

[COMPOUND SUMMARY](#) > [LABORATORY CHEMICAL SAFETY SUMMARY \(LCSS\)](#)

# Ferric Chloride

PubChem CID	24380
Structure	 <p>2D</p> <p><a href="#">Find Similar Structures</a></p>
Synonyms	FERRIC CHLORIDE 7705-08-0 Iron(III) chloride Iron trichloride trichloroiron <input type="button" value="More..."/>
Molecular Formula	<a href="#">Cl<sub>3</sub>Fe</a> or <a href="#">FeCl<sub>3</sub></a>
Molecular Weight	162.20

[Learn More About LCSS Project](#) >

# 1 GHS Classification



Showing 1 of 5 [View More](#)

<b>Pictogram(s)</b>	  Corrosive      Irritant
<b>Signal</b>	<b><u>Danger</u></b>
<b>GHS Hazard Statements</b>	H302 (97.26%): Harmful if swallowed [ <b>Warning</b> Acute toxicity, oral] H314 (78.75%): Causes severe skin burns and eye damage [ <b>Danger</b> Skin corrosion/irritation] H315 (21.25%): Causes skin irritation [ <b>Warning</b> Skin corrosion/irritation] H318 (21.36%): Causes serious eye damage [ <b>Danger</b> Serious eye damage/eye irritation] H412 (75.64%): Harmful to aquatic life with long lasting effects [Hazardous to the aquatic environment, long-term hazard]
<b>Precautionary Statement Codes</b>	P260, P264, P264+P265, P270, P273, P280, P301+P317, P301+P330+P331, P302+P352, P302+P361+P354, P304+P340, P305+P354+P338, P316, P317, P321, P330, P332+P317, P362+P364, P363, P405, and P501  (The corresponding statement to each P-code can be found at the <a href="#">GHS Classification</a> page.)
<b>ECHA C&amp;L Notifications Summary</b>	<p><i>Aggregated GHS information provided by 2741 companies from 27 notifications to the ECHA C&amp;L Inventory. Each notification may be associated with multiple companies.</i></p> <p><i>Reported as not meeting GHS hazard criteria by 7 of 2741 companies. For more detailed information, please visit <a href="#">ECHA C&amp;L website</a>.</i></p> <p><i>Of the 26 notification(s) provided by 2734 of 2741 companies with hazard statement code(s).</i></p> <p><i>Information may vary between notifications depending on impurities, additives, and other factors. The percentage value in parenthesis indicates the notified classification ratio from companies that provide hazard codes. Only hazard codes with percentage values above 10% are shown.</i></p>

► [European Chemicals Agency \(ECHA\)](#)

## 2 Identifiers

---

### 2.1 CAS

---

7705-08-0

▶ [CAMEO Chemicals](#); [CAS Common Chemistry](#); [ChemIDplus](#); [DrugBank](#); [DTP/NCI](#); [EPA Chemicals under the TSCA](#); [EPA D](#)

### 2.2 InChI

---

InChI=1S/3ClH.Fe/h3\*1H;/q;;;+3/p-3

*Computed by InChI 1.0.6 (PubChem release 2021.05.07)*

▶ [PubChem](#)

### 2.3 InChIKey

---

RBTARNINKXHZNM-UHFFFAOYSA-K

*Computed by InChI 1.0.6 (PubChem release 2021.05.07)*

▶ [PubChem](#)

## 3 Physical Properties



### 3.1 Physical Description



Showing 2 of 5 [View More](#)

Ferric chloride is an orange to brown-black solid. It is slightly soluble in [water](#). It is noncombustible. When wet it is corrosive to [aluminum](#) and most metals. Pick up and remove spilled solid before adding [water](#). It is used to treat sewage, industrial waste, to purify [water](#), as an etching agent for engraving circuit boards, and in the manufacture of other chemicals.

▶ [CAMEO Chemicals](#)

Ferric chloride, solution appears as a colorless to light brown aqueous solution that has a faint [hydrochloric acid](#) odor. Highly corrosive to most metals and probably corrosive to tissue. Noncombustible. Used in sewage treatment and [water](#) purification.

