

# SAFETY DATA SHEET

Preparation Date: 04/09/2015

Revision Date: 04/09/2015

Revision Number: G1

**Product identifier**

**Product code:** F1305  
**Product Name:** FERRIC SUBSULFATE SOLUTION, USP

**Other means of identification**

**Synonyms:** Monsel's Solution  
**CAS #:** Mixture  
**RTECS #** Not available  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** Styptic agent used after minor surgical procedures, such as curettage and biopsies, to control bleeding and achieve hemostasis.  
**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 not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Label elements**

Not classified

**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Not available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
Water 7732-18-5	7732-18-5	78-80	*
Ferric Sub sulfate 1310-45-8	1310-45-8	20-22	*

### 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. Get medical attention if irritation develops.

##### **Eye Contact:**

Flush eye with water for 15 minutes. Get medical attention if irritation occurs.

##### **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. Consult a physician if necessary.

#### **Most important symptoms and effects, both acute and delayed**

##### **Symptoms**

May cause eye/skin irritation. gastroenteritis. May cause abdominal pain, nausea, vomiting, diarrhea. black-colored stool. pink-colored urine. May affect the cardiovascular system. Central nervous system effects. Drowsiness. Convulsions. lethargy. May affect the liver. It may affect the kidneys. May cause metabolic acidosis.

#### **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. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

##### **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:**

Extinguish fire using an agent suitable for type of surrounding fire, the substance itself does not burn.

**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.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers.

**Methods and material for containment and cleaning up**

**Methods for containment** Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up** Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. 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 vapors or spray mist. Protect from light. Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities****Technical Measures/Storage Conditions:**

Sensitive to light. Store in light-resistant containers. Keep container tightly closed in a dry and well-ventilated place. Store at temperature over 22 deg. C. Crystallization may occur if the solution is exposed to temperatures below 22 deg. C. Crystals will redissolve up gentle warming.

**Incompatible Materials:**

No information available.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters****National occupational exposure limits****United States**

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Water - 7732-18-5	None	None	None	None
Ferric Subsulfate - 1310-45-8	None	None	None	None

## Canada

Components	Alberta	British Columbia	Ontario	Quebec
Water - 7732-18-5	None	None	None	None
Ferric Subsulfate - 1310-45-8	None	None	None	None

## Australia and Mexico

Components	Australia	Mexico
Water 7732-18-5	None	None
Ferric Subsulfate 1310-45-8	None	None

### Appropriate engineering controls

**Engineering measures to reduce exposure:** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

- Eye protection:** Goggles.
- Skin and body protection:** Chemical resistant apron. Gloves.
- Respiratory protection:** Respiratory protection is not necessary for normal handling. Good room ventilation or use of local exhaust (fume hood) is sufficient. Use a vapor respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapor, inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent. .
- Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Physical state:</b> Liquid.	<b>Appearance:</b> No information available	<b>Color:</b> Reddish-Brown.
<b>Odor:</b> Slight. Practically odorless.	<b>Taste</b> Astringent. Sour. Strong.	<b>Molecular/Formula weight:</b> 737.71 g/mol
<b>Formula:</b> Fe <sub>4</sub> (OH) <sub>2</sub> (SO <sub>4</sub> ) <sub>5</sub>	<b>Flash point (°C):</b> No data available	<b>Flashpoint (°C/°F):</b> No information available.
<b>Flash Point Tested according to:</b> Not available	<b>Lower Explosion Limit (%):</b> No information available	<b>Upper Explosion Limit (%):</b> No information available
<b>Autoignition Temperature (°C/°F):</b> No information available	<b>pH:</b> No information available	<b>Melting point/range(°C/°F):</b> No information available
<b>Boiling point/range(°C/°F):</b> No information available	<b>Decomposition temperature(°C/°F):</b> No information available	<b>Bulk density:</b> No information available
<b>Specific gravity:</b> 1.5-1.548	<b>Vapor pressure @ 20°C (kPa):</b> No information available	<b>Density (g/cm<sup>3</sup>):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> No information available	<b>Viscosity:</b> No information available
<b>Miscibility:</b> Miscible with water	<b>Solubility:</b> Easily soluble in cold water Easily soluble in hot water	

## 10. STABILITY AND REACTIVITY

### Reactivity

No information available

### Chemical stability

#### **Stability:**

Sensitive to light. Exposure to light accelerates decomposition. Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Exposure to light. Temperatures below 22°C.

