



## Safety Data Sheet

According to 29 CFR 1910.1200 (OSHA HCS)

MSDS No. 820

Review date: March 21, 2019

### 1 Identification of substance and company

#### Product details

**Product name:** **Iron (II) chloride, tetrahydrate**  
**Product code:** 13629, C2431  
**Relevant identified uses of the substance:** Research and product development  
**Manufacturer/Supplier:** Noah Technologies Corporation  
1 Noah Park  
San Antonio, Texas 78249-3419  
Phone: (210) 691-2000  
Web site: www.noahtech.com

**Emergency information:** CHEMTREC  
800-424-9300

### 2 Hazards identification

**Hazard designation:**

**Pictogram(s):**



**Signal word(s):**

Danger

**Hazard statements:**

H302 Harmful if swallowed  
H314 Causes severe skin burns and eye damage

**Precautionary statements:**

P260 Do not breathe dust or mist  
P264 Wash skin thoroughly after handling  
P270 Do not eat, drink or smoke when using this product  
P280 Wear protective gloves/protective clothing/eye protection/face protection  
P301+312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303+361+353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER or doctor/physician  
P321 Specific treatment (see information on this label)  
P363 Wash contaminated clothing before reuse  
P405 Store locked up  
P501 Dispose of contents/container to an approved waste disposal plant

**GHS Classification:**

Acute toxicity, Oral - 4  
Skin corrosion - 1B  
Serious eye damage - 1

**Hazards not otherwise classified:**

None

**HMIS ratings (scale 0-4):**

Health	2
Flammability	0
Physical hazard	0

### 3 Composition/Information on ingredients

**Chemical name:** Iron (II) chloride, tetrahydrate  
**Designation: (CAS#):** 13478-10-9  
**EC Number:** 231-843-4  
**Formula:** FeCl<sub>2</sub>·4H<sub>2</sub>O  
**Synonyms:** Ferrous chloride, iron dichloride

#### 4 First aid measures

<b>After inhalation:</b>	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek immediate medical advice
<b>After skin contact:</b>	Instantly wash with water and soap and rinse thoroughly Seek immediate medical advice
<b>After eye contact:</b>	Rinse opened eye for at least 15 minutes under running water. Assure adequate flushing by separating the eyelids with fingers. Seek immediate medical advice
<b>After swallowing:</b>	If conscious, rinse mouth out with water and seek immediate medical advice
<b>Information for doctor:</b>	
<b>The following symptoms may occur:</b>	Coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting Inhalation may result in respiratory effects such as inflammation, edema, and chemical pneumonitis

#### 5 Fire-fighting measures

<b>Suitable extinguishing agents:</b>	Use extinguishing media most suitable to surrounding fire conditions
<b>Special hazards caused by the material, its products of combustion or resulting gases:</b>	In case of fire, the following can be released: Oxides of iron Hydrogen chloride (HCl)
<b>Protective equipment:</b>	Wear self-contained breathing apparatus Wear fully protective fire fighting equipment/clothing in fire situations

#### 6 Accidental release measures

<b>Person-related safety precautions:</b>	Wear personal protective equipment. Keep unprotected persons away. Ensure adequate ventilation
<b>Measures for environmental protection:</b>	Do not allow material to be released to the environment without proper governmental permits
<b>Measures for cleaning/collecting:</b>	Dispose of contaminated material as waste according to item 13 Ventilate and wash spill site after material removal is complete
<b>Additional information:</b>	See Section 7 for information on safe handling See Section 8 for information on personal protective equipment See Section 13 for information on disposal

#### 7 Handling and storage

<b>Information for safe handling:</b>	Keep containers tightly sealed Handle under dry protective gas Store in cool, dry place in tightly closed containers Ensure good ventilation/exhaustion at the workplace
<b>Storage requirements to be met by storerooms and containers:</b>	Protect from air and light Air and light sensitive
<b>Information about storage in one common storage facility:</b>	Do not store together with acids, or oxidizers
<b>Further information about storage conditions:</b>	Keep container tightly sealed Store in cool, dry conditions in well sealed containers

#### 8 Exposure controls/personal protection

<b>Additional information about design of technical systems:</b>	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute
<b>Components with critical values that require monitoring at the workplace:</b>	Not required
<b>Additional information:</b>	No data
<b>Personal protective equipment:</b>	
<b>General protective and hygienic measures:</b>	The usual precautionary measures should be adhered to in handling the chemicals Keep away from foodstuffs, beverages and food Instantly remove any soiled and impregnated garments Wash hands during breaks and at the end of the work Avoid contact with the eyes and skin
<b>Respiratory protection:</b>	Use suitable respirator when high concentrations are present Use only NIOSH/MESA or CEN approved dust mask type N95 or TYPE P1 (EN 143)
<b>Hand protection:</b>	Impervious gloves
<b>Eye protection:</b>	Safety glasses Chemical safety goggles
<b>Skin protection:</b>	Protective work clothing
<b>Additional protective equipment:</b>	Sufficient to prevent contact Emergency eyewash and safety shower

