

Issue Date 14-Apr-2015

Revision Date 01-Sep-2015

Version 2

1. IDENTIFICATION

Product identifier

Product Name Ferrous Sulfate, Heptahydrate, ACS

Other means of identification

Product Code 3000

UN/ID no. Not Regulated

Synonyms Ferrous sulfate, heptahydrate; Iron (II) sulfate (1:1), heptahydrate; Sulfuric acid, iron (2+) salt (1:1), heptahydrate

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory chemicals.

Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address

Harrell Industries, Inc.
2495 Commerce Drive
Rock Hill, SC 29730

www.harrellindustries.com

Emergency telephone number

Company Phone Number 803-327-6335

Fax Number 803-327-7808

24 Hour Emergency Phone Number 800 633-8253 (PERS)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

Label elements

Emergency Overview

Warning

Hazard statements

Harmful if swallowed
Causes serious eye damage
Causes skin irritation



Appearance blue green crystals	Physical state Solid	Odor Odorless
---------------------------------------	-----------------------------	----------------------

Precautionary Statements - Prevention

Do not breathe dust
 Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
 Specific treatment (see .? on this label)
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTER or doctor/physician
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Immediately call a POISON CENTER or doctor/physician
 IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

Not applicable

Unknown acute toxicity

75% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance**Synonyms**

Ferrous sulfate, heptahydrate; Iron (II) sulfate (1:1), heptahydrate; Sulfuric acid, iron (2+) salt (1:1), heptahydrate.

Formula

FeSO₄.7H₂O

Chemical Name	CAS No.	Weight-%
Ferrous Sulfate Heptahydrate	7782-63-0	100

4. FIRST AID MEASURES

Description of first aid measures

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician if irritation occurs.

Skin contact Wash off immediately with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. Administer oxygen if breathing is difficult. Get medical attention.

Ingestion Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable extinguishing media**

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

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

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, protective equipment and emergency procedures**

Personal precautions Ventilate area of leak or spill. Wear appropriate personal protective equipment.

Environmental precautions

Environmental precautions Absorb liquid with suitable absorbent. Pick up and place in suitable container for reclamation or disposal, using a method that does not generate dust.

Methods and material for containment and cleaning up

Methods for containment Absorb with suitable absorbent. Pick up and place in suitable container for disposal, using a method that does not generate dust.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE**Precautions for safe handling**

Advice on safe handling Keep in a tightly closed container, stored in a cool dry, ventilated area. Protect against physical damage. Maintain a constant temperature not to exceed 24C(75F) Fluctuating temperatures causes product oxidation. DO not use if coated with brownish-yellowish basic ferric sulfate. Isolate from incompatible substances. Containers of this material may be hazardous when empty because they retain product residues (dust, solids).

Conditions for safe storage, including any incompatibilities

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

Incompatible materials Alkalis, soluble carbonates, and oxidizing materials. Reacts in moist air to form ferric sulfate.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ferrous Sulfate Heptahydrate 7782-63-0	TWA: 1 mg/m ³ Fe	(vacated) TWA: 1 mg/m ³ Fe	TWA: 1 mg/m ³ Fe

Appropriate engineering controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Use chemical safety goggles and/or full face shield. Maintain eye wash fountain and quick-drench facilities in work area.

Skin and body protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical state	Solid	Odor	Odorless
Appearance	blue green crystals	Odor threshold	No information available
Color	blue green		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	
Melting point / freezing point	57 °C / 135 °F	Loses water
Boiling point / boiling range	>300 °C / >572 °F	Decomposes
Flash point	81 °C	
Evaporation rate	No Information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	0.3 mmhg @ 20C	
Vapor density	No information available	
Relative density	No information available 1.04 @ 25C	
Water solubility	48.6g/100g water @ 50C(122F)	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	278.02
VOC Content (%)	No information available
Density	1.90

Bulk density No information available

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under ordinary conditions of use and storage.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

Alkalis, soluble carbonates, and oxidizing materials. Reacts in moist air to form ferric sulfate.

Hazardous Decomposition Products

Burning may produce sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.
Eye contact	Causes irritation, redness, and pain.
Skin contact	Causes skin irritation. Redness, itching and pain.
Ingestion	Low toxicity in small quantities but large dosages may cause nausea, vomiting, diarrhea, and black stool. Pink urine discoloration is a strong indicator of iron poisoning. Liver damage, coma, and death from iron poisoning has been recorded.

Information on toxicological effects

Symptoms No information available.

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

Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP

Numerical measures of toxicity - Product Information

12. ECOLOGICAL INFORMATION

Ecotoxicity

Persistence and degradability

Bioaccumulation

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility.
Contaminated packaging	Do not reuse container.

14. TRANSPORT INFORMATION

DOT	Not regulated
UN/ID no.	Not Regulated
Proper shipping name	Ferrous sulfate has an RQ of 1000 lbs, if less than 1000 lbs is in a single container the material is not regulated by D.O.T. as a hazardous material. Bulk Bag and Bulk DOT Description (>1000 lbs in container): Environmentally hazardous substances, Solid, N.O.S. (Ferrous Sulfate) UN3077 Haz. Class 9, Pack. group: III
Special precautions	Ferrous sulfate has an RQ of 1000 lbs, if less than 1000 lbs is in a single container the material is not regulated by D.O.T. as a hazardous material. Bulk Bag and Bulk DOT Description (>1000 lbs in container): Environmentally hazardous substances, Solid, N.O.S. (Ferrous Sulfate) UN3077 Haz. Class 9, Pack. group: III

15. REGULATORY INFORMATION**International Inventories**

TSCA	Complies
DSL/NDL	Does not comply
EINECS/ELINCS	Does not comply
ENCS	Complies
IECSC	Complies
KECL	Does not comply
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations**SARA 313****SARA 311/312 Hazard Categories**

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Ferrous Sulfate Heptahydrate 7782-63-0	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations**California Proposition 65****U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Ferrous Sulfate Heptahydrate 7782-63-0	-	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

<u>NFPA</u>	Health hazards 1	Flammability 0	Instability 0	Physical and Chemical Properties -
<u>HMIS</u>	Health hazards 1	Flammability 0	Physical hazards 0	Personal protection X

Issue Date 14-Apr-2015

Revision Date 01-Sep-2015

Revision Note

No information available

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