



ALDON CORPORATION

MATERIAL SAFETY DATA SHEET

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MSDS No. FF 170
Effective Date February 25, 1999

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	FERROUS CHLORIDE	 <p>CHEMTREC 800-424-9300 Day 716-226-6177</p> <p>NFPA HAZARD RATING</p> <table border="1"> <tr> <td>LEAST</td> <td>SLIGHT</td> <td>MODERATE</td> <td>HIGH</td> <td>EXTREME</td> </tr> <tr> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> </table> <p>HMIS *</p> <table border="1"> <tr> <td>Health</td> <td>2</td> </tr> <tr> <td>Fire</td> <td>0</td> </tr> <tr> <td>Reactivity</td> <td>1</td> </tr> </table>	LEAST	SLIGHT	MODERATE	HIGH	EXTREME	0	1	2	3	4	Health	2	Fire	0	Reactivity	1
LEAST	SLIGHT		MODERATE	HIGH	EXTREME													
0	1		2	3	4													
Health	2																	
Fire	0																	
Reactivity	1																	
Chemical Synonyms	Iron (II) Chloride Tetrahydrate																	
Formula	FeCl ₂ •4H ₂ O																	
Unit Size	up to 2.5 Kg.																	
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

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.

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

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

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		

Incompatibility (Materials to Avoid) Oxidizing materials.

Hazardous Decomposition Products When heated, emits fumes of hydrochloric acid.

Hazardous Polymerization	Conditions to Avoid
May Occur	Will Not Occur
	X
Not applicable.	

SECTION VII SPILL OR LEAK PROCEDURES

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.

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.

SECTION VIII SPECIAL PROTECTION INFORMATION

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	No.
	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.

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing Store in a cool, dry place away from oxidizing materials. Wash thoroughly after handling. Keep container tightly closed when not in use.

Other Precautions Read label on container before using. Do not wear contact lenses when working with chemicals.

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
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