



# Safety Data Sheet

## Ferrous Sulfate, Heptahydrate, Crystal, ACS

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Ferrous Sulfate (II) , Heptahydrate, Crystal, ACS

**Synonyms/Generic Names:** Ferrous Sulfate; Iron (II) sulfate heptahydrate

**Product Number:** CP-A1449D, CP-M144D, 2260

**Product Use:** Industrial, Manufacturing or Laboratory use

**Manufacturer:** ChemPure Brand Chemicals  
39103 Warren Road  
Westland, MI. 48185

**For More Information Call:** 734-729-1805 (Monday-Friday 8:00-4:30)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

### 2. HAZARDS IDENTIFICATION

**OSHA Hazards:** Target Organ Effect, Harmful by ingestion., Irritant

**Target Organs:** Gastro-intestinal system, Liver

**Signal Word:** Warning

**Pictograms:**



**GHS Classification:**

|                      |             |
|----------------------|-------------|
| Acute toxicity, Oral | Category 4  |
| Skin irritation      | Category 2  |
| Eye irritation       | Category 2A |

**GHS Label Elements, including precautionary statements:**

**Hazard Statements:**

|      |                                |
|------|--------------------------------|
| H302 | Harmful if swallowed.          |
| H315 | Causes skin irritation.        |
| H319 | Causes serious eye irritation. |

**Precautionary Statements:**

|                |                                                                                                                                  |
|----------------|----------------------------------------------------------------------------------------------------------------------------------|
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
|----------------|----------------------------------------------------------------------------------------------------------------------------------|

## Potential Health Effects

|                   |                                                                 |
|-------------------|-----------------------------------------------------------------|
| <b>Eyes</b>       | Causes eye irritation.                                          |
| <b>Inhalation</b> | May be harmful if inhaled. Causes respiratory tract irritation. |
| <b>Skin</b>       | Harmful if absorbed through skin. Causes skin irritation.       |
| <b>Ingestion</b>  | Harmful if swallowed.                                           |

## NFPA Ratings

|                        |               |
|------------------------|---------------|
| <b>Health</b>          | 2             |
| <b>Flammability</b>    | 0             |
| <b>Reactivity</b>      | 0             |
| <b>Specific hazard</b> | Not Available |

## HMIS Ratings

|                   |   |
|-------------------|---|
| <b>Health</b>     | 2 |
| <b>Fire</b>       | 0 |
| <b>Reactivity</b> | 0 |
| <b>Personal</b>   | E |

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| <b>Component</b>              | <b>Weight %</b> | <b>CAS #</b> | <b>EINECS# / ELINCS#</b> | <b>Formula</b>                       | <b>Molecular Weight</b> |
|-------------------------------|-----------------|--------------|--------------------------|--------------------------------------|-------------------------|
| Ferrous Sulfate, Heptahydrate | 100             | 7782-63-0    | 231-753-5                | FeSO <sub>4</sub> •7H <sub>2</sub> O | 278.01 g/mol            |

## 4. FIRST-AID MEASURES

|                   |                                                                                                                                                            |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eyes</b>       | In case of eye contact, rinse with plenty of water and seek medical attention.                                                                             |
| <b>Inhalation</b> | Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention. |
| <b>Skin</b>       | Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.            |
| <b>Ingestion</b>  | <b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.      |

## 5. FIRE-FIGHTING MEASURES

|                                                                      |                                                                                                                     |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Suitable (and unsuitable) extinguishing media</b>                 | Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water.                      |
| <b>Special protective equipment and precautions for firefighters</b> | Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. |
| <b>Specific hazards arising from the chemical</b>                    | Emits toxic fumes (sulfur oxides, iron oxides) under fire conditions. (See also Stability and Reactivity section).  |

## 6. ACCIDENTAL RELEASE MEASURES

|                                                                            |                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal precautions, protective equipment and emergency procedures</b> | See section 8 for recommendations on the use of personal protective equipment.                                                                                                                                             |
| <b>Environmental precautions</b>                                           | Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.                                                                                  |
| <b>Methods and materials for containment and cleaning up</b>               | Pick up and arrange disposal without creating dust. Sweep up and shovel. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations. |

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## 7. HANDLING AND STORAGE

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### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts.

### Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities). Air sensitive. hygroscopic Store under inert gas.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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### Occupational exposure controls:

| Component                       | Exposure Limits     | Basis | Entity |
|---------------------------------|---------------------|-------|--------|
| Ferrous Sulfate<br>Heptahydrate | 1 mg/m <sup>3</sup> | TLV   | ACGIH  |
|                                 | 1 mg/m <sup>3</sup> | PEL   | OSHA   |
|                                 | 1 mg/m <sup>3</sup> | REL   | NIOSH  |

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

### Personal Protection

|                   |                                                                                                             |
|-------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Eyes</b>       | Wear chemical safety glasses with side shields or goggles.                                                  |
| <b>Inhalation</b> | Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator. |
| <b>Skin</b>       | Wear nitrile or rubber gloves, apron or lab coat.                                                           |
| <b>Other</b>      | Not Available                                                                                               |