**Incompatible Materials:** No information available.

**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:**  
Skin. Eyes. Ingestion.

**Acute Toxicity**

**Component Information**

*Water - 7732-18-5*

**LD50/oral/rat** = > 90 mL/kg Oral LD50 Rat  
**LD50/oral/mouse** = No information available  
**LD50/dermal/rabbit** = No information available  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = No information available

*Ferric Subsulfate - 1310-45-8*

**LD50/oral/rat** = No information available  
**LD50/oral/mouse** = No information available  
**LD50/dermal/rabbit** = No information available  
**LD50/dermal/rat** = 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** = No information available

**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:** May cause skin irritation.

**Eye Contact:** Splashes may cause eye irritation.

**Inhalation** Not expected to be an inhalation hazard. Inhalation of mist or vapors may cause respiratory tract irritation.

**Ingestion** May be harmful if swallowed. There is a low toxicity in small quantities, but large doses may lead to iron poisoning and cause gastrointestinal tract irritation (gastroenteritis) with nausea, retching & vomiting, abdominal pain, hypermotility, diarrhea, colic or constipation, and black stool. Liver damage and kidney failure have also been reported from iron poisoning. Pink urine discoloration is a strong indicator of iron poisoning. Iron poisoning may also affect behavior/Central Nervous System (seizures/convulsions, lethargy, drowsiness, hyporeflexia, coma), respiratory system (cyanosis, pulmonary), cardiovascular system (weak pulse, tachycardia, hypotension), metabolism (metabolic acidosis), and blood (leukocytosis). It may also cause coagulation defects, and hypoglycemia.

**Aspiration hazard** No information available

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

**Chronic Toxicity** Prolonged eye contact may cause a brownish discoloration of the eyes. Prolonged or repeated ingestion may lead to much Iron build-up in the body, particularly in the liver and cause liver damage. Symptoms of chronic iron poisoning may be similar that of acute ingestion.

**Sensitization:** No information available

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Not considered carcinogenic

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Water	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Ferric Sub sulfate	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  
**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available  
**STOT - repeated exposure** No information available  
**Target Organs:** 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
Water	None	None	None	None
Ferric Subsulfate	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:** Not applicable  
**Packing Group:** None  
**ERG No:** No information available  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** No information available

#### 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  
**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



## 14. TRANSPORT INFORMATION

**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

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Water	Present	Present KE-35400	Present	Not present	Present	Present	Present 231-791-2
Ferric Subsulfate	Present	Present KE-21089	Not present	Present (1)-359	Not present	Present	Present 215-179-2

### U.S. Regulations

#### 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:
Water	Not Listed	Not Listed	Not Listed	Not Listed
Ferric Subsulfate	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>
Water	None	None	None	None	None
Ferric Subsulfate	None	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
Water	Not Applicable	Not Applicable
Ferric Subsulfate	Not Applicable	Not Applicable

**Canada****WHMIS hazard class:**

Non-controlled

**Water**

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.

**Inventory**

Components	Canada (DSL)	Canada (NDSL)
Water	Present	Not Listed
Ferric Subsulfate	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Water	Not listed	Not listed
Ferric Subsulfate	Not listed	Not listed

**EU Classification****S -phrase(s)**

none

Components	Classification	Concentration Limits:	Safety Phrases
Water		No information	
Ferric Subsulfate		No information	

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

**Indication of danger:**

None.

## 16. OTHER INFORMATION

**Preparation Date:** 04/09/2015  
**Revision Date:** 04/09/2015  
**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**