▶ [CAMEO Chemicals](#)

### 3.2 Boiling Point



599 °F at 760 mmHg (Decomposes) (NTP, 1992)

*National Toxicology Program, Institute of Environmental Health Sciences, National Institutes of Health (NTP). 1992. National Toxicology Program Chemical Repository Database. Research Triangle Park, North Carolina.*

▶ [CAMEO Chemicals](#)

About 316 °C

*O'Neil, M.J. (ed.). The Merck Index - An Encyclopedia of Chemicals, Drugs, and Biologicals. 13th Edition, Whitehouse Station, NJ: Merck and Co., Inc., 2001., p. 712*

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

### 3.3 Melting Point



Showing 2 of 5 [View More](#)

583 °F (NTP, 1992)

*National Toxicology Program, Institute of Environmental Health Sciences, National Institutes of Health (NTP). 1992. National Toxicology Program Chemical Repository Database. Research Triangle Park, North Carolina.*

▶ [CAMEO Chemicals](#)

[ACGIH] approximately 300 °C

▶ [Haz-Map, Information on Hazardous Chemicals and Occupational Diseases](#)

### 3.4 Solubility



Showing 2 of 7 [View More](#) 

5 to 10 mg/mL at 68 °F (NTP, 1992)

*National Toxicology Program, Institute of Environmental Health Sciences, National Institutes of Health (NTP). 1992. National Toxicology Program Chemical Repository Database. Research Triangle Park, North Carolina.*

▶ [CAMEO Chemicals](#)

In cold **water**: 74.4 g/100 cc at 0 °C; in hot **water**: 535.7 g/100 cc at 100 °C; in **acetone**: 63 g/100 cc at 18 °C; very sol in alc, ether, **methanol**.

*Weast, R.C. (ed.) Handbook of Chemistry and Physics. 69th ed. Boca Raton, FL: CRC Press Inc., 1988-1989., p. B-97*

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

## 3.5 Density



Showing 2 of 4 [View More](#) 

2.8 at 68 °F (anhydrous solid) (USCG, 1999)

*U.S. Coast Guard. 1999. Chemical Hazard Response Information System (CHRIS) - Hazardous Chemical Data. Commandant Instruction 16465.12C. Washington, D.C.: U.S. Government Printing Office.*

▶ [CAMEO Chemicals](#)

2.90 at 25 °C

*O'Neil, M.J. (ed.). The Merck Index - An Encyclopedia of Chemicals, Drugs, and Biologicals. 13th Edition, Whitehouse Station, NJ: Merck and Co., Inc., 2001., p. 712*

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

## 3.6 Vapor Pressure



Showing 2 of 4 [View More](#) 

1 mmHg at 381 °F (NTP, 1992)

*National Toxicology Program, Institute of Environmental Health Sciences, National Institutes of Health (NTP). 1992. National Toxicology Program Chemical Repository Database. Research Triangle Park, North Carolina.*

▶ [CAMEO Chemicals](#)

VP: 1 mm Hg at 194.0 °C

*Lewis, R.J. Sax's Dangerous Properties of Industrial Materials. 10th ed. Volumes 1-3 New York, NY: John Wiley & Sons Inc., 1999., p. 1770*

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

## 3.7 Decomposition



When heated to decomposition it emits highly toxic fumes of **/hydrogen chloride/**.

*Lewis, R.J. Sax's Dangerous Properties of Industrial Materials. 9th ed. Volumes 1-3. New York, NY: Van Nostrand Reinhold, 1996., p. 1640*

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

## 3.8 Corrosivity



**Water** solutions are acidic and corrosive to most metals.

*U.S. Coast Guard, Department of Transportation. CHRIS - Hazardous Chemical Data. Volume II. Washington, D.C.: U.S. Government Printing Office, 1984-5.*

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

## 4 Toxicity Information



### 4.1 Non-Human Toxicity Values



#### LD50 Mouse oral 450 mg/kg

Lewis, R.J. *Sax's Dangerous Properties of Industrial Materials*. 9th ed. Volumes 1-3. New York, NY: Van Nostrand Reinhold, 1996., p. 1640

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

#### LD50 Mouse iv 49 mg iron/kg

O'Neil, M.J. (ed.). *The Merck Index - An Encyclopedia of Chemicals, Drugs, and Biologicals*. 13th Edition, Whitehouse Station, NJ: Merck and Co., Inc., 2001., p. 712

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

#### LD50 Rat ingestion 0.5-5 g/kg

U.S. Coast Guard, Department of Transportation. *CHRIS - Hazardous Chemical Data*. Volume II. Washington, D.C.: U.S. Government Printing Office, 1984-5.

