# SAFETY DATA SHEET

Version 6.4
Revision Date 09/18/2019
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : Iron(II) sulfate heptahydrate

Product Number : 215422
Brand : SIGALD
Index-No. : 026-003-01-4
CAS-No. : 7782-63-0

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

Identified uses : Laboratory chemicals, Synthesis of substances

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

Company : Sigma-Aldrich Inc.
3050 Spruce Street
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

### 1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Acute toxicity, Oral (Category 4), H302
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319

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

### 2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word Warning

Hazard statement(s)
H302 Harmful if swallowed.
H315 Causes skin irritation.



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| | |
|---|---|
| H319 | Causes serious eye irritation. |

Precautionary statement(s)

| | |
|---|---|
| P264 | Wash skin thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P280 | Wear protective gloves/ eye protection/ face protection. |
| P301 + P312 + P330 | IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. |
| P302 + P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P332 + P313 | If skin irritation occurs: Get medical advice/ attention. |
| P337 + P313 | If eye irritation persists: Get medical advice/ attention. |
| P362 | Take off contaminated clothing and wash before reuse. |
| P501 | Dispose of contents/ container to an approved waste disposal plant. |

**2.3 Hazards not otherwise classified (HNOC) or not covered by GHS** - none

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| | | |
|---|---|---|
| Synonyms | : | Ferrous sulfateheptahydrate |
| Formula | : | $FeO_4S \cdot 7H_2O$ |
| Molecular weight | : | 278.01 g/mol |
| CAS-No. | : | 7782-63-0 |
| EC-No. | : | 231-753-5 |
| Index-No. | : | 026-003-01-4 |

| Component | Classification | Concentration |
|---|---|---|
| **Ferrous sulfate heptahydrate** | | |
| | Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; H302, H315, H319 | <= 100 % |

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

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

**If inhaled**
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**
Wash off with soap and plenty of water. Consult a physician.



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**In case of eye contact**
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed**
No data available

## SECTION 5: Firefighting measures

**5.1 Extinguishing media**

**Suitable extinguishing media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture**
Sulphur oxides, Iron oxides

**5.3 Advice for firefighters**
Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**
No data available

## SECTION 6: Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures**
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.
For personal protection see section 8.

**6.2 Environmental precautions**
Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up**
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**
For disposal see section 13.

## SECTION 7: Handling and storage

**7.1 Precautions for safe handling**
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.
Provide appropriate exhaust ventilation at places where dust is formed.



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For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place.

Air sensitive. Store under inert gas. hygroscopic
Storage class (TRGS 510): 11: Combustible Solids

### 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

**Components with workplace control parameters**

| Component | CAS-No. | Value | Control parameters | Basis |
|---|---|---|---|---|
| Ferrous sulfate heptahydrate | 7782-63-0 | TWA | 1 mg/m3 | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Upper Respiratory Tract irritation<br>Skin irritation<br>varies | | |
| | | TWA | 1 mg/m3 | USA. NIOSH Recommended Exposure Limits |
| | | PEL | 1 mg/m3 | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |

### 8.2 Exposure controls

**Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal protective equipment**

**Eye/face protection**

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact



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Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Body Protection**
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator.For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**
Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| a) | Appearance | Form: solid |
| b) | Odour | No data available |
| c) | Odour Threshold | No data available |
| d) | pH | 3.0 - 4.0 at 50 g/l at 25 °C (77 °F) |
| e) | Melting point/freezing point | Melting point/range: 64 °C (147 °F) |
| f) | Initial boiling point and boiling range | No data available |
| g) | Flash point | ()Not applicable |
| h) | Evaporation rate | No data available |
| i) | Flammability (solid, gas) | No data available |
| j) | Upper/lower flammability or explosive limits | No data available |
| k) | Vapour pressure | 14.6 hPa at 25 °C (77 °F) |
| l) | Vapour density | No data available |
| m) | Relative density | 1.898 g/cm3 at 25 °C (77 °F) |
| n) | Water solubility | No data available |



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| | | |
|---|---|---|
| o) | Partition coefficient: n-octanol/water | No data available |
| p) | Auto-ignition temperature | No data available |
| q) | Decomposition temperature | No data available |
| r) | Viscosity | No data available |
| s) | Explosive properties | No data available |
| t) | Oxidizing properties | No data available |

**9.2 Other safety information**

| | |
|---|---|
| Bulk density | 1,300 kg/m3 |

## SECTION 10: Stability and reactivity

**10.1 Reactivity**
No data available

**10.2 Chemical stability**
Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**
No data available

**10.4 Conditions to avoid**
No data available

**10.5 Incompatible materials**
Strong oxidizing agents

**10.6 Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions. - Sulphur oxides, Iron oxides
Other decomposition products - No data available
In the event of fire: see section 5

## SECTION 11: Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**
LD50 Oral - Mouse - 1,520 mg/kg
Inhalation: No data available
Dermal: No data available
LD50 Intraperitoneal - Mouse - 245 mg/kg
LD50 Intravenous - Mouse - 51 mg/kg

**Skin corrosion/irritation**
No data available

**Serious eye damage/eye irritation**
No data available



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**Respiratory or skin sensitisation**
No data available

**Germ cell mutagenicity**
No data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**Reproductive toxicity**
No data available
No data available

**Specific target organ toxicity - single exposure**
No data available

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

**Additional Information**
RTECS: NO8510000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## SECTION 12: Ecological information

**12.1 Toxicity**
No data available

**12.2 Persistence and degradability**
No data available

**12.3 Bioaccumulative potential**
No data available

**12.4 Mobility in soil**
No data 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**
No data available



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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

**Product**
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**
Dispose of as unused product.

## SECTION 14: Transport information

**DOT (US)**
UN number: 3077 Class: 9 Packing group: III
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Ferrous sulfate heptahydrate)
Reportable Quantity (RQ): 1000 lbs
Poison Inhalation Hazard: No

**IMDG**
Not dangerous goods

**IATA**
Not dangerous goods

## SECTION 15: Regulatory information

**SARA 302 Components**
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**
Acute Health Hazard

**Massachusetts Right To Know Components**
No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

| | CAS-No. | Revision Date |
|---|---|---|
| Ferrous sulfate heptahydrate | 7782-63-0 | 1989-08-11 |



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## SECTION 16: Other information

### Further information

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