

spectrum

chemicals & laboratory products

A Division of Spectrum Chemical Mfg. Corp.

Dear Customer,

This File Contains Both The ANSI Material Safety Data Sheet and The GHS Safety Data Sheet For The Same Product

Spectrum is currently transitioning all chemical product labeling from the ANSI¹ format to the GHS² format (see note below). In order to ensure that you receive complete labeling during the transition, we have included both the ANSI MSDS and the GHS SDS in a single file. The ANSI MSDS is given first, followed by the GHS SDS. Please use whichever matches the container label.

Why It Matters:

The complete precautionary labeling for this chemical consists of BOTH the label on the container AND the matching Material Safety Data Sheet (for ANSI labels) or Safety Data Sheet (for GHS labels). Both elements of the labeling [Label + (M)SDS] are written to be read and understood together, so as to provide complete precautionary information. It is intended for you to read and understood BOTH before handling or using the chemical.

Picking the Right One: 2 Easy Ways To Tell Whether Your Container Has an ANSI Label or a GHS Label

- 1) GHS labels: any pictogram displayed in the upper left-hand corner will be inside a red diamond.
ANSI labels: pictograms, if present, will be inside individual black boxes.
- 2) GHS labels: on the bottom of the right-hand panel of the label, locate the Lot Number. Directly to the left will be a string of control characters, followed by a single letter.
For GHS labels, the string of characters will end in "GHS:"

Label in ANSI Format

<p>CAUTION! MAY BE HARMFUL IF SWALLOWED MAY CAUSE EYE AND SKIN IRRITATION MAY AFFECT BEHAVIOR AND METABOLISM</p> <p>Do not taste or swallow. Avoid contact with eyes, skin and clothing. Avoid breathing mist or vapor. Avoid prolonged or repeated exposure. Use with adequate ventilation. Wash thoroughly after handling.</p> <p>FIRST AID: In case of contact, flush affected area with plenty of water for at least 15 minutes. Remove if worn. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If irritation persists, call a physician.</p> <p>KEEP FROM CHILDREN</p>	<p>SPECTRUM CHEMICALS & LABORATORY PRODUCTS</p> <p>BE159 SIZ SY</p> <p>Benzyl Benzoate (Benzoic Acid Phenylmethyl Ester)</p> <p>U.S.P. CAS 120-51-4</p> <p>CAUTION: For manufacturing, processing or repacking. Read and understand the label and Material Safety Data Sheet (MSDS) prior to use.</p> <p>For chemical emergency, call (800)424-9300</p> <p>www.SpectrumChemical.com</p>	<p>$C_{11}H_{12}O_2$ F.W. 212.24</p> <p>Assay 99.0-100.5% Specific Gravity @ 25°C 1.116-1.120 Congealing Temperature Min: 18.0°C Refractive Index @ 20°C 1.565-1.570 Acidity To pass test</p> <p>MAXIMUM LIMITS</p> <p>Aldehyde 0.05% Residual Solvents To pass test</p> <p>LIGHT SENSITIVE. Keep tightly closed in light-resistant containers.</p> <p>FLUSHED WITH NITROGEN</p>
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Lot No. XQ###

SPECTRUM CHEMICAL MFG. CORP. Gardena, CA 90248 • New Brunswick, NJ 08901

CORPORATE OFFICES
14422 South San Pedro Street
Gardena, California 90248
PHONE 310.516.8000
FAX 310.516.9843

Label in GHS Format

WARNING!

- May irritate or sensitize • May cause central nervous system effects based on animal data
- Do not use or breathe • Wear protective gloves
- After handling
- WASH AND IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Avoid re-use!

KEEP FROM CHILDREN

SPECTRUM™

BE159 SIZ SY

Benzyl Benzoate
(Benzoic Acid Phenylmethyl Ester)

U.S.P.
CAS 129-51-4

CAUTION: For manufacturing processing or shipping, read and understand the label and Safety Data Sheet (SDS) prior to use.

Chemical Emergency: (800)424-9088

www.SpectrumChemical.com

$C_{15}H_{14}O_2$ F.W. 212.24

Assay	99.0-100.5%
Specific Gravity @ 25°C	1.116-1.120
Freezing Temperature	Min. 18.0°C
Refractive Index @ 20°C	1.568-1.570
Acidity	To pass test
MAXIMUM LIMITS	
Aldehyde	0.05%
Residual Solvents	To pass test

LIGHT SENSITIVE: Keep tightly closed in light-resistant containers.

