# Iron (III) Chloride Anhydrous

**MSDS #** 374.00

## Section 1: Product and Company Identification

### Iron (III) Chloride Anhydrous

**Synonyms/General Names:** Ferric Chloride, Anhydrous
**Product Use:** For educational use only
**Manufacturer:** Columbus Chemical Industries, Inc., Columbus, WI 53925.

**24 Hour Emergency Information Telephone Numbers**

**CHEMTREC (USA): 800-424-9300** **CANUTEC (Canada): 613-424-6666**

ScholAR Chemistry; 5100 W. Henrietta Rd, Rochester, NY 14586; (866) 260-0501; www.Scholarchemistry.com

## Section 2: Hazards Identification

*Dark to black crystalline powder; slight chlorine odor.*

**HMIS (0 to 4)**

| | |
|---|---|
| Health | 2 |
| Fire Hazard | 0 |
| Reactivity | 1 |

**WARNING!** Corrosive to body tissue and moderately toxic by ingestion.
Target organs: Cardiovascular and central nervous systems, liver, kidneys.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

## Section 3: Composition / Information on Ingredients

Ferric Chloride, Anhydrous (7705-08-0), 100%

## Section 4: First Aid Measures

***Always seek professional medical attention after first aid measures are provided.***

**Eyes:** Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.
**Skin:** Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.
**Ingestion:** Call Poison Control immediately. ***Do not induce vomiting***. Rinse mouth with cold water. Give victim 1-2 cups of water or milk to drink.
**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration.

## Section 5: Fire Fighting Measures

Nonflammable solid. When heated to decomposition, emits acrid chlorine fumes.

**Protective equipment and precautions for firefighters:** Use foam or dry chemical to extinguish fire. Firefighters should wear full fire fighting turn-out gear and respiratory protection (SCBA). Cool container with water spray. Material is not sensitive to mechanical impact or static discharge.

## Section 6: Accidental Release Measures

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Remove all ignition sources and ventilate area. Contain spill with sand or absorbent material and place material in a sealed bag or container for disposal. Wash spill area after pickup is complete. See Section 13 for disposal information.

## Section 7: Handling and Storage White

**Handling:** Use with adequate ventilation and do not breathe dust or vapor. Avoid contact with skin, eyes, or clothing. Wash hands thoroughly after handling.
**Storage**: Store in Corrosive Area [White Storage] with other corrosive items. Store in a cool, dry, well-ventilated, locked store room away from incompatible materials.

## Section 8: Exposure Controls / Personal Protection

Use ventilation to keep airborne concentrations below exposure limits. Have approved eyewash facility, safety shower, and fire extinguishers readily available. Wear chemical splash goggles and chemical resistant clothing such as gloves and aprons. Wash hands thoroughly after handling material and before eating or drinking. Use NIOSH-approved respirator with a dust cartridge. Exposure guidelines Iron Salts, soluble: OSHA PEL: N/A and ACGIH TLV: 1 mg/m$^3$; STEL: N/A.

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## Section 9: Physical and Chemical Properties

| | | | | |
|---|---|---|---|---|
| **Molecular formula** | $FeCl_3$. | **Appearance** | Dark to black crystalline powder. | |
| **Molecular weight** | 162.21. | **Odor** | Slightly pungent odor. | |
| **Specific Gravity** | 2.09 g/mL @ 20°C. | **Odor Threshold** | N/A. | |
| **Vapor Density (air=1)** | N/A. | **Solubility** | Soluble in water. | |
| **Melting Point** | 306°C. | **Evaporation rate** | N/A. | *(Butyl acetate = 1).* |
| **Boiling Point/Range** | 315°C. | **Partition Coefficient** | N/A. | *(log $P_{OW}$).* |
| **Vapor Pressure (20°C)** | N/A. | **pH** | N/A. | |
| **Flash Point:** | N/A. | **LEL** | N/A. | |
| **Autoignition Temp.**: | N/A. | **UEL** | N/A. | |

## Section 10: Stability and Reactivity

Avoid heat and ignition sources.
**Stability:** Stable under normal conditions of use and storage. Produces Hydrochloric acid fumes on exposure to moisture or light
**Incompatibility:** Reducing agents, metals, allyl chloride, sodium, potassium.
**Shelf life**: Poor shelf life, hygroscopic, store in cool, dry environment.

## Section 11: Toxicology Information

**Acute Symptoms/Signs of exposure:** ***Eyes***: Redness, tearing, itching, burning, damage to cornea, conjunctivitis, loss of vision. ***Skin***: Redness, blistering, burning, itching, tissue destruction with slow healing. ***Ingestion***: Nausea, vomiting, burning, diarrhea, ulceration, convulsions, shock. ***Inhalation***: Coughing, wheezing, shortness of breath, headache, spasm, inflammation and edema of bronchi, pneumonitis.
**Chronic Effects:** Repeated/prolonged skin contact may cause thickening, blackening or cracking. Repeated eye exposure may cause corneal erosion or loss of vision.
**Sensitization:** none expected
*Iron (III) Chloride: LD50 [oral, rat]; 450 mg/kg; LC50 [rat]; N/A; LD50 Dermal [rabbit]; N/A*
*Material has not been found to be a carcinogen nor produce genetic, reproductive, or developmental effects.*

## Section 12: Ecological Information

**Ecotoxicity (aquatic and terrestrial):** Ecological impact has not been determined.

## Section 13: Disposal Considerations

Check with all applicable local, regional, and national laws and regulations. Local regulations may be more stringent than regional or national regulations. Small amounts of this material may be suitable for trash or sanitary sewer disposal .

## Section 14: Transport Information

| | | | |
|---|---|---|---|
| **DOT Shipping Name**: | Ferric Chloride, Anhydrous. | **Canada TDG:** | Ferric Chloride, Anhydrous. |
| **DOT Hazard Class**: | 8, pg III. | **Hazard Class:** | 8, pg III . |
| **Identification Number**: | UN1773. | **UN Number:** | UN1773 . |

## Section 15: Regulatory Information

**EINECS:** Not listed.
**TSCA:** All components are listed or are exempt.
**WHMIS Canada:** CLASS E: Corrosive material.
**California Proposition 65:** Not listed.
*The product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.*

## Section 16: Other Information

**Current Issue Date:** January 23, 2009
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