

# Iron(III) chloride hexahydrate: sc-311566



The Power to Question

## MATERIAL SAFETY DATA SHEET

### 1 Identification of substance:

**Product Name:** Iron(III) chloride hexahydrate  
**Catalog Number:** sc-311566  
**Supplier:** Santa Cruz Biotechnology, Inc.  
2145 Delaware Avenue  
Santa Cruz, California 95060  
800.457.3801 or 831.457.3800  
**Emergency:** ChemWatch  
Within the US & Canada: 877-715-9305  
Outside the US & Canada: +800 2436 2255  
(1-800-CHEMCALL) or call +613 9573 3112

### 2 Hazard(s) identification

**Classification of the substance or mixture**  
**Classification according to Regulation (EC) No 1272/2008**



GHS05 Corrosion

Skin Corr. 1C H314 Causes severe skin burns and eye damage.  
Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



C; Corrosive

R34: Causes burns.



Xn; Harmful

R22: Harmful if swallowed.

**Information concerning particular hazards for human and environment:** Not applicable  
**Hazards not otherwise classified** No information known.

#### Label elements

**Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labeled according to the CLP regulation.

#### Hazard pictograms



GHS05



GHS07

**Signal word** Danger

#### Hazard statements

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

#### Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P309 IF exposed or if you feel unwell:

P310 Immediately call a POISON CENTER/doctor/...

**WHMIS classification**

D2B - Toxic material causing other toxic effects

E - Corrosive material



**Classification system**

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

**(Hazardous Materials Identification System)**

HEALTH	3
FIRE	0
REACTIVITY	1

Health (acute effects) = 3

Flammability = 0

Physical Hazard = 1

**Other hazards**

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

### 3 Composition/information on ingredients

**Chemical characterization: Substances**

**CAS# Description:**

10025-77-1 Iron(III) chloride hexahydrate

**Identification number(s):**

**EC number:** 231-729-4

### 4 First-aid measures

**Description of first aid measures**

**General information** Immediately remove any clothing soiled by the product.

**After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

**After skin contact**

Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

**After eye contact**

Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing** Seek medical treatment.

**Information for doctor**

**Most important symptoms and effects, both acute and delayed**

No further relevant information available.

**Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents**

Product is not flammable. Use fire fighting measures that suit the surrounding fire.

**Special hazards arising from the substance or mixture**

If this product is involved in a fire, the following can be released:

Hydrogen chloride (HCl)

Metal oxide fume

**Advice for firefighters**

**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

### 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

**Environmental precautions:**

Do not allow material to be released to the environment without proper governmental permits.

Do not allow product to reach sewage system or any water course.  
Do not allow to penetrate the ground/soil.

**Methods and material for containment and cleaning up:**

Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.

**Prevention of secondary hazards:** No special measures required.

**Reference to other sections**

See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## **7 Handling and storage**

### **Handling**

#### **Precautions for safe handling**

Handle under dry protective gas.  
Keep container tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation at the workplace.

**Information about protection against explosions and fires:** The product is not flammable

#### **Conditions for safe storage, including any incompatibilities**

**Storage** Store at room temperature.

**Requirements to be met by storerooms and receptacles:** No special requirements.

#### **Information about storage in one common storage facility:**

Store away from water/moisture.  
Store away from strong bases.  
Store away from oxidizing agents.

#### **Further information about storage conditions:**

Store under dry inert gas.  
This product is hygroscopic.  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.  
Protect from humidity and water.  
**Specific end use(s)** No further relevant information available.

## **8 Exposure controls/personal protection**

### **Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

### **Control parameters**

#### **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

**Additional information:** No data

### **Exposure controls**

#### **Personal protective equipment**

##### **General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.  
Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use suitable respirator when high concentrations are present.

#### **Protection of hands:**

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality.

Quality will vary from manufacturer to manufacturer.