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

#### LD50 Rat oral 28 mg/kg

Joint FAO/WHO Expert Committee on Food Additives; WHO Food Additives Ser 18: Iron (1983). Available from, as of September 14, 2004: <https://www.inchem.org/documents/jecfa/jecmono/v18je18.htm>

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

## 5 Exposure Limits



### 5.1 Threshold Limit Values (TLV)



Showing 2 of 3 [View More](#)

1.0 [mg/m<sup>3</sup>], as Fe (soluble [iron](#) salts)

▶ [Haz-Map, Information on Hazardous Chemicals and Occupational Diseases](#)

8 hr Time Weighted Avg (TWA) 1 mg/cu m /[Iron](#) salts, soluble, as Fe/

*American Conference of Governmental Industrial Hygienists TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices. Cincinnati, OH, 2008, p. 35*

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

### 5.2 Effects of Short Term Exposure



The substance is irritating to the eyes, skin and respiratory tract. Corrosive on ingestion.

▶ [ILO International Chemical Safety Cards \(ICSC\)](#)

### 5.3 Allowable Tolerances



Ferric chloride (not > 2% of suspending, dispersing agent, pesticide formulation) is exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only.

*40 CFR 180.920; U.S. National Archives and Records Administration's Electronic Code of Federal Regulations. Available from, as of November 1, 2004: <https://www.ecfr.gov>*

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

## 6 Health and Symptoms

### 6.1 Chemical Dangers

Decomposes above 200 °C . This produces toxic and corrosive gases including [chlorine](#) and [hydrogen chloride](#). Decomposes on contact with [water](#). This produces [hydrogen chloride](#). The solution in [water](#) is a medium strong acid. Reacts violently with alkali metals, [allyl chloride](#), [ethylene oxide](#), [styrene](#) and bases. This generates explosion hazard. Attacks metal. This produces flammable/explosive gas ([hydrogen](#) - see ICSC 0001).

▶ [ILO International Chemical Safety Cards \(ICSC\)](#)

### 6.2 Inhalation Symptoms

Cough. Sore throat.

▶ [ILO International Chemical Safety Cards \(ICSC\)](#)

### 6.3 Skin Symptoms

Redness. Pain.

▶ [ILO International Chemical Safety Cards \(ICSC\)](#)

### 6.4 Eye Symptoms

Redness. Pain. Blurred vision.

▶ [ILO International Chemical Safety Cards \(ICSC\)](#)

### 6.5 Ingestion Symptoms

Abdominal pain. Vomiting. Diarrhoea. Shock or collapse.

▶ [ILO International Chemical Safety Cards \(ICSC\)](#)

### 6.6 Exposure Routes

The substance can be absorbed into the body by ingestion.

▶ [ILO International Chemical Safety Cards \(ICSC\)](#)

### 6.7 Fire Hazards

Special Hazards of Combustion Products: Irritating [hydrogen chloride](#) fumes may form in fire. (USCG, 1999)

*U.S. Coast Guard. 1999. Chemical Hazard Response Information System (CHRIS) - Hazardous Chemical Data. Commandant Instruction 16465.12C. Washington, D.C.: U.S. Government Printing Office.*

► [CAMEO Chemicals](#)

Excerpt from ERG Guide 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable [hydrogen](#) gas. Containers may explode when heated. For electric vehicles or equipment, ERG Guide 147 ([lithium ion](#) batteries) or ERG Guide 138 ([sodium](#) batteries) should also be consulted. (ERG, 2020)

► [CAMEO Chemicals](#)

Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.

► [ILO International Chemical Safety Cards \(ICSC\)](#)

## 6.8 Hazards Summary



Toxic by ingestion: 10 tablets (0.3 g Fe/tablet) causes mild illness in children; 20 tablets cause severe intoxication; Mortality rate was 1% in 474 acute [iron](#) poisoning cases; [ACGIH] Corrosive to skin; [Quick CPC] An irritant that may cause liver injury; [Merck Index] Decomposed by [water](#) forming [hydrogen chloride](#); A skin, eye, and respiratory tract irritant; Corrosive on ingestion; [ICSC] A skin, eye, nose, and throat irritant; Prolonged skin contact can cause burns; [CHRIS] A skin and strong eye irritant; Toxic by ingestion; [Aldrich MSDS] See [Iron](#) salts, soluble. See [Ferric chloride hexahydrate](#).

