SAFETY DATA SHEET

Section 1. Identification

Product name : 30% Ferric Chloride Solution

Relevant identified uses of the substance or mixture and uses advised against

Identified uses	:	Metal etching and effluent treatment
Creation date	:	09/29/2015
Print date	:	09/29/2015
Version	:	1.0
Supplier's details	:	Deep South Chemical, Inc. 229 Millstone Road, Broussard LA 70518 For Product Information/MSDSs Call: 337-837-9931
Emergency telephone number (with hours of operation)	:	CHEMTREC 800-424-9300 (U.S. 24 hour) (001)281-276-5400 CANUTEC 613-996-6666 (Canada 24 hours) CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

2.1 Classification of the substance or mixture

Corrosive to metal 1, H290 May be corrosive to metal
Acute oral toxicity 4, H302 Harmful if swallowed
Skin corrosion 1B, H314 Causes severe skin burns and eye damage
Serious eye damage 1, H318 Causes serious eye damage
Acute aquatic toxicity 2, H401 Toxic to aquatic life
Chronic aquatic toxicity 2, H411 Toxic to aquatic life with long lasting effects

2.2 GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard statements

H290	May be corrosive to metals
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H411	Toxic to aquatic life with long lasting effects

Precautionary statements

P234 Keep only in original container
P260 Do not breathe mist/vapors/spray
P264 Wash hands thoroughly after handling
P273 Avoid release to the environment
P280 Wear protective gloves/protective clothing/eye protection/face protection
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P301+P312 IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell

P303+P361+P353 IF ON SKIN: Take off all contaminated clothing. Rinse skin with water/shower.
P321 Specific treatment (see First Aid Measures)
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep 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.
P310 Immediately call a POISON CENTER or doctor/physician.
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 regulations.

Classification system
NFPA ratings: Health (2) **Fire (0)** **Reactivity (1)**

Hazards not otherwise classified **:** None

Section 3. Composition/information on ingredients

Substance/mixture **: Mixture**

Ingredient name	%	CAS number
Iron trichloride	30	7705-08-0
Water	70	7732-18-5

Section 4. First aid measures

4.1 Description of necessary first aid measures

Eye contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Continue to rinse for at least 15 minutes. Check for and remove any contact lenses. Immediately call a Poison Center or doctor/physician. Transport promptly to hospital.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a Poison Center or doctor/physician. Arrange for victim to be seen by a doctor as soon as possible.

Skin contact Flush contaminated skin with water for 15 minutes. Do not apply chemical neutralizing agents. Remove contaminated clothing and shoes while washing. Do not remove clothing if it sticks to the skin. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion Immediately rinse mouth with water. If swallowed, DO NOT INDUCE VOMITING. Give a glass of water. Seek immediate medical assistance.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact Severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury.

Inhalation Breathing in mists or aerosols may produce respiratory irritation.

Skin contact Contact will result in severe irritation. Corrosive to skin; may cause skin burns.

Ingestion May produce nausea, vomiting, abdominal cramps, diarrhea, and chemical burns to the gastrointestinal tract.

Chronic symptoms None given.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically. Can cause corneal burns.

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	Not combustible, however, if material is involved in a fire use: fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder)
Unsuitable extinguishing media	Water jet.
Flash point	Not applicable
Autoignition Temperature	Not applicable

5.2 Specific hazards arising from the chemical

Fire Hazard	Non-combustible material.
Explosion Hazard	Not available.
Reactivity	Hydrogen chloride gas, iron oxides.

5.3 Advice for firefighters

Precautionary measures	Keep upwind. Consider evacuation. Have neighborhood close doors and windows.
Firefighting instructions	Cool tanks/drums with water spray. Dilute toxic gases with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and compressed air/oxygen apparatus.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Wear chemically protective gloves, lab coat or apron to prevent prolonged or repeated skin contact. Wash contaminated clothes. Evacuate unnecessary personnel. Keep containers closed.

6.1.2 For emergency responders

Equip cleanup crew with proper protection. Ventilate area. Stop leak if safe to do so.

6.2 Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

For containment	Take up liquid spill into inert absorbent material.
Methods for cleaning up	Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapors. Work up wind or increase ventilation. Contain- prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Neutralize with lime or soda ash.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures	Keep container tightly closed when not in use. Ensure good ventilation/exhaustion at the workplace. Keep in cool place out of direct sunlight.
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including incompatibilities

Comply with applicable regulations. Keep only in the original container in a cool, well ventilated area away from sunlight. Keep container closed when not in use.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Iron trichloride, soluble

TLV (ACGIH) TWA: 1 mg/m^3

8.2 Exposure controls

Appropriate engineering controls	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.
Personal protective equipment	
Eye/face protection	Wear chemical safety goggles. When transferring material, wear face-shield in addition to chemical safety goggles.
Hand protection	Chemical-resistant gloves: rubber gloves/Neoprene gloves.
Skin protection	Corrosion-proof clothing.
Respiratory protection	Wear suitable mist respirator if inhalation risk exists.

Section 9. Physical and chemical properties

Physical state	: Liquid
Color	: Dark red
Odor	: Acidic
pH	: <2
Melting/freezing point	: No data available
Boiling point	: 105-110 °C
Flash point	: Not applicable
Evaporation rate	: No data available
Flammability	: Not applicable
Lower and upper explosive limits	: Not applicable
Vapor pressure	: No data available
Vapor density	: No data available (Air = 1.0)
Relative density	: 1.45 at 68°F
Density	: 12.09 lbs/gal
Solubility in water	: Soluble
Partition coefficient n-octanol/water	: No data available
Auto-ignition temp.	: Not applicable
Decomposition temp.	: Not determined
Viscosity	: No data available
VOC	: Not applicable

Section 10. Stability and reactivity

10.1 Reactivity
Reacts with alkalis. Reacts with metals liberating flammable hydrogen gas.
10.2 Chemical stability
Stable under normal conditions.
10.3 Possibility of hazardous reactions
Reacts exothermically with alkalis. Hydrolysis produces hydrogen chloride.
10.4 Conditions to avoid
Avoid contamination with foreign materials.
10.5 Incompatible materials
Bases, alkali metals, oxidizing agents, potassium, exothermic in contact with water.
10.6 Hazardous decomposition products
None known.

Section 11. Toxicological Information

Information on toxicological effects
Toxicological Data:

No LD50 data available for the product. For the constituent Ferric chloride:
Oral LD50 (rat): 316 mg/kg
Oral LD50 (mice): 200 mg/kg

Section 12. Ecological information

Ecological- General: Avoid contaminating waterways. Harmful to terrestrial species.

Section 13. Disposal considerations

Disposal methods Dispose of contents/container to comply with local, state and federal regulations. Dispose in a safe manner in accordance with local/national regulations. Avoid release to the environment.

Section 14. Transport information

DOT Transport Information: UN 2582, Ferric chloride solution (30%), 8, PG III
DOT Labels: Corrosive
DOT Placards: Corrosive
Reportable Quantity (RQ): 2,000 lbs

Section 15. Regulatory information

Toxic Substances Control Act (TCSA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

CERCLA RQ-40 CFR 302.4(a)

Component	CERCLA RQ (lbs)
None	

SARA 302 Components-40 CFR 355 Appendix A

Component	TPQ(Threshold Planning Quantity) (lbs)
None	

Section 311/312 Hazard Class-40 CFR 370.2

Immediate (X)
Delayed ( )
Fire ( )
Reactive ( )
Sudden Release of Pressure ( )

SARA 313-40 CFR 372.65

Component	CAS Number	%(by weight)
None		

Section 16. Other information

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