FLUSHED WITH NITROGEN

Lot No. XQ####

¹ American National Standards Institute

² Globally Harmonized System for Hazard Communication

Sincerely,

Regulatory Affairs

SAFETY DATA SHEET

Preparation Date: No data available

Revision Date: 05/08/2015

Revision Number: G1

Product identifier

Product code: F1060
Product Name: FERROUS SULFATE, HEPTAHYDRATE, CRYSTAL, REAGENT, ACS

Other means of identification

Synonyms: Iron Sulfate heptahydrate
CAS #: 7782-63-0
RTECS # OD5525000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier: Spectrum Chemicals and Laboratory Products, Inc.
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

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

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3

Label elements

Warning**Hazard statements**

Harmful if swallowed
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation

**Hazards not otherwise classified (HNOC)**

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves
Wear eye/face protection

Precautionary Statements - Response

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. If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
Ferrous Sulfate, Heptahydrate 7782-63-0	7782-63-0	100	*

4. FIRST AID MEASURES

First aid measures

General Advice:

Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126)

Skin Contact:

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention. If skin irritation persists, call a physician.

Eye Contact:

Flush eye with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

Inhalation:

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms

Causes eye irritation. Eye contact may result in redness or pain. Causes skin irritation. Skin contact may result in redness, pain, inflammation, itching, scaling. May cause irritation of respiratory tract. May cause gastrointestinal disturbances. May cause nausea and vomiting. May cause constipation or diarrhea. black-colored stool. May cause cardiovascular effects. May cause central nervous system effects. May affect the liver. It may affect the kidneys.

Indication of any immediate medical attention and special treatment needed

Notes to Physician:

Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media:

The product is not flammable.

Unsuitable Extinguishing Media:

No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products:

No information available.

Specific hazards:

No information available.

Special Protective Actions for Firefighters

Specific Methods:

No information available.

Special Protective Equipment 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: Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapours/dust. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Air sensitive. Hygroscopic.

Incompatible Materials:

Alkalis. Oxidizing agents. Incompatible with alkalies, soluble carbonates, Au and Ag salts, Pb acetate, lime water, KI, K, and Na tartrate, Na Borate, tannin, vegetable astringent infusions and decoctions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Ferrous Sulfate, Heptahydrate - 7782-63-0	None	1 mg/m ³ TWA(as Fe) (iron soluble salts)	1 mg/m ³ TWA(as Fe) (iron soluble salts)	None

Canada

Components	Alberta	British Columbia	Ontario	Quebec
Ferrous Sulfate, Heptahydrate - 7782-63-0	1 mg/m ³ TWA(as Fe) (iron soluble salts)	1 mg/m ³ TWA(as Fe) (iron soluble salts) 2 mg/m ³ STEL(as Fe) (iron soluble salts)	1 mg/m ³ TWA(as Fe) (iron soluble salts)	1 mg/m ³ TWAEV (as Fe) (iron soluble salts)

Australia and Mexico

Components	Australia	Mexico

Ferrous Sulfate, Heptahydrate 7782-63-0	1 mg/m ³ TWA(as Fe) (iron soluble salts)	1 mg/m ³ TWA(as Fe) (iron soluble salts)
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Appropriate engineering controls

Engineering measures to reduce exposure: Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Safety glasses. Safety glasses with side-shields.

Skin and body protection: Chemical resistant apron. Gloves. Long sleeved clothing.

Respiratory protection: Effective dust mask.

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid.	Appearance: Crystals. Granular.	Color: Blue. Blue green. Light Bluish Green.
Odor: No information available	Taste No information available	Molecular/Formula weight: 278.02
Formula: FeSO ₄ •7H ₂ O	Flash point (°C): No data available	Flashpoint (°C/°F): No information available.
Flash Point Tested according to: Not available	Lower Explosion Limit (%): No information available	Upper Explosion Limit (%): No information available
Autoignition Temperature (°C/°F): No information available	pH: No information available	Melting point/range(°C/°F): No information available
Boiling point/range(°C/°F): No information available	Decomposition temperature(°C/°F): No information available	Bulk density: No information available
Specific gravity: 1.898	Density (g/cm³): No information available	Vapor pressure @ 20°C (kPa): No information available
Evaporation rate: No information available	Vapor density: No information available	VOC content (g/L): No information available
Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): No information available	Viscosity: No information available
Miscibility: No information available	Solubility: Soluble in cold water	

