

# Safety Data Sheet

## Iron (II) Chloride

**CAROLINA**<sup>®</sup>  
www.carolina.com

### Section 1 Product Description

**Product Name:** Iron (II) Chloride  
**Recommended Use:** Science education applications  
**Synonyms:** Iron (II) Chloride Tetrahydrate  
**Distributor:** Carolina Biological Supply Company  
2700 York Road, Burlington, NC 27215  
1-800-227-1150  
**Chemical Information:** 800-227-1150 (8am-5pm (ET) M-F)  
**Chemtrec:** 800-424-9300 (Transportation Spill Response 24 hours)

### Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

**DANGER**



May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. Toxic to aquatic life.

**GHS Classification:**

Substance or mixture corrosive to metals Category 1, Skin Corrosion/Irritation Category 1B, Serious Eye Damage/Eye Irritation Category 1, Hazardous to the aquatic environment - Acute Category 2, Acute Toxicity - Oral Category 4

### Section 3 Composition / Information on Ingredients

| <u>Chemical Name</u>             | <u>CAS #</u> | <u>%</u> |
|----------------------------------|--------------|----------|
| Iron (II) Chloride, Tetrahydrate | 13478-10-9   | 100      |

### Section 4 First Aid Measures

**Emergency and First Aid Procedures**

**Inhalation:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
**Eyes:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**Skin Contact:** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.  
**Ingestion:** IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

### Section 5 Firefighting Procedures

**Extinguishing Media:** Use media suitable to extinguish surrounding fire.  
**Fire Fighting Methods and Protection:** Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.  
**Fire and/or Explosion Hazards:** Fire or excessive heat may produce hazardous decomposition products.  
**Hazardous Combustion Products:** Hydrogen chloride

### Section 6 Spill or Leak Procedures

# Safety Data Sheet

## Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Ventilate the contaminated area. Avoid the generation of dusts during clean-up. Isolate area. Keep unnecessary personnel away. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Do not flush spill to drain. Block any potential routes to water systems. Gather and store in a sealed container pending a waste disposal evaluation. Absorb spillage to prevent material damage.

## Section 7 Handling and Storage

**Handling:** Keep only in original container. Do not breathe dust/fume/gas/mist/vapors/spray. Wash 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. Keep away from ... (incompatible materials to be indicated by the manufacturer). After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Avoid contact with skin and eyes. Use only in well-ventilated areas.

**Storage:** Store locked up. Store in corrosive resistant/... container with a resistant inner liner. Store in a secure area suitable for corrosives.

Keep container tightly closed and dry.

**Storage Code:** White - Corrosive. Separate acids from bases; separate oxidizer acids from organic acids.

## Section 8 Protection Information

| Chemical Name                    | ACGIH                           |        | OSHA PEL |        |
|----------------------------------|---------------------------------|--------|----------|--------|
|                                  | (TWA)                           | (STEL) | (TWA)    | (STEL) |
| Iron (II) Chloride, Tetrahydrate | 1 mg/m <sup>3</sup> TWA (as Fe) | N/A    | N/A      | N/A    |

### Control Parameters

**Engineering Measures:** Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure. Additional area ventilation or local exhaust may be required to maintain air concentrations below recommended exposure limits.

**Personal Protective Equipment (PPE):** Lab coat, apron, eye wash, safety shower.

**Respiratory Protection:** Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms. Wear a NIOSH approved respirator if any exposure is possible.

**Respirator Type(s):** NIOSH approved full-face respirator as a minimum.

**Eye Protection:** Wear chemical splash goggles when handling this product. Have an eye wash station available.

**Skin Protection:** Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

**Gloves:** Nitrile - Extra Thick (8 mm), Natural rubber, Neoprene, PVC or equivalent.

## Section 9 Physical Data

|  |   |
|--|---|
| <b>Formula:</b> FeCl <sub>2</sub> ·4H <sub>2</sub> O | <b>Vapor Pressure:</b> 10 mmHg at 700 °C            |
| <b>Molecular Weight:</b> 198.81                      | <b>Evaporation Rate (BuAc=1):</b> N/A               |
| <b>Appearance:</b> Yellow Green Solid                | <b>Vapor Density (Air=1):</b> N/A                   |
| <b>Odor:</b> No data available                       | <b>Specific Gravity:</b> 1.93                       |
| <b>Odor Threshold:</b> No data available             | <b>Solubility in Water:</b> Soluble                 |
| <b>pH:</b> No data available                         | <b>Log Pow (calculated):</b> No data available      |
| <b>Melting Point:</b> No data available 105 - 115 C  | <b>Autoignition Temperature:</b> No data available  |
| <b>Boiling Point:</b> 1026 C                         | <b>Decomposition Temperature:</b> No data available |
| <b>Flash Point:</b> No data available                | <b>Viscosity:</b> No data available                 |
| <b>Flammable Limits in Air:</b> N/A                  | <b>Percent Volatile by Volume:</b> N/A              |

