

CHEMICAL STORE INC.

Safety Data Sheet Ferrous Sulfate Heptahydrate

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name: Ferrous Sulfate Heptahydrate
CAS-No.: 7782-63-0

Other means of identification

Synonyms: Copperas, Iron (II) Sulfate

Recommended use of the chemical and restrictions on use

Recommended Use: Laboratory chemicals, manufacture of substances

Uses advised against: No information available

Details of the supplier of the safety data sheet

Supplier Name: Chemical Store Inc.
Supplier Address: 1059 Main Avenue
Clifton, NJ 07011
Supplier Phone Number: 202-800-8820 Fax: 973-272-1073
Contact Phone: 973-405-6248
Supplier Email: Info@ChemicalStore.com

Emergency telephone number 973-420-4972

2. HAZARDS IDENTIFICATION

Classification

Acute Toxicity, Oral Category 4
Skin irritation Category 2
Eye Irritation Category 2A

GHS Label elements, including precautionary statements

Pictogram:



Signal word: Warning

Hazard statement(s): Harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation.

Precautionary statement(s): Wash skin thoroughly after handling.
Do not eat, drink, or smoke when using this product.
Wear protective gloves/eye protection/face protection.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see supplemental first aid instructions on this label).
Rinse mouth.
If skin irritation occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Remove contaminated clothing and wash before reuse.
Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC): None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

| | |
|--------------------------|---------------------------------------|
| <u>Synonyms:</u> | Ferrous Sulfate Heptahydrate |
| <u>Formula:</u> | FeSO ₄ · 7H ₂ O |
| <u>Molecular Weight:</u> | 278.02 g/mol |
| <u>CAS-No.:</u> | 7782-63-0 |
| <u>Weight %:</u> | >99% |

Hazardous components

| | |
|------------------------------|--|
| <u>Component:</u> | <u>Classification:</u> |
| Ferrous Sulfate Heptahydrate | Acute Tox. 4; Skin Irritant 2; Eye Irritant 2A; H302, H315, H319 |

4. FIRST AID MEASURES

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.

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.

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.

Indication of any immediate medical attention and special treatment needed: No data available.

5. FIREFIGHTING MEASURES

Extinguishing media

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

Special hazards arising from the substance or mixture: Sulphur oxides, Iron oxides.

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

Further information: The product itself does not burn.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Avoid breathing dust. For personal protection see Section 8.

Environmental precautions: Do not let product enter drains.

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.

Reference to other sections: For disposal see Section 13.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see Section 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.

Specific end use(s): Apart from the uses mentioned in Section 1 no other specific uses are stipulated.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Components with workplace control parameters

| Chemical Name | ACGIH | NIOSH | OSHA - Final PELs |
|-------------------------------|--|--|-------------------|
| Iron(II) sulfate heptahydrate | 1 mg/m ³ TWA (as Fe) (listed under Iron salts (soluble)). | 1 mg/m ³ TWA (as Fe) (listed under Iron salts (soluble)). | none listed |
| Ferrous sulfate anhydrous | 1 mg/m ³ TWA (as Fe) (listed under Iron salts (soluble)). | 1 mg/m ³ TWA (as Fe) (listed under Iron salts (soluble)). | none listed |

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.

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.

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 a particle respirator. For higher level protection use type, wear NIOSH approved air-purifying respirator with cartridges/canisters.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

| | | |
|-----------------|-------------------|-----------------------------------|
| Physical State: | Solid | |
| Appearance: | Grey, acidic/sour | Odor: No data available |
| Color: | Grey | Odor Threshold: No data available |

Property

Values

| | |
|---------------------------|---|
| pH | 3.0 – 4.0 @ 50 g/l @ 25° C (77° F) |
| Melting/freezing point | Melting point/range: 64° C (147° F) Loses water |
| Flash Point | No data available |
| Evaporation Rate | No data available |
| Flammability (solid, gas) | No data available |
| Flammability Limit in Air | |
| Upper flammability limit | No data available |
| Lower flammability limit | N/A |
| Vapor pressure | No data available |
| Vapor density | No data available |
| Specific Gravity | No data available |
| Water solubility | No data available |

Property

Values

| | |
|--|-------------------|
| Solubility in other solvents | No data available |
| Partition coefficient: n-octanol/water | No data available |
| Autoignition temperature | No data available |
| Decomposition temperature | No data available |
| Kinematic viscosity | No data available |
| Dynamic viscosity | No data available |
| Explosive properties | No data available |
| Oxidizing properties | No data available |

Other Information

| | |
|--------------|-------------------------|
| Bulk density | 1,100 kg/m ³ |
|--------------|-------------------------|

10. STABILITY AND REACTIVITY

Reactivity: No data available.

Chemical Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: No data available.

Hazardous: Polymerization: No data available.

Conditions to Avoid: No data available.