*ACGIH - Documentation of the TLVs and BEIs, 7th Ed. Cincinnati: ACGIH Worldwide, 2020.*

*Quick CPC - Forsberg K, Mansdorf SZ. Quick Selection Guide to Chemical Protective Clothing, 5th Ed. Hoboken, NJ: Wiley-Interscience, 2007.*

*Merck Index - O'Neil MJ, Heckelman PE, Dobbelaar PH, Roman KJ (eds). The Merck Index, An Encyclopedia of Chemicals, Drugs, and Biologicals, 15th Ed. Cambridge, UK: The Royal Society of Chemistry, 2013.*

► [Haz-Map, Information on Hazardous Chemicals and Occupational Diseases](#)

## 6.9 Fire Potential



Not flammable

*U.S. Coast Guard, Department of Transportation. CHRIS - Hazardous Chemical Data. Volume II. Washington, D.C.: U.S. Government Printing Office, 1984-5.*

► [Hazardous Substances Data Bank \(HSDB\)](#)

## 6.10 Skin, Eye, and Respiratory Irritations



Dust: Irritating to eyes, nose and throat. If inhaled will cause coughing or difficult breathing. Solid: Will burn skin and eyes.

*U.S. Coast Guard, Department of Transportation. CHRIS - Hazardous Chemical Data. Volume II. Washington, D.C.: U.S. Government Printing Office, 1984-5.*

► [Hazardous Substances Data Bank \(HSDB\)](#)

Inhalation of [ferric](#) salts as dusts and mists is irritating to the respiratory tract. [Ferric](#) salts are regarded as skin irritants. [Iron](#) salts/

*American Conference of Governmental Industrial Hygienists. Documentation of Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices for 2001. Cincinnati, OH. 2001., p. 2*

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

If inhaled, [iron](#) is a local irritant to the lung and gastrointestinal tract. [/Iron compounds/](#)

*International Labour Office. Encyclopaedia of Occupational Health and Safety. 4th edition, Volumes 1-4 1998. Geneva, Switzerland: International Labour Office, 1998., p. 63.15*

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

## 7 First Aid



**EYES:** First check the victim for contact lenses and remove if present. Flush victim's eyes with [water](#) or [normal saline](#) solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. **IMMEDIATELY** transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop. **SKIN:** **IMMEDIATELY** flood affected skin with [water](#) while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and [water](#). **IMMEDIATELY** call a hospital or poison control center even if no symptoms (such as redness or irritation) develop. **IMMEDIATELY** transport the victim to a hospital for treatment after washing the affected areas. **INHALATION:** **IMMEDIATELY** leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Protective Clothing. **INGESTION:** **DO NOT INDUCE VOMITING.** Corrosive chemicals will destroy the membranes of the mouth, throat, and esophagus and, in addition, have a high risk of being aspirated into the victim's lungs during vomiting which increases the medical problems. If the victim is conscious and not convulsing, give 1 or 2 glasses of [water](#) to dilute the chemical and **IMMEDIATELY** call a hospital or poison control center. **IMMEDIATELY** transport the victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. **DO NOT INDUCE VOMITING.** Transport the victim **IMMEDIATELY** to a hospital. (NTP, 1992)

*National Toxicology Program, Institute of Environmental Health Sciences, National Institutes of Health (NTP). 1992. National Toxicology Program Chemical Repository Database. Research Triangle Park, North Carolina.*

► [CAMEO Chemicals](#)

Excerpt from ERG Guide 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Call 911 or emergency medical service. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Move victim to fresh air if it can be done safely. Give artificial respiration if victim is not breathing. Do not perform mouth-to-mouth resuscitation if victim ingested or inhaled the substance; wash face and mouth before giving artificial respiration. Use a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer [oxygen](#) if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running [water](#) for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim calm and warm. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. (ERG, 2020)

► [CAMEO Chemicals](#)

### 7.1 Inhalation First Aid



Fresh air, rest. Refer for medical attention.

► [ILO International Chemical Safety Cards \(ICSC\)](#)

### 7.2 Skin First Aid



Remove contaminated clothes. Rinse skin with plenty of [water](#) or shower.

► [ILO International Chemical Safety Cards \(ICSC\)](#)

## 7.3 Eye First Aid



First rinse with plenty of [water](#) for several minutes (remove contact lenses if easily possible), then refer for medical attention.

- ▶ [ILO International Chemical Safety Cards \(ICSC\)](#)

## 7.4 Ingestion First Aid



Rinse mouth. Give one or two glasses of [water](#) to drink. Do NOT induce vomiting. Refer for medical attention .