10. STABILITY AND REACTIVITY

Reactivity

Reactive with alkalis
Reactive with oxidizing agents
Hygroscopic. It absorbs moisture from the air
Oxidizes when in contact with moisture/moist air to form ferric sulfate

Chemical stability

Stability: Sensitive to air. Stable at normal conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Exposure to moist air. Exposure to moisture. Exposure to air. Incompatible materials.

Incompatible Materials: Alkalis. Oxidizing agents. Incompatible with alkalies, soluble carbonates, Au and Ag salts, Pb acetate, lime water, KI, K, and Na tartrate, Na Borate, tannin, vegetable astringent infusions and decoctions.

Hazardous decomposition products: No information available

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Ingestion. Inhalation.

Acute Toxicity

Component Information

Ferrous Sulfate, Heptahydrate - 7782-63-0

LD50/oral/rat = No information available
LD50/oral/mouse = 1520 mg/kg Oral LD50 Mouse
LD50/dermal/rat = No information available
LD50/dermal/rabbit = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =
Value - Acute Tox Oral = 1520mg/kg

Product code: F1060

Product name: FERROUS SULFATE,
HEPTAHYDRATE, CRYSTAL,
REAGENT, ACS

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LD50/dermal/rabbit

VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat

VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat

VALUE-Vapor = No information available

VALUE-Gas = No information available

VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms**Skin Contact:** Causes skin irritation.**Eye Contact:** Causes serious eye irritation.**Inhalation
Ingestion** May cause respiratory tract irritation.
Harmful if swallowed. May cause gastrointestinal tract disturbances and irritation with nausea, vomiting, colic, constipation, diarrhea, black stool. May also affect behavior/Central Nervous System (somnia -general depressed activity), respiration, cardiovascular system, liver, kidneys (pink urine discoloration).**Aspiration hazard** No information available**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Chronic Toxicity** Repeated exposure via ingestion may increase iron levels in the liver, and spleen. Damage may occur to spleen and liver. It may also affect the brain, and blood (changes in serum composition)..**Sensitization:** No information available**Mutagenic Effects:** May affect genetic material
Mutations in microorganisms
Experiments with bacteria and/or yeast have shown mutagenic effects**Carcinogenic effects:** Not considered carcinogenic

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Ferrous Sulfate, Heptahydrate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

Reproductive toxicity No data is available**Reproductive Effects:** No information available
Developmental Effects: No information available**Product code:** F1060**Product name:** FERROUS SULFATE,
HEPTAHYDRATE, CRYSTAL,
REAGENT, ACS**7 / 12**

Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure Respiratory Tract.
STOT - repeated exposure No information available
Target Organs: Respiratory system. Liver.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.
Persistence and degradability: No information available
Bioaccumulative potential: No information available
Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ferrous Sulfate, Heptahydrate	None	None	None	None

14. TRANSPORT INFORMATION

DOT
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: None
ERG No: No information available
Marine Pollutant No data available
DOT RQ (lbs): 1000 lbs.

TDG (Canada)
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available

Product code: F1060

Product name: FERROUS SULFATE,
HEPTAHYDRATE, CRYSTAL,
REAGENT, ACS

14. TRANSPORT INFORMATION

Description: No information available

ADR

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available
IMDG Page: No information available
Marine Pollutant No information available
MFAG: No information available
Maximum Quantity: No information available

RID

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Classification Code: No information available
Description: No information available

ICAO

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available

IATA

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available

15. REGULATORY INFORMATION

International Inventories

Product code: F1060

Product name: FERROUS SULFATE,
HEPTAHYDRATE, CRYSTAL,
REAGENT, ACS

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Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Ferrous Sulfate, Heptahydrate</i>	Not Listed	Not present	Present	Present (1)-359	Present	Present	Not present

U.S. Regulations

Ferrous Sulfate, Heptahydrate

Massachusetts RTK: Present

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Pennsylvania RTK: Environmental hazard