## 9 Physical and chemical properties

### General Information:

<b>Physical state:</b>	Crystalline
<b>Color:</b>	Green to yellow
<b>Smell:</b>	Odorless
<b>Molecular Weight (Calculated):</b>	198.81
<b>pH (5% solution)</b>	No data available
<b>Melting point/range:</b>	110 C (-H20)
<b>Boiling point/range:</b>	1026 C
<b>Sublimation temperature/start:</b>	No data available
<b>Flash point:</b>	Non-flammable
<b>Autoignition temperature:</b>	No data available
<b>Decomposition temperature:</b>	No data available
<b>Danger of explosion:</b>	A mixture of this product and sodium or potassium will explode on impact
<b>Flammable limits:</b>	Non-flammable
<b>Lower:</b>	No data available
<b>Upper:</b>	No data available
<b>Vapor pressure (mm Hg):</b>	10 mmHg @ 693 C
<b>Specific gravity at 23 °C</b>	3.16
<b>Solubility in/Miscibility with water at 20 °C</b>	1600 g/L

## 10 Stability and reactivity

<b>Conditions to be avoided:</b>	No decomposition if used and stored according to specifications See section 7 for information on proper handling and storage
<b>Materials to be avoided:</b>	Strong acids, bases or oxidizers Ethylene oxide Moisture
<b>Dangerous reactions:</b>	A mixture of this product and sodium or potassium will explode on impact
<b>Hazardous decomposition products:</b>	Hydrogen chloride (HCl) Oxides of iron

## 11 Toxicological information

<b>Acute toxicity:</b>	
<b>LD/LC50 values that are relevant for classification:</b>	oral-rat LD <sub>50</sub> ca 700 mg/kg intraperitoneal-mouse LD <sub>50</sub> : 92.5 mg/kg
<b>Primary irritant effect:</b>	
<b>on the skin:</b>	Caustic effect on skin and mucous membranes Irritant for skin and mucous membranes
<b>on the eye:</b>	Strong caustic effect Irritant effect
<b>Sensitization:</b>	No sensitizing effect known
<b>Additional toxicological information:</b>	Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach. To the best of our knowledge the acute and chronic toxicity of this substance is not fully known
<b>Carcinogenicity:</b>	No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH

## 12 Ecological information

<b>General notes:</b>	Water hazard class 1 (Self-assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system Do not allow material to be released to the environment without proper governmental permits
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## 13 Disposal considerations

<b>Recommendation:</b>	Consult state, local or national regulation for proper disposal Allow professional disposal company to handle waste Must be specially treated under adherence to official regulations
<b>Unclean packagings</b>	
<b>Recommendation:</b>	Disposal must be made according to official regulations

## 14 Transport information

### Land transport DOT



<b>Proper shipping name:</b>	Corrosive solid, n.o.s.
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Technical name: Ferrous chloride  
DOT Hazard Class: 8  
UN Identification number: UN1759  
Label(s): Corrosive  
Packaging group: II  
North American Emergency Response  
Guidebook No. 154

**Air transport ICAO-TI and IATA-DGR:**



Proper shipping name: Corrosive solid, n.o.s.  
Technical name: Ferrous chloride  
DOT Hazard Class: 8  
UN Identification number: UN1759  
Label(s): Corrosive  
Packaging group: II  
North American Emergency Response  
Guidebook No. 154

**UPS Ground / FedEx Ground:**



Proper shipping name: Corrosive solids, n.o.s.  
Technical name: Ferrous chloride  
DOT Hazard Class: 8  
UN Identification number: UN1759  
Label(s): Corrosive  
Packaging group: II  
North American Emergency Response  
Guidebook No. 154

**UPS Air:**



Proper shipping name: Corrosive solids, n.o.s.  
Technical name: Ferrous chloride  
DOT Hazard Class: 8  
UN Identification number: UN1759  
Label(s): Corrosive  
Packaging group: II  
North American Emergency Response  
Guidebook No. 154

**15 Regulatory information**

**SARA Section 302 Extremely Hazardous components and corresponding TPQs:**

Not subject

**SARA Section 311 / 312 hazards:**

Acute Health Hazard

**SARA Section 313 components:**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

**California Proposition 65 components:**

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm

**TSCA:**

All components of this product are listed

**16 Other information**

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulation are subject to change and the conditions of handling and use, or misuse are beyond our control. NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.