

# SAFETY DATA SHEET

## FERRIC CHLORIDE SOLUTION, 29%

### Section 1 - Chemical Product and Company Identification

**SDS Name:** Ferric Chloride Solution, 29%

**Catalog Numbers:** SO-125A

**Company Identification:** Transene Company, Inc., DBA ROWLEY BIOCHEMICAL Inc.  
10 ELECTRONICS AVENUE  
DANVERS, MA 01923

**For information, call:** 978-739-4883

**Emergency Number:** 800-424-9300

**For CHEMTREC assistance, call:** 800-424-9300

### Section 2 - Hazards Identification

#### GHS Classifications

H290-Corrosive to metals: 1

H302-Acute toxicity, oral: 4

H314-Skin corrosion/irritation: 1B

H318-Serious eye damage/eye irritation: 1

H332-Acute toxicity, inhalation: 4

H371-Specific target organ toxicity, single exposure: 2

H373-Specific target organ toxicity, repeated exposure: 2

#### Pictograms or Hazard symbols and Hazard statement(s):



Signal word: Danger

#### Hazard Statements:

H290-May be corrosive to metals

H302-Harmful if swallowed

H314-Causes severe skin burns and eye damage

H318-Causes serious eye damage  
H332-Harmful if inhaled  
H371-May cause damage to organs  
H373-May cause damage to organs through prolonged or repeated exposure (kidney, liver, blood)

## Precautionary Statements:

P234-Keep only in original container.  
P260-Do not breathe dust/fume/gas/mist/vapours/spray.  
P261-Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264-Wash thoroughly after handling.  
P270-Do not eat, drink, or smoke when using this product.  
P271-Use only outdoors or in a well-ventilated area.  
P280-Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P312-If swallowed: Call a Poison Center or doctor/physician if you feel unwell.  
P301+P330+P331-If swallowed: Rinse mouth. Do NOT induce vomiting.  
P303+P361+P353-If on skin (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P340-If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305+P351+P338-If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P309+P311-If exposed or if you feel unwell: Call a Poison Center or doctor/physician.  
P310-Immediately call a Poison Center or doctor/physician.  
P312-Call a Poison Center or doctor/physician if you feel unwell.  
P314-Get medical advice/attention if you feel unwell.  
P330-Rinse mouth.  
P363-Wash contaminated clothing before reuse.  
P390-Absorb spillage to prevent material damage.  
P405-Store locked up.  
P406-Store in corrosive resistant/container with a resistant inner liner.  
P501-Dispose of contents/container in accordance with local/regional/national/international regulations.

## Section 3 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent
10025-77-1	Ferric Chloride Hexahydrate	10 w/v
7647-01-0	Hydrochloric acid	1 v/v
7732-18-5	Water	Balance

## Section 4 - First Aid Measures

**Eye Exposure:** In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. May cause blindness. Seek immediate medical attention.

**Dermal Exposure:** In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Seek medical advice.

**Oral Exposure:** If swallowed, seek immediate medical advice. May cause severe and permanent damage to the digestive tract. Causes gastrointestinal burns and perforation of the digestive tract. Do not induce vomiting. Give copious amounts of water.

**Inhalation Exposure:** If inhaled, remove to fresh air. Seek immediate medical attention.

## Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating gases may be generated by thermal decomposition or combustion.

**Extinguishing Media:** Use dry chemical, carbon dioxide, dry sand, water spray, or alcohol-resistant foam.

**Hazardous Combustion Products:** Hydrogen chloride gas, chlorine, iron oxides, irritating and toxic fumes and gases.

**Flash Point:** Not available

**Autoignition Temperature:** Not available

**Explosion Limits, Lower:** Not available

**Upper:** Not available

**NFPA Rating:** (estimated) Health: 3; Flammability: 0; Instability: 0

## Section 6 - Accidental Release Measures

### **Procedure(s) of Personal Precaution(s):**

Wear personal protective equipment. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Ensure adequate ventilation.

**Methods for Cleaning up:** Absorb with sand, earth, or vermiculite. Carefully sweep up and containerize for proper disposal. Do not release to the environment. Do not release to drains.