Pennsylvania RTK - Environmental Hazard List Present

Pennsylvania RTK - Special Hazardous Substances Present

Minnesota - Hazardous Substance List: Present (as iron soluble salts/Fe)

New York Release Reporting - List of Hazardous Substances:

= 100 lb RQ

= 1000 lb RQ

Louisiana Reportable Quantity List for Pollutants: Listed

California Directors List of Hazardous Substances: Present (iron soluble salts)

FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1315

FDA - 21 CFR - Total Food Additives 184.1315

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>Ferrous Sulfate, Heptahydrate</i>	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
<i>Ferrous Sulfate, Heptahydrate</i>	= 1000 lb final RQ	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
<i>Ferrous Sulfate, Heptahydrate</i>	Not Applicable	Not Applicable

Canada

WHMIS hazard class:

Non-controlled

Ferrous Sulfate, Heptahydrate

Uncontrolled product according to WHMIS classification criteria

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Product code: F1060

Product name: FERROUS SULFATE,
HEPTAHYDRATE, CRYSTAL,
REAGENT, ACS

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**Ferrous Sulfate, Heptahydrate
Inventory**

Components	Canada (DSL)	Canada (NDSL)
Ferrous Sulfate, Heptahydrate	Not Listed	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Ferrous Sulfate, Heptahydrate	Not listed	Not listed

EU Classification

R-phrase(s)

R22 - Harmful if swallowed.

R36/38 - Irritating to eyes and skin.

S -phrase(s)

S46 - If swallowed, seek medical advice immediately and show this container or label.

Components	Classification	Concentration Limits:	Safety Phrases
Ferrous Sulfate, Heptahydrate	Xn; R22 Xi; R36/38	No information	S2 S46

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Xn - Harmful.

Xn



16. OTHER INFORMATION

16. OTHER INFORMATION

Revision Date: 05/08/2015
Prepared by: Sonia Owen

Disclaimer: All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet

Material Safety Data Sheet

NFPA 	HMIS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="background-color: #FFCCCC;">Fire Hazard</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center;">0</td> </tr> </table>	Health Hazard	2	Fire Hazard	0	Reactivity	0	Personal Protective Equipment  See Section 15.
Health Hazard	2							
Fire Hazard	0							
Reactivity	0							

Section 1. Chemical Product and Company Identification		Page Number: 1
Common Name/Trade Name	Ferrous sulfate heptahydrate	Catalog Number(s). XX236, F1060, F1062, FE110 CAS# 7782-63-0
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	RTECS OD5525000 TSCA TSCA 8(b) inventory: No products were found. It is exempt from TSCA 8(b) inventory listing since it is a hydrate
Commercial Name(s)	Fesofo; Fesotyme; Green vitrol; Iron protosulfate; Ironate; Irosul; Mol-iron; Presfersul	CI# Not available.
Synonym	Iron Sulfate heptahydrate	<u>IN CASE OF EMERGENCY</u> <u>CHEMTREC (24hr) 800-424-9300</u> CALL (310) 516-8000
Chemical Name	Iron (II) Sulfate (1:1), heptahydrate	
Chemical Family	Not available.	
Chemical Formula	FeSO4.7H2O	
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	

Section 2. Composition and Information on Ingredients					
Name	CAS #	Exposure Limits			% by Weight
		TWA (mg/m ³)	STEL (mg/m ³)	CEIL (mg/m ³)	
1) Ferrous sulfate heptahydrate	7782-63-0	1		2	100

Toxicological Data on Ingredients	Ferrous sulfate heptahydrate: ORAL (LD50): Acute: 1520 mg/kg [Mouse].
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Section 3. Hazards Identification	
Potential Acute Health Effects	Hazardous in case of eye contact (irritant). Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.
Potential Chronic Health Effects	CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to liver. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Serious Inhalation	Not available.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill	Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions	Do not ingest. Do not breathe dust. Avoid contact with eyes. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, alkalis.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area. Hygroscopic. Air Sensitive.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	TWA: 1 (mg(Fe)/m ³) from ACGIH (TLV) [United States] TWA: 1 STEL: 2 (mg(Fe)/m ³) [United Kingdom (UK)] TWA: 1 STEL: 2 (mg(Fe)/m ³) [Canada] Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid.	Odor	Not available.
Molecular Weight	278.01 g/mole	Taste	Not available.
pH (1% soln/water)	Not available.	Color	Blue to blue-green. (Light.)
Boiling Point	Not available.		
Melting Point	Not available.		
Critical Temperature	Not available.		
Specific Gravity	1.898 (Water = 1)		
Vapor Pressure	Not applicable.		
Vapor Density	Not available.		
Volatility	Not available.		
Odor Threshold	Not available.		
Water/Oil Dist. Coeff.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	See solubility in water.		
Solubility	Soluble in cold water.		