- ▶ [ILO International Chemical Safety Cards \(ICSC\)](#)

## 8 Stability and Reactivity



### 8.1 Reactivity Profile



Anhydrous [iron chloride](#) may catalyze the rearrangement and polymerization of [ethylene oxide](#), liberating heat [J. Soc. Chem. Ind. 68:179(1949)]. [Allyl chloride](#) may polymerize violently under conditions involving an acid catalyst, including ferric chloride [Ventrone (1971)].

▶ [CAMEO Chemicals](#)

FERRIC CHLORIDE behaves as a strong acid in aqueous solution. [Iron chloride](#) may catalyze the rearrangement and polymerization of [ethylene oxide](#), liberating heat [J. Soc. Chem. Ind. 68:179(1949)]. [Allyl chloride](#) may polymerize violently under conditions involving an acid catalyst, such ferric chloride [Ventrone (1971)]. At high temperatures ferric chloride dissociates into FeCl<sub>2</sub> and Cl<sub>2</sub>. It reacts violently with alkali metals [sodium](#) or [potassium](#).

▶ [CAMEO Chemicals](#)

### 8.2 Reactivity Alerts



Known Catalytic Activity

▶ [CAMEO Chemicals](#)

## 9 Storage and Handling



### 9.1 Safe Storage



Separated from strong bases and incompatible materials. See Chemical Dangers. Dry. Well closed.

▶ [ILO International Chemical Safety Cards \(ICSC\)](#)

### 9.2 Storage Conditions



Solution of ferric chloride should be stored in polyethylene bottles and should be protected from exposure to light and heat. ...If solutions ...become cloudy, they should be discarded. Solution stored in glass bottles must be refrigerated. Solution stored in glass bottles may reach alkali from glass and the rubber stoppers, forming yellow precipitate of [ferric oxide](#).

*American Hospital Formulary Service. Volumes I and II. Washington, DC: American Society of Hospital Pharmacists, to 1984., p. 36:62*

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

Keep well closed.

*O'Neil, M.J. (ed.). The Merck Index - An Encyclopedia of Chemicals, Drugs, and Biologicals. 13th Edition, Whitehouse Station, NJ: Merck and Co., Inc., 2001., p. 712*

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

### 9.3 Personal Protective Equipment (PPE)



Showing 2 of 3 [View More](#)

Dust respirator if required; rubber apron and boots; chemical worker's goggles or face shield (USCG, 1999)

*U.S. Coast Guard. 1999. Chemical Hazard Response Information System (CHRIS) - Hazardous Chemical Data. Commandant Instruction 16465.12C. Washington, D.C.: U.S. Government Printing Office.*

▶ [CAMEO Chemicals](#)

Excerpt from ERG Guide 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer when there is NO RISK OF FIRE. Structural firefighters' protective clothing provides thermal protection but only limited chemical protection. (ERG, 2020)

▶ [CAMEO Chemicals](#)

### 9.4 Nonfire Spill Response



Excerpt from ERG Guide 157 [Substances - Toxic and/or Corrosive (Non-Combustible / [Water](#)-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames) from immediate area. All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor-suppressing foam may be used to reduce vapors. DO NOT GET [WATER](#) INSIDE CONTAINERS. Use [water](#) spray to reduce vapors or divert

vapor cloud drift. Avoid allowing **water** runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. **SMALL SPILL:** Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean, non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2020)

▶ [CAMEO Chemicals](#)

Excerpt from ERG Guide 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames) from immediate area. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. **DO NOT GET WATER INSIDE CONTAINERS.** (ERG, 2020)

▶ [CAMEO Chemicals](#)

## 10 Cleanup and Disposal



### 10.1 Spillage Disposal



Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered plastic containers. If appropriate, moisten first to prevent dusting.

