

SAFETY DATA SHEET



Ferric Chloride Solution DWG Grade

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

GHS Product Information

Product Name: Ferric Chloride Solution DWG Grade
Business Unit: Phibro-Tech Inc
Other means of identification: Not available

Safety data sheet number: 3073-310 -US-E

Recommended use of the chemical and restrictions on use

Recommended use: No information available.

Uses advised against: No information available

Details of the supplier of the safety data sheet

Supplier:

Phibro-Tech, Inc.
Glenpointe Centre East, 3rd FL
300 Frank W. Burr Blvd., Ste 21
Teaneck, NJ 07666-6712
Tel: (201) 329-7300
Toll free: (888) 475-7355
Fax: (201) 329-7070
Toll Free: 888-475-7355

SDS Contact (email of responsible person): phibroehs@pahc.com

24 Hour Emergency Phone Number: Chemtrec 1-800-424-9300 (CCN17224)

International: International Number: +1 703-527-3887

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

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 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3

Label elements

Emergency Overview

Danger

Hazard statements

Harmful if swallowed
Causes severe skin burns and eye damage
May cause respiratory irritation. May cause drowsiness or dizziness



Appearance cloudy

Physical state liquid

Odor Slight Hydrogen chloride (HCl)

Precautionary Statements - Prevention

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

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
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
Do NOT induce vomiting

Precautionary Statements - Storage

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

Precautionary Statements - Disposal

Dispose of contents/ container to an approved landfill

Hazards not otherwise classified (HNOC)

Other Information

Other hazards

- Harmful to aquatic life with long lasting effects
- Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture Mixture

Chemical Name	CAS No	Weight-%	Trade Secret
Iron trichloride	7705-08-0	15 - 40	*

Hydrogen chloride	7647-01-0	7 - 13	*
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*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

- General advice:** If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.
- Eye contact:** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
- Inhalation:** Remove to fresh air. Call a physician. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Artificial respiration and/or oxygen may be necessary. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.
- Skin Contact:** Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation persists, call a physician. Immediate medical attention is not required.
- Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician immediately.
- Self-protection of the first aider:** Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms: No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical: No information available.

Explosion data

Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

Protective equipment and precautions 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:** Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
- For emergency responders:** Use personal protection recommended in Section 8. Use personal protective equipment as required.
- Environmental Precautions:** Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

- Methods for containment:** Prevent further leakage or spillage if safe to do so.
- Methods for cleaning up:** Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material. Dam up.

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7. HANDLING AND STORAGE

Precautions for safe handling

- Advice on safe handling:** Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

- Storage Conditions:** Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.
- Incompatible materials:** None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	CAS No	ACGIH TLV	OSHA PEL	NIOSH IDLH
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Iron trichloride	7705-08-0	TWA: 1 mg/m ³ Fe	(vacated) TWA: 1 mg/m ³ Fe	TWA: 1 mg/m ³ Fe
Hydrogen chloride	7647-01-0	Ceiling: 2 ppm	(vacated) Ceiling: 5 ppm (vacated) Ceiling: 7 mg/m ³ Ceiling: 5 ppm Ceiling: 7 mg/m ³	IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m ³

NIOSH IDLH *Immediately Dangerous to Life or Health*

Other Information: Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls: Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

General Hygiene Considerations: When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

Eye/face protection: Tight sealing safety goggles. Face protection shield.

Skin and body protection: No special technical protective measures are necessary.

Respiratory protection: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Odor	Slight Hydrogen chloride (HCl)
Appearance	cloudy	Odor threshold	No information available
Color	yellow	Remarks • Method	
<u>Property</u>	<u>Values</u>		
pH	2-4		
Melting Point / Freezing Point	No information available		
Boiling point / boiling range	No information available		
Flash point	No information available		
Evaporation rate	No information available		
Flammability (solid, gas)	No information available		
Flammability Limit in Air			
Upper flammability limit:	No information available		
Lower flammability limit:	No information available		
Vapor pressure	No information available		
Vapor density	No information available		
Specific Gravity	No information available		
Water solubility	No information available		
Solubility in other solvents	No information available		
Partition coefficient	No information available		
Autoignition temperature	No information available		
Decomposition temperature	No information available		
Kinematic viscosity	No information available		
Dynamic viscosity	No information available		
Explosive properties	No information available		
Oxidizing properties	No information available		

Other Information

Softening point No information available
 Molecular weight No information available
 VOC Content (%) No information available
 Density No information available
 Bulk density No information available
 Percent Volatile No information available

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information: No data available
Inhalation: No data available.
Eye contact: No data available.
Skin Contact: No data available.
Ingestion: No data available.

