

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

### Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

- 1.1 Product Code:** 10007562  
**Product Name:** PGDS Screening Assay Iron (II) Chloride
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
**Relevant identified uses:** For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**
- Company Name:** Cayman Chemical Company  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108
- Web site address:** www.caymanchem.com
- Information:** Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**
- Emergency Contact:** CHEMTREC Within USA and Canada: +1 (800)424-9300  
CHEMTREC Outside USA and Canada: +1 (703)527-3887

### Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**
- 2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:**  
**Acute Toxicity:** Oral, Category 4  
**Skin Corrosion/Irritation,** Category 1B
- 2.1.2 Classification according to Directive 1999/45/EC:**  
**C:** Corrosive  
**Xn:** Harmful  
**Risk Phrases:** R22, R34  
For full text of R- phrases: see SECTION 15.
- 2.2 Label Elements:**
- 2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:**



**GHS Signal Word:** **Danger**

**GHS Hazard Phrases:**

H302: Harmful if swallowed.

H314: Causes severe skin burns and eye damage.

**GHS Precaution Phrases:**

P264: Wash hands thoroughly after handling.

P260: Do not breathe dust/fume/gas/mist/vapours/spray.

P280: Wear protective gloves/clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority.

**GHS Response Phrases:**

P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330: Rinse mouth.

P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

P363: Wash contaminated clothing before reuse.

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P310: Immediately call a POISON CENTER or doctor/physician.

### GHS Storage and Disposal Phrases:

Please refer to Section 7 for Storage and Section 13 for Disposal information.

### 2.2.2 Labeling according to Directive 1999/45/EC:



**C**



**Xn**

### 2.3 Adverse Human Health

Corrosive, causes burns.

#### Effects and Symptoms:

Harmful if swallowed.

Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

May be harmful by inhalation or skin absorption.

To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

## Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
13478-10-9 NO5600000	Iron(II) chloride tetrahydrate	100.0 %	NA NA	C; R22-34 Acute Tox.(O) 4: H302 Skin Corr. 1B: H314

## Section 4. First Aid Measures

### 4.1 Description of First Aid Measures:

No data available.

#### In Case of Inhalation:

Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

#### In Case of Skin Contact:

Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

#### In Case of Eye Contact:

Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

#### In Case of Ingestion:

Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

### 4.2 Important Symptoms and Effects, Both Acute and Delayed:

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

Overdose of iron compounds may have a corrosive effect on the gastrointestinal mucosa and be followed by necrosis, perforation, and stricture formation. Several hours may elapse before symptoms that can include epigastric pain, diarrhea, vomiting, nausea, and hematemesis occur. After apparent recovery a person may experience metabolic acidosis, convulsions, and coma hours or days later. Further complications may develop leading to acute liver necrosis that can

result in death due to hepatic coma.

### Section 5. Fire Fighting Measures

- 5.1 Suitable Extinguishing** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.  
**Media:** Use water spray to cool fire-exposed containers.  
**Unsuitable Extinguishing** A solid water stream may be inefficient.  
**Media:**
- 5.2 Flammable Properties and Hazards:** No data available.  
**Flash Pt:** No data.  
**Explosive Limits:** LEL: No data. UEL: No data.  
**Autoignition Pt:** No data.
- 5.3 Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

### Section 6. Accidental Release Measures

- 6.1 Protective Precautions, Protective Equipment and Emergency Procedures:** Avoid raising and breathing dust, and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- 6.2 Environmental Precautions:** Take steps to avoid release into the environment, if safe to do so.
- 6.3 Methods and Material For Containment and Cleaning Up:** Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

### Section 7. Handling and Storage

- 7.1 Precautions To Be Taken in Handling:** Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
- 7.2 Precautions To Be Taken in Storing:** Keep container tightly closed. Store in accordance with information listed on the product insert.
- Other Precautions:** Air sensitive.  
Hygroscopic.

### Section 8. Exposure Controls/Personal Protection

#### 8.1 Exposure Parameters:

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
13478-10-9	Iron(II) chloride tetrahydrate	No data.	No data.	No data.
CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
13478-10-9	Iron(II) chloride tetrahydrate	No data.	No data.	No data.