► [ILO International Chemical Safety Cards \(ICSC\)](#)

### 10.2 Cleanup Methods



Showing 2 of 5 [View More](#)

Environmental consideration: Land spill: Dig a pit, pond, lagoon, holding area to contain liquid or solid material. /SRP: If time permits, pits, ponds, lagoons, soak holes, or holding areas should be sealed with an impermeable flexible membrane liner./ Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting [water](#). /Ferric chloride, anhydrous/

*Association of American Railroads/Bureau of Explosives; Emergency Handling of Hazardous Materials in Surface Transportation. Association of American Railroads. Pueblo, CO. 2002., p. 437*

► [Hazardous Substances Data Bank \(HSDB\)](#)

Environmental considerations: Land spill: Dig a pit, pond, lagoon, holding area to contain liquid or solid material. /SRP: If time permits, pits, ponds, lagoons, soak holes, or holding areas should be sealed with an impermeable flexible membrane liner./ Dike surface flow using soil, sand bags, foamed [polyurethane](#), or foamed concrete. Absorb bulk liquid with fly ash, cement powder, or commercial sorbents. Neutralize with agricultural lime (CaO), crushed limestone (CaCO<sub>3</sub>) or [sodium bicarbonate](#) (NaHCO<sub>3</sub>). /Ferric chloride, solution/

*Association of American Railroads/Bureau of Explosives; Emergency Handling of Hazardous Materials in Surface Transportation. Association of American Railroads. Pueblo, CO. 2002., p. 437*

► [Hazardous Substances Data Bank \(HSDB\)](#)

### 10.3 Disposal Methods



Showing 2 of 3 [View More](#)

SRP: The most favorable course of action is to use an alternative chemical product with less inherent propensity for occupational exposure or environmental contamination. Recycle any unused portion of the material for its approved use or return it to the manufacturer or supplier. Ultimate disposal of the chemical must consider: the material's impact on air quality; potential migration in soil or [water](#); effects on animal, aquatic, and plant life; and conformance with environmental and public health regulations.

► [Hazardous Substances Data Bank \(HSDB\)](#)

Neutralization & landfill: Bury neutralized (with lime or soda ash) waste material in an approved landfill or dispose of through a licensed waste disposal firm.

*United Nations. Treatment and Disposal Methods for Waste Chemicals (IRPTC File). Data Profile Series No. 5. Geneva, Switzerland: United Nations Environmental Programme, Dec. 1985., p. 181*

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

## 11 Additional Considerations



### 11.1 Toxic Combustion Products



Irritating [hydrogen chloride](#) fumes may form in fire.

*U.S. Coast Guard, Department of Transportation. CHRIS - Hazardous Chemical Data. Volume II. Washington, D.C.: U.S. Government Printing Office, 1984-5.*

▶ [Hazardous Substances Data Bank \(HSDB\)](#)

## 12 Information Sources



FILTER BY SOURCE

ALL SOURCES



### 1. CAMEO Chemicals

#### LICENSE

CAMEO Chemicals and all other CAMEO products are available at no charge to those organizations and individuals (recipients) responsible for the safe handling of chemicals. However, some of the chemical data itself is subject to the copyright restrictions of the companies or organizations that provided the data.

[https://cameochemicals.noaa.gov/help/reference/terms\\_and\\_conditions.htm?d\\_f=false](https://cameochemicals.noaa.gov/help/reference/terms_and_conditions.htm?d_f=false)

#### FERRIC CHLORIDE

<https://cameochemicals.noaa.gov/chemical/8680>

#### FERRIC CHLORIDE, SOLUTION

<https://cameochemicals.noaa.gov/chemical/3467>

### 2. CAS Common Chemistry

#### LICENSE

The data from CAS Common Chemistry is provided under a CC-BY-NC 4.0 license, unless otherwise stated.

<https://creativecommons.org/licenses/by-nc/4.0/>

#### Iron chloride (FeCl3)

[https://commonchemistry.cas.org/detail?cas\\_rn=7705-08-0](https://commonchemistry.cas.org/detail?cas_rn=7705-08-0)

### 3. ChemIDplus

#### LICENSE

<https://www.nlm.nih.gov/copyright.html>

#### Ferric chloride

<https://pubchem.ncbi.nlm.nih.gov/substance/?source=chemidplus&sourceid=0007705080>

### 4. DrugBank

#### LICENSE

Creative Common's Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/legalcode>)

[https://www.drugbank.ca/legal/terms\\_of\\_use](https://www.drugbank.ca/legal/terms_of_use)

#### Ferric chloride

<https://www.drugbank.ca/drugs/DB15536>

### 5. DTP/NCI

#### LICENSE

Unless otherwise indicated, all text within NCI products is free of copyright and may be reused without our permission. Credit the National Cancer Institute as the source.

