

# MATERIAL SAFETY DATA SHEET

Ferrous Chloride

## SECTION 1 . Product and Company Identification

Product Name and Synonym: Ferrous Chloride  
Product Code: F3010  
Material Uses:  
Manufacturer: Science Stuff  
1104 Newport Ave  
Austin, TX 78753  
(512) 837-6020  
Entry Date : 6/4/2013  
Print Date: 6/4/2013  
24 Hour Emergency Assistance : Chemtrec 800-424-9300  
Canutec 613-996-6666

Health:	2			
Flammability:	0			
Reactivity:	0			
Hazard Rating:				
Least	Slight	Moderate	High	Extreme
0	1	2	3	4
NA=Not Applicable		NE=Not Established		

## SECTION 2 HAZARD IDENTIFICATION

Harmful if swallowed. May cause irritation. Avoid breathing vapors, or dusts. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

Physical state: Solid.

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

Emergency overview:

DANGER!

CAUSES EYE AND SKIN BURNS.

HARMFUL IF INHALED OR SWALLOWED.

CAUSES SEVERE RESPIRATORY TRACT IRRITATION.

Do not ingest.

Do not get in eyes or on skin or clothing.

Keep container tightly closed and sealed until ready for use. Use only with adequate ventilation. Wash thoroughly after handling.

Routes of entry:

Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects:

Eyes: Corrosive to eyes. Cause burns.

Skin: Corrosive to the skin. Cause burns.

Inhalation: Toxic by inhalation. Severely irritating to the respiratory system.

Ingestion: Toxic if swallowed. May cause burns to mouth, throat and stomach.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity/ Reproductive toxicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Medical conditions aggravated by over-exposure: None known

## SECTION 3 MIXTURE COMPONENTS

# Ferrous Chloride

SARA 313	Component	CAS Number	Percent Comp.	Dimension	Exposure Limits
<input type="checkbox"/>	Ferrous Chloride	CAS# 13478-10-9	100 %	W/W	TXDS: orl-rat LDLo: 900 mg/Kg

## SECTION 4 FIRST AID MEASURES

Harmful if swallowed. May cause irritation. Avoid breathing vapors, or dusts. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

FIRST AID: SKIN: Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: If swallowed, induce vomiting immediately after giving two glasses of water. Never give anything by mouth to an unconscious person.

## SECTION 5 FIRE FIGHTING MEASURES

Fire Extinguisher Type:	Water
Fire / Explosion Hazards:	None Known.
Fire Fighting Procedure:	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

Sweep up and place in suitable (fiberboard) containers for reclamation or later disposal.

Personal precautions: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personal from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up: Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

## SECTION 7 HANDLING AND STORAGE

Store in a cool, dry area away from heat and oxidizers.  
Keep container tightly closed.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection:	Dust respirator
Ventilation	Local Exhaust <input checked="" type="checkbox"/>

Ferrous Chloride

Mechanical

Protective Gloves: Wear appropriate gloves to prevent skin exposure

Eye Protection: Safety goggles

Other Protective Equipment: Wear appropriate clothing to prevent skin exposure

Product name - United States –

Ferrous Chloride Terahydrate

ACGIH TLV (United States, 1/2008)

TWA: 1 mg/m<sup>3</sup>, (as Fe) 8 hour(s)

NIOSH REL (United States, 6/2008)

TWA: 1 mg/m<sup>3</sup>, (as Fe) 10 hour(s)

OSHA PEL 1989 (United States, 3/1989)

TWA: 1 mg/m<sup>3</sup>, (as Fe) 8 hour(s) Form: Soluble

Consult local authorities for acceptable exposure limits.

Engineering measurers: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protection

Eyes: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Recommended: face shield safety glasses with side-shields

Skin: Personal protective equipment for the body should be selected based on the task being performed and risks involved and should be approved by a specialist before handling this product.

