SDS-FERRICCHLORI 31 Jul 2026

SAFETY DATA SHEET

FERRIC CHLORIDE LIQUID

CAS No.: 7705-08-0

This Safety Data Sheet is issued by Suraj Chemicals as the distributor/supplier of record, based on manufacturer and published GHS / regulatory reference data for this substance. Users should also consult the specific manufacturer's SDS where available.

1. IDENTIFICATION

GHS Product identifier

FERRIC CHLORIDE LIQUID
Iron(III) Chloride Solution; Ferric Chloride Solution (40% min.)
CAS: 7705-08-0

Other means of identification

Formula: $FeCl_3$ (aqueous solution) | Shipping name: Ferric Chloride Solution

Recommended use of the chemical and restrictions on use

Relevant uses: Coagulant for effluent water and sewage treatment, textile processing/etching, chlorinating and condensing agent, water treatment in Reverse Osmosis process. For industrial user only.

Uses advised against: All uses not specified in this section or in section 7.3.

Supplier's details

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), based on the source safety data (Corrosive, Class 8) and the well-established public/harmonised classification for Iron(III) Chloride (CAS 7705-08-0):

Skin Corr. 1B	Skin corrosion, Category 1B, H314
STOT SE 3	Respiratory tract irritation, single exposure, Category 3, H335
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic hazard, Category 3, H412

GHS label elements, including precautionary statements

GHS: Danger

Hazard statements

Skin Corr. 1B: H314 – Causes severe skin burns and eye damage.
STOT SE 3: H335 – May cause respiratory irritation.
Aquatic Chronic 3: H412 – Harmful to aquatic life with long lasting effects.

Precautionary statements

P260: Do not breathe mist/vapours.
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
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 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/doctor.
P405: Store locked up.
P501: Dispose of contents/container in accordance with local regulations on hazardous waste.

Other hazards which do not result in classification

Corrosive to most common metals. Forms a number of adducts and substitution products.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances

Chemical description: Ferric Chloride, aqueous solution

In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 7705-08-0	Iron(III) Chloride (Ferric Chloride) — Skin Corr. 1B: H314; STOT SE 3: H335; Aquatic Chronic 3: H412 – Danger	40–43% (as $FeCl_3$)
—	Water (solvent)	Balance

Free acid (as HCl): 0.01–0.50% by weight. Ferrous salts (as $FeCl_2$): 0.10% max. Insoluble matter: 0.05% max. To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

Mixtures

Aqueous solution of minimum 40% concentration – see composition table above.

4. FIRST AID MEASURES

Description of necessary first-aid measures

Request medical assistance immediately, showing the SDS of this product.

By inhalation

Remove the affected person to fresh air and keep at rest. Seek medical attention if breathing difficulty persists.

By skin contact

Wash with plenty of water for at least 15 minutes. Remove contaminated clothing while flushing. If irritation persists, get medical attention.

By eye contact

Wash with plenty of water for at least 15 minutes, holding eyelids open. If irritation persists, get medical attention.

By ingestion/aspiration

Do not induce vomiting. Rinse mouth with water. Product is irritant to eyes, mouth and throat and can cause vomiting and gastric haemorrhage if swallowed; seek medical attention immediately.

Most important symptoms/effects, acute and delayed

Irritant to eyes, mouth and throat; vomiting and gastric haemorrhage and shortness of breath if swallowed. Acute and delayed effects are also indicated in sections 2 and 11.

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

Not relevant.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Suitable: Product is not flammable – use extinguishing media appropriate for the surrounding fire.
Unsuitable: None known.

Specific hazards arising from the chemical

Not flammable. Corrosive to most metals; contact with metals may generate flammable hydrogen gas over time.

Special protective actions for fire-fighters

Wear self-contained breathing apparatus and full protective/acid-resistant clothing. Cool fire-exposed containers with water spray.

Additional provisions

Prevent fire-fighting water runoff from entering drains/watercourses.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Avoid contact with skin and eyes. Use PPE described in Section 8. Ventilate the area.

For emergency responders

Wear protective equipment. Keep unprotected persons away.

Environmental precautions

Prevent entry into drains, watercourses and soil.

Methods and materials for containment and cleaning up

Cover the spillage with sufficient sodium bicarbonate, or wash with profuse water into a contained area. Neutralize with ammonia, soda ash or caustic and wash with profuse water into drain, subject to local discharge regulations.

Reference to other sections

See sections 8 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling

A. General precautions for safe use

Avoid contact with skin and eyes. Avoid breathing mist/vapours. Corrosive to most metals – handle and store in HDPE, PP, rubber or ceramic-lined equipment only.

B. Technical recommendations for the prevention of fires and explosions

Not applicable – product is non-flammable.

C. Technical recommendations on general occupational hygiene

Do not eat or drink during handling; wash hands thoroughly afterwards.

D. Technical recommendations to prevent environmental risks

Avoid discharge to drains and watercourses.

Conditions for safe storage, including any incompatibilities

A. Specific storage requirements

Storage category	A (Corrosive)
Recommended containers	HDPE, PP, rubber or ceramic-lined; rubber-bonded metal containers

B. General conditions for storage

Corrosive to most metals – do not store in bare mild-steel vessels. Keep containers closed when not in use.