<https://www.cancer.gov/policies/copyright-reuse>

#### FERRIC CHLORIDE

<https://dtp.cancer.gov/dtpstandard/servlet/dwindex?searchtype=NSC&outputformat=html&searchlist=135798>

#### FERRIC CHLORIDE

<https://dtp.cancer.gov/dtpstandard/servlet/dwindex?searchtype=NSC&outputformat=html&searchlist=51150>

### 6. EPA Chemicals under the TSCA

#### LICENSE

<https://www.epa.gov/privacy/privacy-act-laws-policies-and-resources>

#### Iron chloride (FeCl3)

<https://www.epa.gov/chemicals-under-tsca>

## 7. EPA DSSTox

### LICENSE

<https://www.epa.gov/privacy/privacy-act-laws-policies-and-resources>

*Ferric chloride*

<https://comptox.epa.gov/dashboard/DTXSID8020622>

## 8. European Chemicals Agency (ECHA)

### LICENSE

Use of the information, documents and data from the ECHA website is subject to the terms and conditions of this Legal Notice, and subject to other binding limitations provided for under applicable law, the information, documents and data made available on the ECHA website may be reproduced, distributed and/or used, totally or in part, for non-commercial purposes provided that ECHA is acknowledged as the source: "Source: European Chemicals Agency, <http://echa.europa.eu/>". Such acknowledgement must be included in each copy of the material. ECHA permits and encourages organisations and individuals to create links to the ECHA website under the following cumulative conditions: Links can only be made to webpages that provide a link to the Legal Notice page.

<https://echa.europa.eu/web/guest/legal-notice>

*Iron trichloride*

<https://echa.europa.eu/substance-information/-/substanceinfo/100.028.846>

*Iron trichloride*

<https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/124780>

## 9. Hazardous Substances Data Bank (HSDB)

*FERRIC CHLORIDE*

<https://pubchem.ncbi.nlm.nih.gov/source/hsdb/449>

## 10. ILO International Chemical Safety Cards (ICSC)

### LICENSE

The reproduction of ILO material is generally authorized for non-commercial purposes and within established limits. For non-commercial purposes of reproduction of data, any required permission is hereby granted and no further permission must be obtained from the ILO, but acknowledgement to the ILO as the original source must be made.

<https://www.ilo.org/global/copyright/request-for-permission/lang--en/index.htm>

*FERRIC CHLORIDE (ANHYDROUS)*

[https://www.ilo.org/dyn/icsc/showcard.display?p\\_version=2&p\\_card\\_id=1499](https://www.ilo.org/dyn/icsc/showcard.display?p_version=2&p_card_id=1499)

## 11. The National Institute for Occupational Safety and Health (NIOSH)

### LICENSE

The information provided using CDC Web site is only intended to be general summary information to the public. It is not intended to take the place of either the written law or regulations.

<https://www.cdc.gov/Other/disclaimer.html>

*Ferric chloride*

<https://www.cdc.gov/niosh-rtecs/LJ8ADAE0.html>

## 12. Wikipedia

*iron(III) chloride*

[https://en.wikipedia.org/wiki/Iron\(III\)\\_chloride](https://en.wikipedia.org/wiki/Iron(III)_chloride)

## 13. Haz-Map, Information on Hazardous Chemicals and Occupational Diseases

### LICENSE

Copyright (c) 2022 Haz-Map(R). All rights reserved. Unless otherwise indicated, all materials from Haz-Map are copyrighted by Haz-Map(R). No part of these materials, either text or image may be used for any purpose other than for personal use. Therefore, reproduction, modification, storage in a retrieval system or retransmission, in any form or by any means, electronic, mechanical or otherwise, for reasons other than personal use, is strictly prohibited without prior written permission.

<https://haz-map.com/About>

*Ferric chloride*

<https://haz-map.com/Agents/1406>

## 14. Hazardous Chemical Information System (HCIS), Safe Work Australia

*Iron chloride (FeCl<sub>3</sub>)*

<http://hcis.safeworkaustralia.gov.au/HazardousChemical/Details?chemicalID=5528>

## 15. NITE-CMC

*Iron (III) chloride - FY2014*

<https://www.nite.go.jp/chem/english/ghs/14-mhlw-2127e.html>

*Iron (III) chloride - FY2009*

<https://www.nite.go.jp/chem/english/ghs/09-mhlw-2039e.html>

*Iron trichloride - FY2006*

<https://www.nite.go.jp/chem/english/ghs/06-imcg-0822e.html>

## 16. PubChem

<https://pubchem.ncbi.nlm.nih.gov>