SAFETY DATA SHEET

SECTION 1: PRODUCT IDENTIFICATION

PRODUCT NAME: FERRIC SUBSULFATE, USP (Monsel's Solution)
PRODUCT CODE: 1284
SUPPLIER:

- MEDISCA Inc.
  Tel.: 1.800.932.1039 | Fax.: 1.855.850.5855
  661 Route 3, Unit C, Plattsburgh, NY, 12901
  3955 W. Mesa Vista Ave., Unit A-10, Las Vegas, NV, 89118
  6641 N. Belt Line Road, Suite 130, Irving, TX, 75063

- MEDISCA Pharmaceutique Inc.
  Tel.: 1.800.665.6334 | Fax.: 514.338.1693
  4509 Rue Dobrin, St. Laurent, QC, H4R 2L8
  21300 Gordon Way, Unit 153/158, Richmond, BC V6W 1M2

- MEDISCA Australia PTY LTD
  Tel.: 1.300.786.392 | Fax.: 61.2.9700.9047
  Unit 7, Heritage Business Park
  5-9 Ricketty Street, Mascot, NSW 2020

EMERGENCY PHONE:

CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300
NSW Poisons Information Centre: 131 126

USES:
Dermatological Agent (stygic agent for topical and vaginal use only)

SECTION 2: HAZARDS IDENTIFICATION

GHS CLASSIFICATION: Based on available data, the classification criteria are not met.
Pictogram: Not applicable
Signal Word: Not applicable
Hazard Statement(s):
- Repeated exposure may cause skin dryness or cracking.

Australia-only Hazards:

Precautionary Statement(s):
- Prevention: Not applicable
- Response: Not applicable
- Storage: Not applicable
- Disposal: Not applicable

HMIS Classification:
- Health Hazard: 0
- Flammability: 0
- Reactivity: 0
- Personal Protection: E

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name: Basic Ferric Sulfate Solution
Botanical Name: Not applicable
Synonym: Ferric Subsulfate Solution
Chemical Formula: Fe₄(OH)₂(SO₄)₅
CAS Number: 1310-45-8
Alternate CAS Number: Not applicable
SAFETY DATA SHEET

MOLECULAR WEIGHT
737.704

COMPOSITION

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS NUMBER</th>
<th>% BY WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>FERRIC SUBSULFATE (Solution)</td>
<td>1310-45-8</td>
<td>100</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as health hazards and hence require reporting in this section.

NOTES
Ferrous sulfate oxidised with nitric and sulfuric acids yields ferric subsulfate solution, also known as Monsel's solution.

SECTION 4: FIRST-AID MEASURES

IN CASE OF EYE CONTACT
Flush with copious amounts of water for 15 minutes, separating eyelids with fingers. If irritation persists seek medical aid.

IN CASE OF SKIN CONTACT
Wash with soap & water for 15 minutes. If irritation persists seek medical aid.

IF SWALLOWED
Call a physician. Wash out mouth with water. Do not induce vomiting without medical advice.

IF INHALED
Not expected to present a significant hazard under anticipated conditions of normal use.

SECTION 5: FIREFIGHTING MEASURES

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL
Not applicable

FLAMMABLE PROPERTIES
May be combustible at high temperature.

HAZARDOUS COMBUSTION PRODUCTS
Under fire conditions, hazardous fumes will be present.

EXTINGUISHING MEDIA
Small fire: dry chemical, CO₂ or water spray. Large fire: dry chemical, CO₂, alcohol resistant foam or water spray. Do not get water inside containers.

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS
Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

METHODS & MATERIAL FOR CONTAINMENT
On land, sweep or shovel into suitable containers.

CLEANUP PROCEDURE
Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Shut off all sources of ignition. Evacuate the area. If necessary, employ water fog to disperse the vapors. Absorb the matter with compatible vermiculite or other absorbing material. Place in a suitable container and retain for disposal. Ventilate and clean the affected area. Do not flush into sewerage system or to drains.

SECTION 7: HANDLING AND STORAGE
PRECAUTIONS FOR SAFE HANDLING

Do not inhale. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Wash thoroughly after handling. Store away from incompatible materials, in a well-ventilated area. Eliminate all sources of ignition. Store in accordance with local regulations. Do not store in unlabelled containers. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Use appropriate containment to avoid environmental contamination.

STORAGE CONDITIONS

Store in original container, tightly sealed, protected from direct sunlight and moisture. Crystallization may occur if the solution is exposed to temperatures below 22°C. Warming will redissolve the crystals. Preserve in tight, light-resistant containers at temperatures above 22°C.

SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Chemical Name: FERRIC SUBSULFATE (Solution)</th>
<th>CAS #: 1310-45-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWA</td>
<td>Ceiling</td>
</tr>
<tr>
<td>OSHA PEL</td>
<td>N/L</td>
</tr>
<tr>
<td>ACGIH TLV</td>
<td>N/L</td>
</tr>
<tr>
<td>NIOSH</td>
<td>N/L</td>
</tr>
<tr>
<td>AIHA WEEL</td>
<td>N/L</td>
</tr>
<tr>
<td>Safe Work Australia HSIS</td>
<td>N/L</td>
</tr>
<tr>
<td>HSE</td>
<td>N/L</td>
</tr>
</tbody>
</table>

N/L = Not Listed

EXPOSURE GUIDELINES

Consult local authorities for provincial or state exposure limits. Particulates not otherwise regulated, respirable fraction: 5 mg/m³

PERSONAL PROTECTIVE EQUIPMENT

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by WHMIS or OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Skin: Wear appropriate gloves to prevent skin exposure. Clothing: Wear appropriate protective clothing to minimize contact with skin. Respirators: Follow WHMIS or OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

SPECIFIC ENGINEERING CONTROLS

Adequate mechanical ventilation. Fume hood, eye wash station, and safety shower.

NOTES

Portugal TWA: 1 mg/m³
Netherlands MAC: 0.1
Norway TWA: 1 mg/m³
Norway STEL: 3mg/m³

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE

Liquid

DESCRIPTION

Reddish brown liquid, odorless or nearly so. Is affected by light.

SOLUBILITY

Not available.

ODOR

Odorless or nearly so

FLAMMABILITY

May be combustible at high temperature

ODOR THRESHOLD

Not available

pH

Not available

MELTING POINT

Not available

BOILING POINT

Not available

FREEZING POINT

Not available

FLASH POINT

Not available
# SAFETY DATA SHEET

<table>
<thead>
<tr>
<th>Specific Gravity</th>
<th>Evaporation Rate</th>
<th>Explosive Limit</th>
<th>Not Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.548 (20°C)</td>
<td>Not available</td>
<td>Not available</td>
<td></td>
</tr>
<tr>
<td>Upper Flammable/Explosive Limit(S)</td>
<td>Not available</td>
<td>Not available</td>
<td></td>
</tr>
<tr>
<td>Lower Flammable/Explosive Limit(S)</td>
<td>Not available</td>
<td>Not available</td>
<td></td>
</tr>
<tr>
<td>Vapour Density (Air = 1)</td>
<td>Not available</td>
<td>Not available</td>
<td></td>
</tr>
<tr>
<td>Relative Density (Water = 1)</td>
<td>Not available</td>
<td>Not available</td>
<td></td>
</tr>
<tr>
<td>Auto-Ignition Temperature</td>
<td>Not available</td>
<td>Not available</td>
<td></td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available</td>
<td>Not available</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
<td>Not available</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES**
The physical data presented above are typical values and should not be construed as a specification.

## SECTION 10: STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Reactivity</th>
<th>Not established.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Stable under recommended storage conditions.</td>
</tr>
<tr>
<td>Materials to Avoid</td>
<td>Strong oxidants.</td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides and other gases may occur.</td>
</tr>
<tr>
<td>Hazardous Polymerization</td>
<td>Will not occur.</td>
</tr>
<tr>
<td>Possibility of Hazardous Reaction</td>
<td>Not established.</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>Moisture, sunlight and extreme temperatures and temperatures below 22°C.</td>
</tr>
</tbody>
</table>

## SECTION 11: TOXICOLOGICAL INFORMATION

| Acute Toxicity | Oral: Rat: LD₅₀: (mg/kg): Not available  
Dermal: Rabbit: LD₅₀: (mg/kg): Not available  
Inhalation: Rat: LC₅₀: (mg/L/4hr): Not available |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>Due to lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Due to lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Respiratory or Skin Sensitization</td>
<td>Due to lack of data the classification is not possible.</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>Due to lack of data the classification is not possible.</td>
</tr>
</tbody>
</table>
| Carcinogenicity | OSHA: FERRIC SUBSULFATE is not listed.  
NTP: FERRIC SUBSULFATE is not listed.  
IARC: FERRIC SUBSULFATE is not evaluated.  
California Proposition 65: This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm. |
| Additional Carcinogenicity Information | Due to lack of data the classification is not possible. |
| Reproductive Toxicity | Due to lack of data the classification is not possible. |
SAFETY DATA SHEET

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE
Due to lack of data the classification is not possible.

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE
Due to lack of data the classification is not possible.

ASPIRATION HAZARDS
Due to lack of data the classification is not possible.