## Section 7 - Handling and Storage

Use care when handling. Wear personal protective equipment. Ensure adequate ventilation. Wash thoroughly after handling. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Store in a tightly closed container at room temperature. Keep away from incompatible materials.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

**Exposure Limits:**

Chemical Name	ACGIH	NIOSH	OSHA - PELs
Ferric Chloride Hexahydrate CAS#10025-77-1	1 mg/m <sup>3</sup> TWA	1 mg/m <sup>3</sup> TWA	1 mg/m <sup>3</sup> TWA (vacated)
Hydrochloric Acid CAS#7647-01-0	Ceiling: 2 ppm	50 ppm IDLH Ceiling: 5 ppm Ceiling: 7 mg/m <sup>3</sup>	Ceiling: 5 ppm Ceiling: 7 mg/m <sup>3</sup>

**OSHA Vacated PELs:** Hydrochloric Acid: 5 ppm Ceiling; 7 mg/m<sup>3</sup> Ceiling

## Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance:** Dark yellow-amber

**Odor:** Not available

**Vapor Pressure:** Not available

**Odor threshold:** Not available

**Vapor Density:** Not available

**pH:** 0.25-0.45

**Relative density:** Not available

**Melting point/freezing point:** Not available

**Solubility:** Soluble in water

**Boiling Point:** Not available

**Flash point:** Not available

**Evaporation Rate:** Not available

**Flammability (solid, gas):** Not available

**Partition coefficient: n-octanol/water:** Not available

**Auto-ignition temperature:** Not available

**Decomposition temperature:** Not available

**Viscosity:** Not available

**Specific Gravity/Density:** Not available

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials, ignition sources, excess heat, freezing, exposure to air or moisture.

**Incompatibilities with Other Materials:** Strong oxidizing agents, metals, bases, sodium hypochlorite, amines, fluorine, cyanides, alkalies.

**Hazardous Decomposition Products:** Hydrogen chloride gas, chlorine, iron oxides, irritating toxic fumes and gases.

Note: contact with metals may evolve flammable hydrogen gas.

## Section 11 - Toxicological Information

**CAS#10025-77-1 Ferric Chloride Hexahydrate: RTECS#: NO5425000**

LD50 Oral: 900 mg/kg (rat)

LD50 Dermal: Not available

LC50 Inhalation: Not available

**Carcinogenicity:** Ferric Chloride Hexahydrate CAS#10025-77-1 is not listed by IARC, NTP, ACGIH, OSHA, or California Prop 65.

**CAS#7647-01-0 Hydrochloric Acid: RTECS#: MW4025000**

LD50 Oral: 238-277 mg/kg (rat)

LD50 Dermal: >5010 mg/kg (rabbit)

LC50 Inhalation: 1.68 mg/L 1h (rat) 1h

**Carcinogenicity:** Hydrochloric Acid CAS#7647-01-0 is not listed by IARC, NTP, ACGIH, OSHA, or California Prop 65.

**Carcinogenicity:** Not available

**Epidemiology:** Not available

**Teratogenicity:** Not available

**Reproductive Effects:** Not available

**Developmental Effects:** Not available

**Neurotoxicity:** Not available

**Mutagenicity:** Not available

**Specific Target Organ Toxicity, Single Exposure:** Not available

**Specific Target Organ Toxicity, Repeated Exposure:** Kidney, liver, blood

**The toxicological properties of this material have not been thoroughly investigated.**

Note: Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Strong caustic effect of skin and mucous membranes. May cause severe and permanent damage to the digestive tract. Causes gastrointestinal burns and perforation of the digestive tract. Causes serious eye damage. May cause blindness.

## Section 12 - Ecological Information

**Ecotoxicity:** Do not release to the environment. Do not release to drains. Toxic to aquatic life. May cause long-term adverse effects to the environment.

**CAS#10025-77-1 Ferric Chloride Hexahydrate:**

LC50, freshwater fish: 20.3 mg/L 96h (Lepomis macrochirus – Bluegill sunfish)

EC50, water flea: 9.6 mg/L 48h (Daphnia magna)

**CAS#7647-01-0 Hydrochloric Acid:**

LC50, freshwater fish: 282 mg/L 96h (gambusia affinis)

EC50, water flea: 56 mg/L 72h (daphnia)

**Persistence and degradability:** Not available

**Bio-accumulative potential:** Not available

**Mobility:** Will likely be mobile in the environment due to its water solubility.

## Section 13 - Disposal Considerations

**DISPOSAL:** Dispose of in accordance with all federal, state, and local regulations.

## Section 14 – Transport Information

**DOT**

Proper shipping name: Corrosive liquid, acidic, inorganic, N.O.S. (Hydrochloric acid, Ferric chloride hexahydrate)

UN3264

PG III

Hazard class 8

## Section 15 - Regulatory Information

### Canada Regulatory Information

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the SDS contains all the information required by the CPR.

## Section 16 - Additional Information

**SDS Creation Date:** 10/15/12

**Revision #1.** 6/1/15 RC

**Revision #2.** 5-4-18

**Revision #3.** 11-29-21

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