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Incompatibles
Incompatibility with various substances	Reactive with oxidizing agents, alkalis.
Corrosivity	Not available.

Special Remarks on Reactivity	Hygroscopic. Oxidizes when in contact with moisture/moist air to form ferric sulfate. Air Sensitive. Incompatible with alkalis, soluble carbonates, Au and Ag salts, Pb acetate, lime water, KI, K, and Na tartrate, Na Borate, tannin, vegetable astringent infusions and decoctions.
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Inhalation. Ingestion.
Toxicity to Animals	Acute oral toxicity (LD50): 1520 mg/kg [Mouse].
Chronic Effects on Humans	MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. May cause damage to the following organs: liver.
Other Toxic Effects on Humans	Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.
Special Remarks on Toxicity to Animals	Lowest Published Lethal Dose LDL [Rat] - Route: Oral; Dose: 1389 mg/kg
Special Remarks on Chronic Effects on Humans	May affect genetic material (mutagenic)
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: May cause skin irritation. Eyes: Causes eye irritation. Inhalation: May cause respiratory tract irritation. Ingestion: May be harmful if swallowed. 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). Chronic Potential Health Effects: Repeated exposure via ingestion may increase iron levels in the liver, and spleen. Damage may occur to spleen and liver. It may also affect the brain, and blood (changes in serum composition).

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are less toxic than the product itself.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
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Section 14. Transport Information

DOT Classification Not a DOT controlled material (United States).

Identification Not applicable.

Special Provisions for Transport Not applicable.

DOT (Pictograms)



Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations

Connecticut carcinogen reporting list.: Ferrous sulfate heptahydrate
 New York release reporting list: Ferrous sulfate heptahydrate
 Rhode Island RTK hazardous substances: Ferrous sulfate heptahydrate
 Pennsylvania RTK: Ferrous sulfate heptahydrate
 Minnesota: Ferrous sulfate heptahydrate
 Massachusetts RTK: Ferrous sulfate heptahydrate
 New Jersey spill list: Ferrous sulfate heptahydrate
 Louisiana spill reporting: Ferrous sulfate heptahydrate
 California Director's List of Hazardous Substances: Ferrous sulfate heptahydrate
 CERCLA: Hazardous substances.: Ferrous sulfate heptahydrate: 1000 lbs. (453.6 kg)

California Proposition 65 Warnings

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.
 California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

Other Regulations

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
 EINECS: This product is not on the European Inventory of Existing Commercial Chemical Substances.
 Canada: Not listed on Canadian Domestic Substance List (DSL) or Canadian Non- Domestic Substance List (NDSL).
 China: Listed on National Inventory.
 Japan: Listed on National Inventory (ENCS).
 Korea: Not listed on National Inventory (KECI).
 Philippines: Listed on National Inventory (PICCS).
 Australia: Listed on AICS.

Other Classifications

WHMIS (Canada) Not controlled under WHMIS (Canada).
DSCL (EEC) R22- Harmful if swallowed. S46- If swallowed, seek medical advice immediately and show this container or label.
 R36/38- Irritating to eyes and skin.

HMIS (U.S.A.)

Health Hazard	2
Fire Hazard	0
Reactivity	0
Personal Protection	E

National Fire Protection Association (U.S.A.)

Health  Flammability
 Reactivity
 Specific hazard

WHMIS (Canada) (Pictograms)



DSCL (Europe) (Pictograms)



**TDG (Canada)
(Pictograms)**



**ADR (Europe)
(Pictograms)**



Protective Equipment



Gloves.



Lab coat.



Dust respirator. Be sure to use an approved/certified respirator or equivalent.



Splash goggles.

Section 16. Other Information

MSDS Code F3240

References Not available.

Other Special Considerations Not available.

Validated by Sonia Owen on 6/3/2011.

Verified by Sonia Owen.

Printed 6/3/2011.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.