# Safety Data Sheet

## Section 10

## Reactivity Data

|  |   |
|--|---|
| <b>Reactivity:</b>                       | No data available   |
| <b>Chemical Stability:</b>               | Stable under normal conditions.   |
| <b>Conditions to Avoid:</b>              | Exposure to air. Keep lid tightly closed when not in use. Moisture (material is deliquescent).    |
| <b>Incompatible Materials:</b>           | Contact with (specify material) may form shock-sensitive materials, Potassium Metal, Sodium Metal |
| <b>Hazardous Decomposition Products:</b> | Hydrogen chloride   |
| <b>Hazardous Polymerization:</b>         | Will not occur  |

## Section 11

## Toxicity Data

|                          |   |
|--------------------------|---|
| <b>Routes of Entry</b>   | Inhalation, ingestion, eye or skin contact. |
| <b>Symptoms (Acute):</b> | N/A   |
| <b>Delayed Effects:</b>  | No data available                           |

### Acute Toxicity:

| Chemical Name                    | CAS Number | Oral LD50                 | Dermal LD50    | Inhalation LC50 |
|----------------------------------|------------|---------------------------|----------------|-----------------|
| Iron (II) Chloride, Tetrahydrate | 13478-10-9 | Oral LD50 Rat = 984 mg/kg | Not determined | Not determined  |

### Carcinogenicity:

| Chemical Name     | CAS Number | IARC       | NTP        | OSHA       |
|-------------------|------------|------------|------------|------------|
| No data available | 13478-10-9 | Not listed | Not listed | Not listed |

### Chronic Effects:

|                              |  |
|------------------------------|--|
| <b>Mutagenicity:</b>         | No evidence of a mutagenic effect.                                     |
| <b>Teratogenicity:</b>       | No evidence of a teratogenic effect (birth defect).                    |
| <b>Sensitization:</b>        | No evidence of a sensitization effect.                                 |
| <b>Reproductive:</b>         | No evidence of negative reproductive effects.                          |
| <b>Target Organ Effects:</b> |  |
| <b>Acute:</b>                | See Section 2  |
| <b>Chronic:</b>              | Not listed as a carcinogen by IARC, NTP or OSHA., Mutation data cited. |

## Section 12

## Ecological Data

|                               |  |
|-------------------------------|--|
| <b>Overview:</b>              | Moderate ecological hazard. This product may be dangerous to plants and/or wildlife. |
| <b>Mobility:</b>              | No data  |
| <b>Persistence:</b>           | No data  |
| <b>Bioaccumulation:</b>       | No data  |
| <b>Degradability:</b>         | No data  |
| <b>Other Adverse Effects:</b> | No data  |

| Chemical Name                    | CAS Number | Eco Toxicity                                |
|----------------------------------|------------|---|
| Iron (II) Chloride, Tetrahydrate | 13478-10-9 | 96 HR LC50 MORONE SAXATILIS 4 MG/L [STATIC] |

## Section 13

## Disposal Information

|                                |   |
|--------------------------------|---|
| <b>Disposal Methods:</b>       | Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance. |
| <b>Waste Disposal Code(s):</b> | Not Determined  |

## Section 14

## Transport Information

|   |   |
|---|---|
| <b>Ground - DOT Proper Shipping Name:</b><br>NA1759, Ferrous Chloride, Solid, 8, II | <b>Air - IATA Proper Shipping Name:</b><br>NA1759, Ferrous Chloride, Solid, 8, II |
|---|---|

# Safety Data Sheet

## Section 15

## Regulatory Information

**TSCA Status:** All components in this product are on the TSCA Inventory.

| Chemical Name                    | CAS Number | § 313 Name | § 304 RQ  | CERCLA RQ                            | § 302 TPQ | CAA 112(2) TQ |
|----------------------------------|------------|------------|-----------|--------------------------------------|-----------|---------------|
| Iron (II) Chloride, Tetrahydrate | 13478-10-9 | No         | 100 lb RQ | 100 lb final RQ;<br>45.4 kg final RQ | No        | No            |

**California Prop 65:** No California Proposition 65 ingredients

## Section 16

## Additional Information

**Revised: 08/21/2018**

**Replaces: 06/15/2018**

**Printed: 08-25-2018**

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

### Glossary

|        |   |      |   |
|--------|---|------|---|
| ACGIH  | American Conference of Governmental Industrial Hygienists             | NTP  | National Toxicology Program                   |
| CAS    | Chemical Abstract Service Number                                      | OSHA | Occupational Safety and Health Administration |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act | PEL  | Permissible Exposure Limit                    |
| DOT    | U.S. Department of Transportation                                     | ppm  | Parts per million                             |
| IARC   | International Agency for Research on Cancer                           | RCRA | Resource Conservation and Recovery Act        |
| N/A    | Not Available   | SARA | Superfund Amendments and Reauthorization Act  |
|        |   | TLV  | Threshold Limit Value                         |
|        |   | TSCA | Toxic Substances Control Act                  |
|        |   | IDLH | Immediately dangerous to life and health      |