




**ALDON
CORPORATION**

MATERIAL SAFETY DATA SHEET

1533 W.Henrietta Rd.
Avon, New York 14414
(716) 226-6177

MSDS No. FF 170
Effective Date February 25, 1999

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

| | | | | |
|-------------------|--------------------------------------|---|------------|---|
| Product | FERROUS CHLORIDE |  CHEMTREC 800-424-9300 Day 716-226-6177 NFPA HAZARD RATING LEAST SLIGHT MODERATE HIGH EXTREME 0 1 2 3 4 | Health | 2 |
| Chemical Synonyms | Iron (II) Chloride Tetrahydrate | | Fire | 0 |
| Formula | FeCl ₂ •4H ₂ O | | Reactivity | 1 |
| Unit Size | up to 2.5 Kg. | | HMIS * | |
| C.A.S. No. | 13478-10-9 | | | |

SECTION II INGREDIENTS OF MIXTURES

| Principal Component(s) | % | TLV Units |
|--|------|-------------------|
| Ferrous Chloride, Tetrahydrate | 100% | None established. |
| DANGER! CORROSIVE! CAUSES SEVERE BURNS. | | |
| HARMFUL IF SWALLOWED. | | |
| EMITS TOXIC FUMES WHEN HEATED. VERY HYGROSCOPIC. | | |

SECTION III PHYSICAL DATA

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|------------------------|---|---|------|
| Melting Point (°F) | -2H ₂ O @ 105°-115°C (221°-239°F) | Specific Gravity (H ₂ O = 1) | 1.93 |
| Boiling Point (°F) | 1026°C (1879°F) | Percent Volatile by Volume (%) | N/A |
| Vapor Pressure (mm Hg) | 10 mm at 700°C | Evaporation Rate (=1) | N/A |
| Vapor Density (Air=1) | Data not listed. | | |
| Solubility in Water | 160 grams per 100 mL. H ₂ O at 20°C. | | |
| Appearance & Odor | Yellow-green crystalline powder; slight hydrogen chloride odor. | | |

SECTION IV FIRE AND EXPLOSION HAZARD DATA

| | | | | | |
|---------------------------|---|-------------------------------------|-----|-------|-------|
| Flash Point (Method Used) | Non-flammable. | Flammable Limits in Air % by Volume | N/A | Lower | Upper |
| Extinguisher Media | Use any media suitable for extinguishing supporting fire. | | | | |

SPECIAL FIREFIGHTING PROCEDURES

In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus with full face shield and protective clothing.

(1996 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.7, GUIDE PAGE NO. 154)

UNUSUAL FIRE AND EXPLOSION HAZARDS

When heated emits toxic and corrosive Hydrochloric acid fumes.

SECTION V HEALTH HAZARD DATA

FF 170

Threshold Limited Value

None established. (ACGIH 1992-93).
Toxicity studies: LD₅₀ Oral (Rat)=984 mg/Kg.

Effects of Overexposure

TARGET ORGANS AFFECTED: Cardiovascular and central nervous system, liver and kidneys. May cause severe eye and skin irritation or burns. Inhalation may severely irritate mucous membranes and cause labored breathing. Ingestion may cause abdominal pain, vomiting, intense dehydration, shock. Exercise appropriate procedures to minimize potential hazards.

Emergency and First Aid Procedures

EYES: Flush thoroughly with water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention. **SKIN:** Flush with water, then wash with soap and water. **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. **INGESTION:** If swallowed, if conscious, give one or two glasses of water to drink and call physician immediately. Never give anything by mouth to an unconscious person.

SECTION VI REACTIVITY DATA

| | | | |
|-----------|----------|---------------------|---|
| Stability | Unstable | Conditions to Avoid | Oxidizes upon exposure to air and moisture. |
| | Stable | X | |

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| Incompatibility (Materials to Avoid) | Oxidizing materials. |
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| Hazardous Decomposition Products | When heated, emits fumes of hydrochloric acid. |
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| Hazardous Polymerization | Conditions to Avoid |
| May Occur | Will Not Occur |
| | X |
| | Not applicable. |

SECTION VII SPILL OR LEAK PROCEDURES

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| Steps to be taken in case material is released or spilled | Reclaim as much as possible. Sweep up and place in a suitable container. Dissolve in water, neutralize with soda ash, and flush to sewer with excess water. |
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| Waste Disposal Method | Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only. Dissolve in water, neutralize with soda ash and flush to sewer with copious amounts of water, or if uncontaminated material may be disposed of in a sanitary landfill. Check local codes. |
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SECTION VIII SPECIAL PROTECTION INFORMATION

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|---------------------------------------|---|--------------|---------|
| Respiration Protection (Specify Type) | None needed in normal laboratory handling. If dusty conditions prevail, work in a ventilation hood or wear a NIOSH/MSHA-approved dust mask or respirator. | | |
| Ventilation | Local Exhaust | Yes. | Special |
| | Mechanical (General) | Recommended. | Other |
| | | | No. |

| | | | |
|-------------------|---------|----------------|--------------------------|
| Protective Gloves | Rubber. | Eye Protection | Chemical safety glasses. |
|-------------------|---------|----------------|--------------------------|

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| Other Protective Equipment | Smock, apron, eye wash station, proper gloves, ventilation hood. |
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SECTION IX SPECIAL PRECAUTIONS

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| Precautions to be Taken in Handling & Storing | Store in a cool, dry place away from oxidizing materials. Wash thoroughly after handling. |
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|-------------------|---|
| Other Precautions | Read label on container before using. Do not wear contact lenses when working with chemicals. |
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Avoid contact with skin, eyes and clothing. Use with adequate ventilation. Remove and wash contaminated clothing.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

| | | | | | | | |
|----------|-------|------|---------|----------|-----------------|-----------------------------|----|
| Revision | No. 7 | Date | 2/25/99 | Approved | Michael Raszeja | Chemical Safety Coordinator | MR |
|----------|-------|------|---------|----------|-----------------|-----------------------------|----|

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. * Hazardous Materials Industrial Standards. Printed on recycled paper.

D.O.T. FERROUS CHLORIDE, SOLID, 8, NA 1759, PG II

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20