#### **Eye protection:**

Tightly sealed goggles

Full face protection

**Body protection:** Protective work clothing.

## 9 Physical and chemical properties

<b>Information on basic physical and chemical properties</b>	
<b>General Information</b>	
<b>Appearance:</b>	
<b>Form:</b>	Prills
<b>Formula:</b>	FeCl <sub>3</sub> ·6H <sub>2</sub> O
<b>Weight:</b>	270.30
<b>pH-value (10 g/l) at 20 °C (68 °F):</b>	1.8
<b>Change in condition</b>	
<b>Melting point/Melting range:</b>	37 °C (99 °F)
<b>Boiling point/Boiling range:</b>	280-285 °C (536-545 °F)
<b>Sublimation temperature / start:</b>	Not determined
<b>Flammability (solid, gaseous)</b>	Not determined.
<b>Ignition temperature:</b>	Not determined
<b>Decomposition temperature:</b>	Not determined
<b>Auto igniting:</b>	Not determined.
<b>Danger of explosion:</b> Not determined.	
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined
<b>Vapor pressure:</b>	Not applicable.
<b>Density at 20 °C (68 °F):</b>	1.82 g/cm <sup>3</sup> (15.188 lbs/gal)
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Solubility in / Miscibility with</b>	
<b>Water at 20 °C (68 °F):</b>	920 g/l Soluble
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>dynamic:</b>	Not applicable.
<b>kinematic:</b>	Not applicable.
<b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

**Reactivity** No information known.

**Chemical stability** Stable under recommended storage conditions.

**Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

**Possibility of hazardous reactions** Reacts with strong oxidizing agents

**Incompatible materials:**

Water/moisture

Bases

Oxidizing agents

**Hazardous decomposition products:**

Hydrogen chloride (HCl)

Metal oxide fume

## 11 Toxicological information

**Information on toxicological effects**

**Acute toxicity:**

Harmful if swallowed.

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

**LD/LC50 values that are relevant for classification:**

The following value/values refer to the anhydrous compound:

Oral	LD50	316 mg/kg (rat)
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**Skin irritation or corrosion:** Causes severe skin burns.

**Eye irritation or corrosion:** Causes serious eye damage.

**Sensitization:** No sensitizing effects known.

**Germ cell mutagenicity:**

The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

**Carcinogenicity:**

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

**Reproductive toxicity:** No effects known.

**Specific target organ system toxicity - repeated exposure:** No effects known.

**Specific target organ system toxicity - single exposure:** No effects known.

**Aspiration hazard:** No effects known.

**Subacute to chronic toxicity:**

The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

**Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

**12 Ecological information****Toxicity**

**Aquatic toxicity:** No further relevant information available.

**Persistence and degradability** No further relevant information available.

**Behavior in environmental systems:**

**Bioaccumulative potential** No further relevant information available.

**Mobility in soil** No further relevant information available.

**Additional ecological information:****General notes:**

Do not allow material to be released to the environment without proper governmental permits. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Avoid transfer into the environment.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

**Other adverse effects** No further relevant information available.

**13 Disposal considerations****Waste treatment methods**


**Recommendation** Consult state, local or national regulations to ensure proper disposal.



**Uncleaned packagings:**

**Recommendation:** Disposal must be made according to official regulations.

**Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

<b>UN-Number</b> DOT, ADR, IMDG, IATA	UN3260
<b>UN proper shipping name</b> DOT ADR IMDG, IATA	Corrosive solid, acidic, inorganic, n.o.s. (Iron(III) chloride hexahydrate) 3260 Corrosive solid, acidic, inorganic, n.o.s. (Iron(III) chloride hexahydrate) CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Iron(III) chloride hexahydrate)
<b>Transport hazard class(es)</b> DOT	
	
<b>Class</b>	8 Corrosive substances.

Label ADR	8
	
Class Label IMDG, IATA	8 (C2) Corrosive substances 8
	
Class Label	8 Corrosive substances. 8
Packing group DOT, ADR, IMDG, IATA	III
Environmental hazards:	Not applicable.
Special precautions for user Danger code (Kemler): Segregation groups	Warning: Corrosive substances 80 Acids
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information: DOT Marine Pollutant (DOT):	No
UN "Model Regulation":	UN3260, Corrosive solid, acidic, inorganic, n.o.s. (Iron(III) chloride hexahydrate), 8, III

## 15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

### National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings) Substance is not listed.

### California Proposition 65

Prop 65 - Chemicals known to cause cancer Substance is not listed.

Prop 65 - Developmental toxicity Substance is not listed.

Prop 65 - Developmental toxicity, female Substance is not listed.

Prop 65 - Developmental toxicity, male Substance is not listed.

### Information about limitation of use:

For use only by technically qualified individuals.

This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

### Other regulations, limitations and prohibitive regulations

Substances of very high concern (SVHC) according to REACH, Article 57

Substance is not listed.

REACH - Pre-registered substances Substance is listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## 16 Other information:

The above information is believed to be correct but does not purport to be complete and should be used only as a guide. The burden of safe use of this material rests entirely with the user.