

Issue Date 15-Apr-2015

Revision Date 03-Jun-2015

Version 2

1. IDENTIFICATION

Product identifier

Product Name Ferric Chloride Hexahydrate, ACS

Other means of identification

Product Code 2505

UN/ID no. UN3260

Synonyms Iron (III) chloride hexahydrate ; Ferric trichloride hexahydrate

Recommended use of the chemical and restrictions on use

Recommended Use No information available.

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)

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 5
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 2

Label elements

Emergency Overview

Danger

Hazard statements

Corrosive to metals.
Harmful if swallowed
Harmful in contact with skin
Causes skin irritation
Causes serious eye damage



DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL, IF SWALLOWED OR INHALED. AFFECTS THE LIVER.

Appearance Yellow brown deliquescent (melted-looking) crystals

Physical state Solid

Odor Slight odor of hydrochloric acid

Precautionary Statements - Prevention

Avoid release to the environment
Wear eye/face protection
Wear protective gloves

Corrosive. Contact can cause blurred vision, redness, pain and severe tissue burns.

Corrosive. Symptoms of redness, pain, and severe burn can occur.

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.

Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach. Can cause sore throat, vomiting, diarrhea. Low toxicity in small quantities but larger doses (30 mg/kg) may cause nausea, vomiting and diarrhea. Pink urine discoloration is a strong indicator of 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

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Synonyms

Iron (III) chloride hexahydrate ; Ferric trichloride hexahydrate.

Formula

FeCl₃.6H₂O

Chemical Name	CAS No.	Weight-%
Ferric Chloride	10025-77-1	100

4. FIRST AID MEASURES

Description of first aid measures

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician if irritation occurs.

Skin contact

Wash off immediately with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention.

Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. Artificial respiration and/or oxygen may be necessary. Get medical attention.

Ingestion

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If

conscious, wash out mouth with water. Get medical attention.

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.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available.

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 Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions Prevent product from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.

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 arrangement disposal without creating dust. Sweep up and place in suitable, closed containers for disposal. Clean surfaces thoroughly with water to remove residual contamination. Disposal of all waste and cleanup materials in accordance with regulations.

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 containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Strong oxidizing agents. potassium. Alkali metals. Bases. exothermic in contact with water, forms shock-sensitive mixtures with certain other materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ferric Chloride 10025-77-1	TWA: 1 mg/m ³ Fe	(vacated) TWA: 1 mg/m ³ Fe	TWA: 1 mg/m ³ Fe

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection Wear protective gloves and protective clothing.

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	Odor	Slight odor of hydrochloric acid
Appearance	Yellow brown deliquescent (melted-looking) crystals	Odor threshold	No information available
Color	Greenish-black		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	1.0 for 2% solution	
Melting point / freezing point	37 °C / 99 °F	
Boiling point / boiling range	No information available	
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	1.1 @ 194C (381F)	
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 270.30

VOC Content (%) No information available
 Density No information available
 Bulk density No information available

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerization Emits toxic fumes of chloride when heated to decomposition.

Conditions to avoid

Incompatible materials.

Incompatible materials

Strong oxidizing agents. potassium. Alkali metals. Bases. exothermic in contact with water, forms shock-sensitive mixtures with certain other materials.

Hazardous Decomposition Products

Hydrogen chloride. Gases. iron oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information No data available

Inhalation No data available.

Eye contact Severely irritating to eyes.

Skin contact LD50 Dermal - rabbit - > 2,000 mg/kg.

Ingestion LD50 Oral - Mouse - 1,300 mg/kg.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ferric Chloride 10025-77-1	= 900 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms No information available.

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

Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity No information available.
Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

12. ECOLOGICAL INFORMATION

Ecotoxicity

3% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Persistence and degradability

No information available.

Bioaccumulation

No information available.

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.

Contaminated packaging

Do not reuse container.

14. TRANSPORT INFORMATION**DOT**

UN/ID no.	Regulated UN3260
Proper shipping name	Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferric Chloride, ACS)
Hazard Class	8
Packing Group	III
Reportable Quantity (RQ)	1000 lbs (454 kg)

TDG

UN/ID no.	Regulated UN3260
Proper shipping name	Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferric Chloride, ACS)
Hazard Class	8
Packing Group	III

MEX

UN/ID no.	Regulated UN3260
Proper shipping name	Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferric Chloride, ACS)
Hazard Class	8
Packing Group	III

ICAO (air)

UN/ID no.	Regulated UN3260
Proper shipping name	Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferric Chloride, ACS)
Hazard Class	8
Packing Group	III

IATA

UN/ID no.	Regulated UN3260
Proper shipping name	Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferric Chloride, ACS)
Hazard Class	8
Packing Group	III

IMDG

UN/ID no.	Regulated UN3260
Proper shipping name	Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferric Chloride, ACS)
Hazard Class	8
Packing Group	III

RID

UN/ID no.	Regulated UN3260
Proper shipping name	Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferric Chloride, ACS)
Hazard Class	8
Packing Group	III

ADR	Regulated
UN/ID no.	UN3260
Proper shipping name	Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferric Chloride, ACS)
Hazard Class	8
Packing Group	III
ADN	Regulated
UN Number	UN3260
Proper shipping name	Corrosive Solid, Acidic, Inorganic, N.O.S., (Ferric Chloride, ACS)
Hazard Class	8
Packing Group	III

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Does not comply
EINECS/ELINCS	Does not comply
ENCS	Does not comply
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	Yes
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

Chemical Name	New Jersey	Massachusetts	Pennsylvania

Ferric Chloride 10025-77-1	-	-	X
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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 1	Personal protection X

Issue Date 15-Apr-2015

Revision Date 03-Jun-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