

1 Identification of substance:

- **Product name:** Ferric Chloride
- **Catalog number:** 261190
- **Manufacturer/Supplier:**
BD Diagnostic Systems
7 Loveton Circle
Sparks, MD 21152
Tel: (410) 771-0100 or (800) 638-8663
- **Information department:** Technical Services
- **Emergency information:**
In case of a chemical emergency, spill, fire, exposure, or accident contact BD Diagnostic Systems at (410)771-0100 or (800)638-8663, or ChemTrec at (800)424-9300.

2 Composition/Data on components:

- **Chemical characterization:**
- **CAS No. Description:**
7705-08-0 ferric chloride
- **Identification number(s):**
- **EINECS Number:** 2317294
- **Chemical characterization**
- **Description:** Mixture consisting of the following components.

· **Dangerous components:**

| | |
|-----------------|-------|
| ferric chloride | 15.4% |
|-----------------|-------|

3 Hazards identification

· **Hazard description:**



C Corrosive

- **Information pertaining to particular dangers for man and environment**
R 37 Irritating to respiratory system.
R 41 Risk of serious damage to eyes.
- **Classification system**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **NFPA ratings (scale 0-4)**



Health = 2
Fire = 0
Reactivity = 1

4 First aid measures

- **General information** Immediately remove contaminated clothing.

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- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact** Rinse opened eye for 15 minutes under running water. Then consult a doctor.
- **After swallowing** Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor** Show this product label or this MSDS.

5 Fire fighting measures

- **Suitable extinguishing agents**
CO₂, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:** Wipe up with damp sponge or mop.
- **Measures for cleaning/collecting:** Do not flush with water or aqueous cleansing agents

7 Handling and storage

- **Handling**
- **Information for safe handling:** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** None
- **Storage**
- **Requirements to be met by storerooms and receptacles:** 15 - 30 C
- **Information about storage in one common storage facility:**
Store away from oxidizing agents.
Do not store together with alkaline material.
Do not store with sodium, and potassium.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Components with limit values that require monitoring at the workplace:**

ferric chloride

| | |
|-----|------------------------------|
| TLV | 1 mg/m ³ as Fe |
|-----|------------------------------|

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Personal Protective Equipment**
- **General protective and hygienic measures**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.

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Avoid contact with the eyes and skin.

· Breathing equipment:

In case of brief exposure, use a chemical fume hood or a NIOSH/MSHA-approved respirator.

· Protection of hands:



Chemical resistant gloves (i.e. nitrile, or equivalent).

· Eye protection: Safety glasses

· Body protection: Protective work clothing (lab coat).

9 Physical and chemical properties:

· General Information

| | |
|---------------|--------------|
| Form: | Liquid |
| Color: | Yellow-brown |
| Odor: | Strong |

· Change in condition

Melting point/Melting range: Not determined
Boiling point/Boiling range: Not determined

· Flash point: Not applicable

· Danger of explosion: Product does not present an explosion hazard.

· Density: Not determined

· Solubility in / Miscibility with

Water: Soluble

· pH-value: < 2.0

10 Stability and reactivity

· Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

· Materials to be avoided: Incompatibles materials: Strong Bases and oxidizers

· Dangerous reactions Polymerization occurs with mineral acids

· Dangerous products of decomposition:

Chlorine (Cl)

Carbon monoxide (CO) and carbon dioxide (CO₂)

11 Toxicological information

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

| | | |
|------|------|------------------|
| Oral | LD50 | 1872 mg/kg (rat) |
|------|------|------------------|

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- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:** Target organs: respiratory tract, eyes, kidneys, and skin.
- **Additional toxicological information:**
 - Corrosive (causes skin burns)
 - Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
 - The product shows the following dangers according to internally approved calculation methods for preparations:
 - This product or product container contains dry natural rubber latex.

12 Ecological information:

- **Ecotoxicological effects:**
- **Other information:**
 - The ecological effects have not been thoroughly investigated, but currently none have been identified.
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

13 Disposal considerations

- **Product:**
- **Recommendation**
 - Must not be disposed of with solid waste.
 - Dispose of material in accordance with federal (40 CFR 261.3), state and local requirements.
 - RCRA hazardous waste - RCRA # D002 (corrosive).
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to state and federal regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **DOT regulations:**



- **Hazard class:** 8
- **Identification number:** UN2582
- **Packing group:** III
- **Proper shipping name:** FERRIC CHLORIDE SOLUTION
- **Label** 8

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· Remarks: This package conforms to 49 CFR 173.4
This product can be transported using the "small quantity" exception. This package conforms to 49 CFR 173.4. The Hazard Class, Identification number, and Packing group listed above is for informational purposes only.

· Land transport ADR/RID (cross-border)



· ADR/RID class: 8 (C1) Corrosive substances
· UN-Number: 2582
· Packaging group: III
· Description of goods: 2582 FERRIC CHLORIDE SOLUTION

· Maritime transport IMDG:



· IMDG Class: 8
· UN Number: 2582
· Label 8
· Packaging group: III
· EMS Number: F-A,S-B
· Marine pollutant: No
· Proper shipping name: FERRIC CHLORIDE SOLUTION
· Remarks: Limited quantity

· Air transport ICAO-TI and IATA-DGR:



· ICAO/IATA Class: 8
· UN/ID Number: 2582
· Label 8
· Packaging group: III
· Proper shipping name: FERRIC CHLORIDE SOLUTION
· Remarks: This product can be transported using the exception: Dangerous Goods in Excepted Quantities. The Hazard class, Identification number, and Packing group listed above is for informational purposes only.

15 Regulations

· SARA Section 355 (extremely hazardous substances)

None of the ingredients is listed.

· SARA Section 313 (specific toxic chemical listings)

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act)

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· **California Proposition 65 - Chemicals known to cause cancer**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenicity categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **Product related hazard information:**

The product has been classified and marked in accordance with regulations on hazardous materials.

· **Hazard symbols:**

C Corrosive

· **Hazard-determining components of labeling:**

ferric chloride

· **Risk phrases:**

37 Irritating to respiratory system.

41 Risk of serious damage to eyes.

· **Safety phrases:**

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

36/39 Wear suitable protective clothing and eye/face protection.

60 This material and its container must be disposed of as hazardous waste.

· **National regulations**

· **Additional classification according to Decree on Hazardous Materials:**

RCRA: This product contains ferric chloride, which has Reportable

Quantity (RQ) of 1000 lbs.

SARA 311/312: Maybe subject to reporting.

313: Not subject to reporting.

16 Other information:

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company or any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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Material Safety Data Sheet
acc. to ISO/DIS 11014

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- **Department issuing MSDS:** Safety and Environment Department
- **Contact:** Technical Service Representative

USA