



SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed: 03/07/2007
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Version 1.60

Section 1 - Product and Company Information

| | |
|---------------------------|--|
| Product Name | Iron(II) chloride, anhydrous, beads, -10 mesh, 99.998% |
| Product Number | 429368 |
| Brand | Aldrich Chemical |
| Company | Sigma-Aldrich |
| Street Address | 3050 Spruce Street |
| City, State, Zip, Country | SAINT LOUIS, MO 63103 US |
| Technical Phone: | 800-325-5832 |
| Fax: | 800-325-5052 |
| Emergency Phone: | 314-776-6555 |

Section 2 - Composition/Information on Ingredient

| Substance Name | CAS # | SARA 313 | EC no | Annex I Index Number |
|----------------------------|-----------|----------|-----------|----------------------|
| FERROUS CHLORIDE ANHYDROUS | 7758-94-3 | No | 231-843-4 | |

| | |
|----------|---|
| Formula | FeCl ₂ |
| Synonyms | Ferrous chloride, Iron dichloride, Iron protochloride |

Section 3 - Hazards Identification

Emergency Overview
Corrosive,
Harmful if swallowed, Causes burns.

HMIS Rating
Health: 3 Flammability: 0 Reactivity: 1

NFPA Rating
Health: 3 Flammability: 0 Reactivity: 1

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

Inhalation Exposure
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Eye Exposure

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A

Firefighting

Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)

Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill

Evacuate area.

Procedure(s) of Personal Precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Sweep up, place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed.

Special Requirements

Handle and store under inert gas. Air and moisture sensitive.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Use only in a chemical fume hood.

Personal Protective Equipment

Respiratory

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

General Hygiene Measures

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

Exposure Limits, RTECS

Aldrich Chemical - 429368

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www.sigma-aldrich.com

| Country | Source | Type | Value |
|---------------------------------|-------------------|------|-------------|
| USA | ACGIH | TWA | 1 MG(Fe)/M3 |
| USA | ACGIH | TWA | 1 MG(Fe)/M3 |
| USA | MSHA Standard-air | TWA | 1 MG(Fe)/M3 |
| USA | MSHA Standard-air | TWA | 1 MG(Fe)/M3 |
| New Zealand | OEL | | |
| Remarks: check ACGIH TLV | | | |
| New Zealand | OEL | | |
| Remarks: check ACGIH TLV | | | |

Section 9 - Physical/Chemical Properties

| | |
|------------------------------|-------|
| Appearance | |
| Physical State | Solid |
| Molecular Weight: | |
| 126,75 AMU | |
| pH | |
| N/A | |
| BP/BP Range | |
| N/A | |
| MP/MP Range | |
| 677 °C | |
| Freezing Point | |
| N/A | |
| Vapor Pressure | |
| N/A | |
| Vapor Density | |
| N/A | |
| Saturated Vapor Conc. | |
| N/A | |
| SG/Density | |
| 3,16 g/cm3 | |
| Bulk Density | |
| N/A | |
| Odor Threshold | |
| N/A | |
| Volatile% | |
| N/A | |
| VOC Content | |
| N/A | |
| Water Content | |
| N/A | |
| Solvent Content | |
| N/A | |
| Evaporation Rate | |
| N/A | |
| Viscosity | |
| N/A | |
| Partition Coefficient | |
| N/A | |
| Decomposition Temp. | |
| N/A | |
| Flash Point °F | |
| N/A | |
| Flash Point °C | |
| N/A | |
| Explosion Limits | |
| N/A | |
| Flammability | |
| N/A | |
| Autoignition Temp | |
| N/A | |
| Solubility | |
| N/A | |

N/A = not available

Section 10 - Stability and Reactivity

| | |
|-----------------------------------|--|
| Stability | |
| Stable | |
| Stable | |
| Conditions of Instability | |
| May decompose on exposure to air. | |
| Conditions to Avoid | |
| Air sensitive. | |

Materials to Avoid
Forms explosive mixtures with: Potassium, Sodium.

Hazardous Decomposition Products
Hazardous Decomposition Products
Hydrogen chloride gas.

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

| | |
|---|--|
| Route of Exposure | |
| Skin Contact | |
| Causes burns. | |
| Skin Absorption | |
| May be harmful if absorbed through the skin. | |
| Eye Contact | |
| Causes burns. | |
| Inhalation | |
| Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May be harmful if inhaled. | |
| Ingestion | |
| Harmful if swallowed. | |

Signs and Symptoms of Exposure
Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Overdose of iron compounds may have a corrosive effect on the gastrointestinal mucosa and be followed by necrosis, perforation, and stricture formation. Several hours may elapse before symptoms that can include epigastric pain, diarrhea, vomiting, nausea, and hematemesis occur. After apparent recovery a person may experience metabolic acidosis, convulsions, and coma hours or days later. Further complications may develop leading to acute liver necrosis that can result in death due to hepatic coma.

RTECS Number: NQ5400000

Toxicity Data

Oral - Rat: 450 mg/kg (LD50)
Intraperitoneal - Mouse: 59 MG/KG (LD50)

Chronic Exposure - Mutagen

| Species | Dose | Cell Type | Mutation test |
|---------|-------------|-----------|-------------------------------|
| Hamster | 2500 UMOL/L | Embryo | Morphological transformation. |

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Contact a licensed professional waste disposal service to dispose of this material.

Section 14 - Transport Information

DOT
Proper Shipping Name: Ferrous chloride, solid
UN#: 1759
Class: 8
Packing Group: Packing Group II

Hazard Label: Corrosive
PIH: Not PIH

IATA

Proper Shipping Name: Corrosive solid, acidic, inorganic, n.o.s.
IATA UN Number: 3260
Hazard Class: 8
Packing Group: III

Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: C

Indication of Danger

Corrosive.

Risk Statements R: 22 34

Harmful if swallowed. Causes burns.

Safety Statements S: 26 36/37/39 45

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Classification and Label Text

Indication of Danger

Corrosive.

Risk Statements

Harmful if swallowed. Causes burns.

Safety Statements

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

United States Regulatory Information

SARA Listed: No

TSCA Inventory Item: Yes Yes

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

