es)

#### 14.4. Packing group

### IATA

Not regulated

#### 14.1. UN number

#### 14.2. UN proper shipping name

#### 14.3. Transport hazard class(es)

#### 14.4. Packing group



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- 14.5. Environmental hazards** No hazards identified
- 14.6. Special precautions for user** No special precautions required.
- 14.7. Maritime transport in bulk according to IMO instruments** Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

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

#### International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

| Component                      | CAS No     | EINECS    | ELINCS | NLP | IECSC | TCSI | KECL     | ENCS | ISHL |
|--------------------------------|------------|-----------|--------|-----|-------|------|----------|------|------|
| Magnesium sulfate heptahydrate | 10034-99-8 | -         | -      | -   | X     | X    | -        | X    | X    |
| Magnesium sulfate              | 7487-88-9  | 231-298-2 | -      | -   | X     | X    | KE-22752 | X    | X    |

| Component                      | CAS No     | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | AICS | NZIoC | PICCS |
|--------------------------------|------------|------|---|-----|------|------|-------|-------|
| Magnesium sulfate heptahydrate | 10034-99-8 | -    | -   | X   | -    | X    | X     | X     |
| Magnesium sulfate              | 7487-88-9  | X    | ACTIVE  | X   | -    | X    | X     | X     |

**Legend:** X - Listed '-' - Not Listed

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**Authorisation/Restrictions according to EU REACH** Not applicable

| Component                      | CAS No     | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|--------------------------------|------------|---|---|---|
| Magnesium sulfate heptahydrate | 10034-99-8 | -   | -   | -   |
| Magnesium sulfate              | 7487-88-9  | -   | -   | -   |

#### Seveso III Directive (2012/18/EC)

| Component                      | CAS No     | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|--------------------------------|------------|---|--|
| Magnesium sulfate heptahydrate | 10034-99-8 | Not applicable  | Not applicable   |
| Magnesium sulfate              | 7487-88-9  | Not applicable  | Not applicable   |

#### Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

#### Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

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## National Regulations

**UK** - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

**WGK Classification** See table for values

| Component                      | Germany - Water Classification (AwSV) | Germany - TA-Luft Class |
|--------------------------------|---------------------------------------|-------------------------|
| Magnesium sulfate heptahydrate | WGK1                                  |                         |
| Magnesium sulfate              | WGK1                                  |                         |

| Component  | Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81) | Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC) | Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure |
|--|--|---|---|
| Magnesium sulfate heptahydrate<br>10034-99-8 (>95) | Prohibited and Restricted Substances   |   |   |
| Magnesium sulfate<br>7487-88-9 (-)                 | Prohibited and Restricted Substances   |   |   |

## 15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

## SECTION 16: OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3

#### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer Predicted No Effect Concentration (PNEC)

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

#### Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

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**Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:**

|                              |                       |
|------------------------------|-----------------------|
| <b>Physical hazards</b>      | On basis of test data |
| <b>Health Hazards</b>        | Calculation method    |
| <b>Environmental hazards</b> | Calculation method    |

## **Training Advice**

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

|                         |                 |
|-------------------------|-----------------|
| <b>Creation Date</b>    | 24-Feb-2014     |
| <b>Revision Date</b>    | 27-Sep-2023     |
| <b>Revision Summary</b> | Not applicable. |

**This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.**

## **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 Safety Data Sheet**