Incompatible Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Other decomposition products – no data available. In the event of a fire see Section 5.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

| | | |
|----------------------------|--------------|----------------------|
| Product information | Inhalation | No data available |
| | Eye contact | No data available |
| | Skin contact | No data available |
| | Ingestion | Harmful if swallowed |

Information on toxicological effects

RTECS#:

CAS# 7782-63-0: NO8510000

CAS# 7720-78-7: NO8500000

LD50/LC50:

CAS# 7782-63-0:

Oral, mouse: LD50 = 1520 mg/kg;

CAS# 7720-78-7:

Oral, mouse: LD50 = 680 mg/kg;

Oral, rat: LD50 = 319 mg/kg;

Oral, rat: LD50 = 533 mg/kg;

For Iron(II) sulfate (1:1), heptahydrate (CAS = 7782-63-0): Oral rat LDLo: 1389 mg/kg, Oral rabbit LDLo: 2778 mg/kg. For Iron(II) sulfate anhydrous (CAS = 7720-78-7): Child Oral LDLo: 435 mg/kg Coma, BP lowering not characterized in autonomic section, jaundice.

Carcinogenicity:

CAS# 7782-63-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 7720-78-7: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: Tumorigenic effects have been reported in experimental animals.

Teratogenicity: Teratogenic effects have occurred in experimental animals.

Reproductive Effects: Adverse reproductive effects have occurred in experimental animals.

Mutagenicity: Mutagenic effects have occurred in humans.

Neurotoxicity: No information available.

Delayed and immediate effects as well as chronic effects from short & long-term exposure

| | |
|-------------------------|---|
| Sensitization: | No data available. |
| Mutagenic effects: | No data available. |
| Carcinogenicity: | 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. |
| STOT-single exposure: | No data available. |
| STOT-repeated exposure: | No data available. |
| Chronic toxicity: | No data available. |
| Target organ exposure: | No data available. |
| Aspiration hazard: | No data available. |

Numerical measure of toxicity product information

The following values are calculated based on Section 3 of the GHS document: No data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity: No data available.

Persistence and Degradability: No data available.

Bioaccumulation: No data available.

Other adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

| | |
|-------------------------------|--|
| Disposal methods | 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. |

14. TRANSPORT INFORMATION

| | |
|-----------------|----------------------|
| DOT (US) | Not dangerous goods |
| IMDG | Not dangerous goods. |
| IATA | Not dangerous goods. |

15. REGULATORY INFORMATION

INTERNATIONAL INVENTORIES

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN

Risk Phrases:

- R 22 Harmful if swallowed.
- R 36/38 Irritating to eyes and skin.

Safety Phrases:

S 46 If swallowed, seek medical advice immediately and show this container or label.

WGK (Water Danger/Protection)

CAS# 7782-63-0: No information available.
CAS# 7720-78-7: 1

Canada - DSL/NDSL

CAS# 7720-78-7 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 7782-63-0 (listed as Iron salts (soluble)) is listed on the Canadian Ingredient Disclosure List.
CAS# 7720-78-7 is listed on the Canadian Ingredient Disclosure List.

US Federal Regulations

TSCA

CAS# 7782-63-0 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

CAS# 7720-78-7 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 7782-63-0: immediate.

CAS # 7720-78-7: immediate.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

CAS# 7782-63-0 is listed as a Hazardous Substance under the CWA. CAS# 7720-78-7 is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

US State Regulations

CAS# 7782-63-0 can be found on the following state right to know lists: California, (listed as Iron salts (soluble)), Pennsylvania, Minnesota, (listed as Iron salts (soluble)), Massachusetts.

CAS# 7720-78-7 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, (listed as Iron salts (soluble)), Massachusetts.

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

US State Right-to-Know Regulations

Massachusetts Right-to-Know Components:

Ferrous Sulfate Monohydrate CAS-No. 17375-41-6 Revision Date: 1993-04-24

Pennsylvania Right-to-Know Components:

Ferrous Sulfate Monohydrate CAS-No. 17375-41-6 Revision Date: 1993-04-24

New Jersey Right-to-Know Components:

Ferrous Sulfate Monohydrate CAS-No. 17375-41-6 Revision Date: 1993-04-24

International Regulations

Canada

WHMIS Hazard Class: Uncontrolled product; Disclosure at 1%.

16. OTHER INFORMATION

NFPA Rating

Health hazard: 2

Fire Hazard: 0

Reactivity Hazard: 0

HMIS Rating

Health hazard: 2
Physical Hazard 0

Chronic Health Hazard: Flammability: 0

Further information

This SDS summarizes to the best of our knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Chemical Store Inc cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Chemical Store Inc. and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.ChemicalStore.com for additional terms and conditions of sale.

Issuing Date 1/2/2019

Revision Date :

Revision Number :