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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|                                             |                                       |
|---------------------------------------------|---------------------------------------|
| Appearance (physical state, color, etc.)    | Pale green powder.                    |
| Odor                                        | Odorless                              |
| Odor threshold                              | Not Available                         |
| pH                                          | 3.0 - 4.0 at 50 g/l at 25 °C (77 °F)  |
| Melting point/freezing point                | 64 °C (147 °F)                        |
| Initial boiling point and boiling range     | Not Available                         |
| Flash point                                 | Not Flammable                         |
| Evaporation rate                            | Not Available                         |
| Flammability (solid, gas)                   | Not Flammable                         |
| Upper/lower flammability or explosive limit | Not Flammable                         |
| Vapor pressure                              | 14.6 hPa (11.0 mmHg) at 25 °C (77 °F) |
| Vapor density                               | Not Available                         |

|                                        |                              |
|----------------------------------------|------------------------------|
| Density                                | 1.898 g/cm3 at 25 °C (77 °F) |
| Solubility (ies)                       | Completely soluble in water. |
| Partition coefficient: n-octanol/water | Not Available                |
| Auto-ignition temperature              | Not Available                |
| Decomposition temperature              | Not Available                |

## 10. STABILITY AND REACTIVITY

|                                           |                             |
|-------------------------------------------|-----------------------------|
| <b>Chemical Stability</b>                 | Stable                      |
| <b>Possibility of Hazardous Reactions</b> | Will not occur.             |
| <b>Conditions to Avoid</b>                | Excessive heat.             |
| <b>Incompatible Materials</b>             | Strong oxidizing agents     |
| <b>Hazardous Decomposition Products</b>   | Sulfur oxides, iron oxides. |

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

|                    |                                                                                 |
|--------------------|---------------------------------------------------------------------------------|
| <b>Skin</b>        | Not Available                                                                   |
| <b>Eyes</b>        | Not Available                                                                   |
| <b>Respiratory</b> | Not Available                                                                   |
| <b>Ingestion</b>   | LD50 Oral - mouse - 1,520 mg/kg                                                 |
| <b>Other</b>       | LD50 Intraperitoneal - mouse - 245 mg/kg<br>LD50 Intravenous - mouse - 51 mg/kg |

### Carcinogenicity

|              |                                                                                                                                                          |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>IARC</b>  | No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| <b>ACGIH</b> | No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.            |
| <b>NTP</b>   | No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.                 |
| <b>OSHA</b>  | No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.             |

### Signs & Symptoms of Exposure

|                    |                                                                                                                                                                                                                                                                                                         |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Skin</b>        | Irritation, redness, itchiness.                                                                                                                                                                                                                                                                         |
| <b>Eyes</b>        | Irritation, redness, watering eyes, itchiness.                                                                                                                                                                                                                                                          |
| <b>Respiratory</b> | Irritation, coughing, wheezing.                                                                                                                                                                                                                                                                         |
| <b>Ingestion</b>   | May cause gastrointestinal tract disturbances and irritation with nausea, vomiting, colic, constipation, diarrhea, black stool. May also affect behavior/Central Nervous System (somnolence-general depressed activity), respiration, cardiovascular system, liver, kidneys (pink urine discoloration). |

|                                       |               |
|---------------------------------------|---------------|
| <b>Chronic Toxicity</b>               | Not Available |
| <b>Teratogenicity</b>                 | Not Available |
| <b>Mutagenicity</b>                   | Not Available |
| <b>Embryotoxicity</b>                 | Not Available |
| <b>Specific Target Organ Toxicity</b> | Not Available |
| <b>Reproductive Toxicity</b>          | Not Available |
| <b>Respiratory/Skin Sensitization</b> | Not Available |

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## 12. ECOLOGICAL INFORMATION

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### Ecotoxicity

|                             |               |
|-----------------------------|---------------|
| <b>Aquatic Vertebrate</b>   | Not Available |
| <b>Aquatic Invertebrate</b> | Not Available |
| <b>Terrestrial</b>          | Not Available |

|                                      |               |
|--------------------------------------|---------------|
| <b>Persistence and Degradability</b> | Not Available |
| <b>Bioaccumulative Potential</b>     | Not Available |
| <b>Mobility in Soil</b>              | Not Available |
| <b>PBT and vPvB Assessment</b>       | Not Available |
| <b>Other Adverse Effects</b>         | Not Available |

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## 13. DISPOSAL CONSIDERATIONS

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|                           |                                                                                                                                                                                                                              |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Waste Residues</b>     | Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container or residues. |
| <b>Product Containers</b> | Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.             |

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

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## 14. TRANSPORTATION INFORMATION

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|                  |                     |
|------------------|---------------------|
| US DOT           | Not Dangerous Goods |
| TDG              | Not Dangerous Goods |
| IMDG             | Not Dangerous Goods |
| Marine Pollutant | No                  |
| IATA/ICAO        | Not Dangerous Goods |

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## 15. REGULATORY INFORMATION

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|                           |                                                   |
|---------------------------|---------------------------------------------------|
| TSCA Inventory Status     | All ingredients are listed on the TSCA inventory. |
| DSCL (EEC)                | All ingredients are listed on the DSCL inventory. |
| California Proposition 65 | Not Listed                                        |
| SARA 302                  | Not Listed                                        |
| SARA 304                  | Not Listed                                        |
| SARA 311                  | Ferrous sulfate heptahydrate                      |
| SARA 312                  | Ferrous sulfate heptahydrate                      |
| SARA 313                  | Not Listed                                        |
| WHMIS Canada              | Not Listed                                        |

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## 16. OTHER INFORMATION

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| Revision   | Date       |
|------------|------------|
| Revision 1 | 07-19-2012 |
| Revision 2 | 08/15/2013 |
|            |            |

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