Specific end use(s)

Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

No specific occupational exposure limit has been established for ferric chloride under the Factories Act, 1948. Control airborne mist below levels causing irritation.

Appropriate engineering controls

Use local exhaust ventilation where mist may be generated.

B. Respiratory protection

Not normally required with adequate ventilation; use an acid-gas/mist respirator if mist is generated.

C. Specific protection for the hands

Rubber gloves (natural or synthetic).

D. Eye and face protection

Chemical splash goggles or glasses.

E. Bodily protection

Rubber boots and acid-resistant apron/clothing.

F. Additional emergency measures

Emergency shower and eyewash stations should be available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	
Physical state at 20°C	Liquid
Appearance	Brownish liquid, light brown
Color	Brownish
Odor	Without odour
Product Description	
Relative density at 25/25°C	1.45 to 1.48
$FeCl_3$ content (% by weight)	40 to 43
Free acid (as HCl), % by weight	0.01 to 0.50
Ferrous salts (as $FeCl_2$), % by weight	0.10 max.
Insoluble matter, % by weight	0.05 max.
Solubility in water	Soluble
Solubility in organic solvents	Moderately soluble in alcohols, acetone, ethers, esters; insoluble in glycerine, ethyl acetate
Flammability	
Flash Point	Non-applicable
Flammability	Not Flammable

Other information

Corrosive to metals	Yes – corrosive to most common metals
Oxidising properties	An oxidising and chlorinating agent
Explosive properties	Not relevant

10. STABILITY AND REACTIVITY

Reactivity

Corrosive to most metals. Forms a number of adducts and substitution products.

Chemical stability

Stable under the indicated conditions of storage, handling and use.

Possibility of hazardous reactions

May react with active metals to liberate hydrogen gas.

Conditions to avoid

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Incompatible materials

Reactive Metals	Strong Bases	Oxidisers
Avoid contact (corrosive; may liberate hydrogen)	Avoid direct contact	Avoid contact

Hazardous decomposition products

None expected under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

In case of exposure that is repetitive, prolonged, or at concentrations higher than the recommended occupational exposure limits, adverse health effects may result depending on the means of exposure:

A. Ingestion (acute effect)
Irritant to mouth and throat; causes vomiting and gastric haemorrhage.

B. Inhalation (acute effect)
Causes irritation of the respiratory tract with shortness of breath at higher exposures.

C. Contact with skin and eyes (acute effect)
Causes severe skin burns and eye damage (corrosive).

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity)
Classification criteria are not met based on available data.

E. Sensitizing effects
Not known to be a skin or respiratory sensitiser.

F. Specific target organ toxicity (STOT) – single exposure
May cause respiratory irritation.

G. Specific target organ toxicity (STOT) – repeated exposure
Classification criteria are not met based on available data.

H. Aspiration hazard
Classification criteria are not met based on available data.

12. ECOLOGICAL INFORMATION

Harmful to aquatic life with long lasting effects.

Toxicity
Product-specific aquatic toxicity data not available from the source; iron(III) salts are generally of low-to-moderate acute aquatic toxicity, though localised pH depression on discharge can be harmful to aquatic life.

Persistence and degradability
Not available

Bioaccumulative potential
Not expected to bioaccumulate (inorganic iron salt).

Mobility in soil

Koc	Henry	Dry Soil	Moist Soil
Not relevant	Not relevant	No	No

Results of PBT and vPvB assessment
Non-applicable

Other adverse effects
Not described

13. DISPOSAL CONSIDERATIONS

Disposal methods
Neutralize with ammonia, soda ash or caustic soda and wash with profuse water, subject to local trade-effluent discharge regulations. For packaging: avoid treatments as far as possible – use dedicated containers, and do not rinse the dedicated containers. Refer to national and local regulations on waste management.

14. TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR/RID)

14.1 UN number	UN2582
14.2 UN proper shipping name	FERRIC CHLORIDE SOLUTION
14.3 Transport hazard class(es)	8
14.4 Packing group	III
14.5 Environmental hazard	Yes
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk	Transportable in HDPE barrels and rubber-lined tanks

Transport of dangerous goods by sea (IMDG)

14.1 UN number	UN2582
14.2 UN proper shipping name	FERRIC CHLORIDE SOLUTION
14.3 Transport hazard class(es)	8 (IMCO Class 8 – I)
14.4 Packing group	III
14.5 Marine pollutant	Yes
14.6 Special precautions for user	IMDG Code Page No.: 8173
14.7 Transport in bulk	Not relevant

Transport of dangerous goods by air (IATA/ICAO)

14.1 UN number	UN2582
14.2 UN proper shipping name	FERRIC CHLORIDE SOLUTION
14.3 Transport hazard class(es)	8
14.4 Packing group	III
14.5 Environmental hazard	Yes
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk	Not relevant

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation

Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016

16. OTHER INFORMATION

Legislation related to safety data sheets

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3

H314: Causes severe skin burns and eye damage.
H335: May cause respiratory irritation.
H412: Harmful to aquatic life with long lasting effects.

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

Advice related to training

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources

Original manufacturer's product safety data (DCW Limited); harmonised/self-classification data for CAS 7705-08-0 per public GHS classification references; The United Nations Economic Commission for Europe (UNECE).

Abbreviations and acronyms

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation

Disclaimer: The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

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