Chemical Name	CAS No	Oral LD50	Dermal LD50	Inhalation LC50
Iron trichloride	7705-08-0	= 450 mg/kg (Rat) = 316 mg/kg (Rat)	-	-
Hydrogen chloride	7647-01-0	= 700 mg/kg (Rat)	> 5010 mg/kg (Rabbit)	= 3124 ppm (Rat) 1 h

Information on toxicological effects

Symptoms: No information available.

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

Sensitization: No information available.
Germ cell mutagenicity: No information available.
Carcinogenicity: The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	CAS No	ACGIH	IARC	NTP	OSHA
Hydrogen chloride	7647-01-0	-	Group 3	-	-

IARC (International Agency for Research on Cancer)
Not classifiable as a human carcinogen

Reproductive toxicity: No information available.
STOT - single exposure: No information available.
STOT - repeated exposure: No information available.
Chronic toxicity: Avoid repeated exposure. May cause adverse liver effects.
Target Organ Effects: Eyes, Gastrointestinal tract (GI), liver, Respiratory system, Skin.
Aspiration hazard: No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 820 mg/kg
 ATEmix (inhalation-dust/mist) 5 mg/l 917

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	CAS No	Algae/aquatic plants	Fish	Crustacea
Iron trichloride	7705-08-0	-	20.26: 96 h Lepomis macrochirus mg/L LC50 semi-static 20.95 - 22.56: 96 h Pimephales promelas mg/L LC50 semi-static 75.6: 96 h Gambusia affinis mg/L LC50 static	27.9: 48 h Daphnia magna mg/L EC50 9.6: 48 h Daphnia magna mg/L EC50 Static
Hydrogen chloride	7647-01-0	-	282: 96 h Gambusia affinis mg/L LC50 static	-

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility

No information available.

Chemical Name	Partition coefficient
Iron trichloride	-4

Other adverse effects: No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes: This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Disposal methods: Do not reuse container.

14. TRANSPORT INFORMATION

Note: Store in a closed container. Keep container upright.

DOT

UN/ID no UN2582
 Proper shipping name Ferric chloride, solution ()
 Hazard Class 8
 Packing Group III
 Special Provisions B15, IB3, T4, TP1
 Description UN2582, Ferric chloride, solution, 8, III
 Emergency Response Guide Number 154

IATA

UN/ID no UN2582
 Proper shipping name Ferric chloride solution ()
 Hazard Class 8
 Packing Group III
 ERG Code 8L
 Special Provisions A3, A803
 Description UN2582, Ferric chloride solution, 8, III

IMDG

UN/ID no UN2582
 Proper shipping name Ferric chloride solution ()
 Hazard Class 8
 Packing Group III
 EmS-No F-A, S-B
 Special Provisions 223
 Description UN2582, Ferric chloride solution, 8, III

15. REGULATORY INFORMATION

International Inventories

TSCA: Complies
 DSL/NDSL: Complies
 EINECS/ELINCS: Complies
 ENCS: Not Determined
 IECSC: Complies
 KECL: Complies
 PICCS: Complies
 AICS: Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
 ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	SARA 313 - Threshold Values %
Hydrogen chloride	7647-01-0	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CAS No	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Iron trichloride	7705-08-0	1000 lb	-	-	X
Hydrogen chloride	7647-01-0	5000 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	CAS No	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Iron trichloride	7705-08-0	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ
Hydrogen chloride	7647-01-0	5000 lb	5000 lb	RQ 5000 lb final RQ RQ 2270 kg final RQ

FIFRA

Not applicable

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

No information available

Chemical Name	CAS No	New Jersey	Massachusetts	Pennsylvania
Iron trichloride	7705-08-0	X	X	X
Hydrogen chloride	7647-01-0	X	X	X

Canada

No information available

16. OTHER INFORMATION

NFPA	Health hazards 3	Flammability 0	Instability 0	Physical & Chemical Properties 0 Personal protection H
HMIS	Health hazards 3	Flammability 0	Physical hazards 0	

Document Review

Revision Number: 1

Revision Note: No information available

Key or legend to abbreviations and acronyms used in the safety data sheet:

Bioconcentration factor (BCF)
International Air Transport Association (IATA)
Globally Harmonized System (GHS)
International Maritime Dangerous Goods (IMDG)

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