Body recommended:

safety apron

Respiratory: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Recommended: nitrile rubber

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

Melting Point: 614-670°C Percent Volatile by Volume: 0

Ferrous Chloride

Boiling Point:	1026°C	Evaporation Rate	0
Vapor Pressure:	10mm@700°C	Evaporation Standard	
Vapor Density:	Information not available	Auto Ignition Temp	Not applicable
Solubility in Water:	Slight	Lower Flamm. Limit in Air	Not applicable
Appearance /Odors:	Odorless/ pale green transparent crystals	Upper Flamm. Limit in Air	Not applicable
Flash Point:	Nonflammable		
Specific Gravity:	1.93		

**SECTION 10 STABILITY AND REACTIVITY INFORMATION**

Stability:	Stable
Conditions to Avoid:	Exposure to air and moisture
Materials to Avoid:	Oxidizers
Hazardous Decomposition Products:	When heated emits fumes of hydrochloric acid
Hazardous polymerization:	Will Not Occur
Conditions to Avoid:	None known

**SECTION 11 Toxicological Information**

Toxicity data- United States- Product/ ingredient name:

Ferrous Chloride Tetrahydrate			
LDLo 890 mg/kg	Oral		Rabbit
LDLo 498 mg/kg	Rectal		Rat

Carcinogenic effects: No known significant effects or critical hazards.  
Mutagenic effects: No known significant effects or critical hazards.  
Teratogenicity/Reproductive toxicity: No known significant effects or critical hazards.

**SECTION 12 Ecological Information**

Environmental effects : No known significant effects or critical hazards.  
Other adverse effects : No known significant effects or critical hazards.

**SECTION 13 Disposal Considerations**

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

**SECTION 14 Transport Information**

DOT Classification: Not Regulated

DOT Regulations may change from time to time. Please consult the most recent D.O.T. regulations.

**SECTION 15 Regulatory Information**

United States  
Toxic material  
Corrosive material

## Ferrous Chloride

### U.S. Federal regulations:

United States inventory (TSCA 8b): listed  
TSCA (Toxic Substance Control Act): This product is listed on the TSCA Inventory.  
SARA 302/304/311/312 extremely hazardous substances: No products were found.  
SARA 302/304 emergency planning and notifications: No products were found.  
SARA 302/304/311/312 hazardous chemicals: Ferrous Chloride Tetrahydrate  
SARA 311/312 MSDS distribution- Chemical inventory- hazard identification: Ferrous Chloride Tetrahydrate  
Immediate (acute) health hazard, Delayed (chronic) health hazard  
Clean Water Act (CWA) 307: No products were found.  
Clean Water Act (CWA) 311: No products were found.  
Clean Air Act (CAA) 112 accidental release prevention: No products were found.  
Clean Air Act (CAA) 112 regulated flammable substance: No products were found.  
Clean Air Act (CAA) 112 regulated toxic substance: No products were found.

DEA List I Chemicals : not listed  
(Precursor Chemicals)  
DEA List II Chemicals : not listed  
(essential Chemicals)  
Pennsylvania RTK Hazardous Substances : This material is listed.

Canada  
WHMIS (Canada) : Not controlled under WHMIS (Canada).  
Canadian lists : CEPA Toxic Substance: This material is not listed.  
Canadian ARET: This material is not listed.  
Canadian NPRI: This material is listed.  
Alberta Designated Substances: This material is not listed.  
Ontario Designated Substances: This material is not listed.  
Quebec Designated Substances: This material is not listed.

CEPA DSL/ CEPA NDSL : CEPA DSL:  
This material is listed or exempted.  
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.

### SECTION 16

### Additional Information

Flammability

Health

Reactivity

### Revisions

### NFPA

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The information herein is believed to be accurate and is offered in good faith for the user's consideration and investigation. No warranty either expressed or implied is made for the completeness or accuracy of the information whether originating from the above mentioned company or not. Users of this material should satisfy themselves by independent investigation of current scientific and medical knowledge that the material can be used safely.