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### 8.2 Exposure Controls:

- 8.2.1 Engineering Controls** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne (Ventilation etc.): levels below recommended exposure limits.
- 8.2.2 Personal protection equipment:**
- Eye Protection:** Safety glasses
- Protective Gloves:** Compatible chemical-resistant gloves
- Other Protective Clothing:** Lab coat
- Respiratory Equipment (Specify Type):** NIOSH approved respirator, as conditions warrant.
- Work/Hygienic/Maintenance Practices:** Do not take internally.  
Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.  
Wash thoroughly after handling.  
No data available.

## Section 9. Physical and Chemical Properties

### 9.1 Information on Basic Physical and Chemical Properties

- Physical States:** [ ] Gas [ ] Liquid [ X ] Solid
- Appearance and Odor:** A crystalline solid
- Melting Point:** No data.
- Boiling Point:** No data.
- Flash Pt:** No data.
- Evaporation Rate:** No data.
- Explosive Limits:** LEL: No data. UEL: No data.
- Vapor Pressure (vs. Air or mm Hg):** No data.
- Vapor Density (vs. Air = 1):** No data.
- Specific Gravity (Water = 1):** No data.
- Solubility in Water:** No data.
- Autoignition Pt:** No data.

### 9.2 Other Information

- Percent Volatile:** No data.

## Section 10. Stability and Reactivity

- 10.1 Reactivity:** No data available.
- 10.2 Stability:** Unstable [ ] Stable [ X ]
- 10.3 Stability Note(s):** Stable if stored in accordance with information listed on the product insert.
- Polymerization:** Will occur [ ] Will not occur [ X ]
- 10.4 Conditions To Avoid:** No data available.
- 10.5 Incompatibility - Materials To Avoid:** A mixture of this product and sodium or potassium will explode on impact.  
ethylene oxide  
strong acids  
strong bases  
strong oxidizing agents
- 10.6 Hazardous Decomposition Or Byproducts:** hydrogen chloride gas  
iron oxides

### Section 11. Toxicological Information

**11.1 Information on Toxicological Effects:** The toxicological effects of this product have not been thoroughly studied.  
**Chronic Toxicological Effects:** Iron(II) chloride tetrahydrate - Toxicity Data: Intraperitoneal LD50 (mouse): 92.5 mg/kg;  
Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.  
See actual entry in RTECS for complete information.  
Iron(II) chloride tetrahydrate RTECS Number: NO5600000

**Carcinogenicity:** NTP? No      IARC Monographs? No      OSHA Regulated? No

### Section 12. Ecological Information

**12.1 Toxicity:** Avoid release into the environment.  
Runoff from fire control or dilution water may cause pollution.

**12.2 Persistence and Degradability:** No data available.

**12.3 Bioaccumulative Potential:** No data available.

**12.4 Mobility in Soil:** No data available.

**12.5 Results of PBT and vPvB assessment:** No data available.

### Section 13. Disposal Considerations

**13.1 Waste Disposal Method:** Dispose in accordance with local, state, and federal regulations.

### Section 14. Transport Information

#### 14.1 LAND TRANSPORT (US DOT):

**DOT Proper Shipping Name:** Corrosive solid, acidic, inorganic, n.o.s. (Iron (II) chloride)  
**DOT Hazard Class:** 8      CORROSIVE  
**UN/NA Number:** 3260      **Packing Group:** III



#### 14.1 LAND TRANSPORT (European ADR/RID):

**ADR/RID Shipping Name:** Corrosive solid, acidic, inorganic, n.o.s.  
**UN Number:** 3260      **Packing Group:** III  
**Hazard Class:** 8 - CORROSIVE

#### 14.3 AIR TRANSPORT (ICAO/IATA):

**ICAO/IATA Shipping Name:** Corrosive solid, acidic, inorganic, n.o.s.  
**UN Number:** 3260      **Packing Group:** III  
**Hazard Class:** 8 - CORROSIVE      **IATA Classification:** 8

**Additional Transport Information:** Transport in accordance with local, state, and federal regulations.

### Section 15. Regulatory Information

#### EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
13478-10-9	Iron(II) chloride tetrahydrate	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
13478-10-9	Iron(II) chloride tetrahydrate	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No

#### European Community Hazard Symbol codes:



**C**



**Xn**

#### European Community Risk and Safety Phrases:

R22	Harmful if swallowed.
R34	Causes burns.
S22	Do not breathe dust.
S24/25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.)

#### Regulatory Information

This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

#### Statement:

### Section 16. Other Information

**Revision Date:** 11/05/2014

**Additional Information About** No data available.

#### This Product:

**Company Policy or Disclaimer:** DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.