SIGNs AND SYMPTOMs OF EXPOSURE
Not expected to present a significant hazard under anticipated conditions of normal use.
Large doses may lead to iron poisoning and cause abdominal pain, nausea, retching and vomiting, hypermotility, diarrhoea, colic or constipation and black stool. May affect the urinary system/kidneys. May cause liver damage consisting of hemorrhagic necrosis. May affect CNS (somnolence-general depressed activity, seizures, irritability, drowsiness, hyporeflexia, coma), respiration, cardiovascular system (weak pulse, hypotension), metabolism (metabolic acidosis) and blood (leukocytosis). Repeated high exposure may lead to iron build-up in the body causing nausea, vomiting, stomach pain, constipation or diarrhoea, black bowel movements, mild lethargy, irritability, leukocytosis, normocytic anaemia, hemochromatosis in the Kupfer cells of the liver or in the reticuloendothelial cells of the bone marrow. Damage may occur to the spleen, lymphatic system, and liver. Fibrosis or other damage may also occur to the pancreas. Symptoms may include hypoglycemia, hyperglycemia. Prolonged eye contact may cause brownish discoloration of eyes.

POTENTIAL HEALTH EFFECTs
- **Inhalation**: May be harmful if inhaled. May cause respiratory tract irritation.
- **Ingestion**: May be harmful if swallowed.
- **Skin**: May be harmful if absorbed through skin. May cause skin irritation.
- **Eyes**: May cause eye irritation.

SECTION 12: ECOLOGICAL INFORMATION

**TOXICITY**
- EC50: 48 Hr: Crustacea: (mg/L): Not available
- LC50: 96 Hr: Fish: (mg/L): Not available
- EC50: 72 or 96 Hr: Algae (or other aqua plants): (mg/L): Not available

**PERSISTENCE AND DEGRADABILITY**
Inorganic.

**BIOACCUMULATIVE POTENTIAL**
Not available

**MOBILITY IN SOIL**
Not available

**OTHER ADVERSE EFFECTS**
This product is not intended to be released into the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL**
Dispose of in accordance with federal / local laws and regulations. Avoid release into the environment.

SECTION 14: TRANSPORT INFORMATION

**UNITED STATES & CANADA**
- **UN PROPER SHIPPING NAME**: Not dangerous good
- **UN NUMBER**: Not applicable
- **CLASS**: Not applicable
- **PACKING GROUP**: Not applicable

**AUSTRALIA**

Last Revision: 11/2018
SAFETY DATA SHEET

UN PROPER SHIPPING NAME
Not dangerous good

UN NUMBER
Not applicable

CLASS
Not applicable

PACKING GROUP
Not applicable

HAZCHEM
Not applicable

ENVIRONMENTAL HAZARDS
Not available

SPECIAL SHIPPING INFORMATION
Not applicable

SECTION 15: REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>Chemical Name &amp; CAS</th>
<th>CERCLA 40 CFR Part 302.4</th>
<th>SARA (Title III) 40 CFR Part 372.65</th>
<th>EPA 40 CFR Part 355 Appendix A</th>
<th>Appendix B</th>
<th>Pennsylvania</th>
<th>Right-to-know New Jersey</th>
<th>Massachusetts</th>
<th>California Prop 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>FERRIC SUBSULFATE (Solution) 1310-45-8</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
</tr>
</tbody>
</table>

N/L = Not Listed; X = Listed

AUSTRALIAN REGULATIONS

<table>
<thead>
<tr>
<th>Chemical Name &amp; CAS</th>
<th>Poisons and Therapeutic Goods Regulation</th>
<th>Therapeutic Goods Act</th>
<th>Code of Practices - Illicit Drug Precursors</th>
</tr>
</thead>
<tbody>
<tr>
<td>FERRIC SUBSULFATE (Solution) 1310-45-8</td>
<td>N/L</td>
<td>N/L</td>
<td>N/L</td>
</tr>
</tbody>
</table>

SECTION 16: OTHER INFORMATION

REFERENCES
Available upon request

ABBREVIATIONS AND ACRONYMS
CAS – Chemical Abstract Service; GHS – Global Harmonized System; OSHA PEL – Occupational Safety & Health Administration Permissible Exposure Limits; TWA – Time Weighted Average; HSIS – Hazardous Substances Information System; STEL – Short Term Exposure Limit; AIHA WEEL – American Industrial Hygiene Association Workplace Environment Exposure Levels; LD₅₀ – Lethal Dose, 50%; IARC – International Agency for Research on Cancer; NTP – National Toxicology Program; WHMIS – Workplace Hazardous Materials Information System; SARA – Superfund Amendments and Reauthorization Act; EPA – Environmental Protection Agency; CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act; HMIS – Hazardous Materials Information System; NIOSH – National Institute for Occupational Safety and Health; MSHA – Mine Safety and Health Administration; ACGIH – American Conference of Governmental Industrial Hygienists; IDHL – Immediately Dangerous to Health or Life; TLV – Threshold Limit Value; HSE – Health and Safety Executive; REL - Recommended Exposure Limit

LAST REVISION
11/2018

SUPERSEDES
12/2015
This document was created in accordance with OSHA, Safe Work Australia and WHMIS regulations. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. MEDISCA® shall not be held liable for any damage resulting from handling or from contact with the above product. Recipients of the product must take responsibility for observing existing laws and regulations.