Harrell Industries, Inc.

SAFETY DATA SHEET

Issue Date 21-May-2015 **Revision Date** 01-Sep-2015 **Version** 2

1. IDENTIFICATION

Product identifier

Product Name Ferrous Chloride, Tetrahydrate

Other means of identification

Product Code 2900
UN/ID no. NA1759
Synonyms Ferrous Chloride Tetrahydrate; Iron Chloride; Iron Chloride Tetrahydrate

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory chemicals.
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address
Harrell Industries, Inc.
2495 Commerce Drive
Rock Hill, SC 29730

www.harrellindustries.com

Emergency telephone number

Company Phone Number 803-327-6335
Fax Number 803-327-7808
24 Hour Emergency Phone Number 800 633-8253 (PERS)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (repeated exposure)	Repeated ingestion may cause liver damage.

Label elements

Emergency Overview

Danger

Hazard statements
Harmful if swallowed
Causes severe skin burns and eye damage
Causes serious eye damage
Causes skin irritation
Harmful if inhaled
Harmful in contact with skin

Danger! Corrosive. Causes severe irritation or burns to every area of contact. Harmful if swallowed or inhaled. Affects the liver.

Appearance Light green crystals **Physical state** Solid **Odor** Odorless

Precautionary Statements - Prevention
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid release to the environment
Wear protective gloves/protective clothing/eye protection/face protection

Causes irritation, redness and pain.
Causes irritation, redness and pain.
May cause severe irritation, redness, pain and skin burns.
Extremely destructive to tissues of the mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.
Swallowing can cause severe burns of the mouth, throat, and stomach. Can cause sore throat, vomiting, diarrhea. Low systematic toxicity in small quantities but larger doses may cause systematic effects. pink urine discoloration is a strong indicator or iron poisoning. Liver damage, coma and death may follow, sometimes delayed as long as three days.

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
Not applicable

Unknown acute toxicity 100% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Synonyms Ferrous Chloride Tetrahydrate; Iron Chloride; Iron Chloride Tetrahydrate.
Formula FeCl2.4H2O

Chemical Name	CAS No.	Weight-%
Ferrous Chloride	13478-10-9	99 min

4. FIRST AID MEASURES

Description of first aid measures

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention.

Skin contact Wipe off excess material from skin. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion If swallowed, DO NOT INDUCE VOMITTING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water carefully as material will react with water to form acidic solution.

Unsuitable extinguishing media Use water carefully as material will react with water to form acidic solution.

Specific hazards arising from the chemical
Irritating hydrogen chloride fumes may form in fire.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal equipment.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust. Material dissolves in water to form an acidic solution. US regulations require reporting spills and releases to soil, water and air in excess of reportable quantities.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Containers of this material may be hazardous when empty since they retain residues (dust, solids); observe all warnings and precautions listed for the product. Material dissolves in water to form an acidic solution.

Incompatible materials Ethylene oxide, potassium, sodium.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ferrous Chloride 13478-10-9	TWA: 1 mg/m³ Fe	(vacated) TWA: 1 mg/m³ Fe	TWA: 1 mg/m³ Fe

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Use chemical safety goggles and/or full face shield. Maintain eye wash fountain and quick-drench facilities in work area.

Skin and body protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid		
Appearance	Light green crystals	**Odor**	Odorless
Color	light green	**Odor threshold**	No information available

Property	Values	Remarks • Method
pH	No information available	
Melting point / freezing point	670-674 °C / 1238-1245 °F	(anhydrous)
Boiling point / boiling range	1023 °C / 1873 °F	(anhydrous)
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	10@700C (1292 F)	
Vapor density	No information available	
Relative density	No information available	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	198.81
VOC Content (%)	No information available
Density	1.93 (tetrahydrate)
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under ordinary conditions of use and storage.
Possibility of Hazardous Reactions
None under normal processing.
Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid
Incompatible materials.
Incompatible materials
Ethylene oxide, potassium, sodium.
Hazardous Decomposition Products
May produce hydrogen chloride. Material dissolved in water to form an acidic solution.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP

Numerical measures of toxicity - Product Information

12. ECOLOGICAL INFORMATION

Ecotoxicity

Persistence and degradability

Bioaccumulation

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Although this product is not a listed as RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options.

Contaminated packaging Do not reuse container.

14. TRANSPORT INFORMATION

DOT Regulated
- **UN/ID no.** NA1759
- **Proper shipping name** Ferrous Chloride, Solid
- **Hazard Class** 8
- **Packing Group** II
- **Reportable Quantity (RQ)** 100 lbs (45.4 kg)

TDG Regulated
- **UN/ID no.** UN3260
- **Proper shipping name** Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferrous Chloride)
- **Hazard Class** 8
- **Packing Group** II

MEX Regulated
- **UN/ID no.** UN1760
- **Proper shipping name** Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferrous Chloride)
- **Hazard Class** 8
- **Packing Group** II

ICAO (air) Regulated
- **UN/ID no.** UN3260
- **Proper shipping name** Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferrous Chloride)
- **Hazard Class** 8
- **Packing Group** II

IATA Regulated
- **UN/ID no.** UN3260
- **Proper shipping name** Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferrous Chloride)
- **Hazard Class** 8
- **Packing Group** II

IMDG Regulated
- **UN/ID no.** UN3260
- **Proper shipping name** Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferrous Chloride)
- **Hazard Class** 8
- **Packing Group** II

RID Regulated
- **UN/ID no.** UN3260
- **Proper shipping name** Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferrous Chloride)
- **Hazard Class** 8
- **Packing Group** II

ADR Regulated
- **UN/ID no.** UN3260
- **Proper shipping name** Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferrous Chloride)
- **Hazard Class** 8
- **Packing Group** II

ADN Regulated
- **UN Number** UN1760
- **Proper shipping name** Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferrous Chloride)

Hazard Class	8
Packing Group	II

15. REGULATORY INFORMATION

International Inventories

TSCA	Does not comply
DSL/NDSL	Does not comply
EINECS/ELINCS	Does not comply
ENCS	Complies
IECSC	Complies
KECL	Does not comply
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 2	**Flammability** 0	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 2	**Flammability** 0	**Physical hazards** 0	**Personal protection** X

Issue Date 21-May-2015
Revision Date 01-Sep-2015
Revision Note
No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet