



**HI-VALLEY CHEMICAL**  
LABORATORY PRODUCTS

1134 W. 850 N. CENTERVILLE, UT 84014  
(801) 295-9591 Fax (801) 295-9448  
www.hvchemical.com

**SAFETY DATA SHEET**

Hi Valley Chemical

**Ferric Chloride Solution**

**1 PRODUCT AND COMPANY IDENTIFICATION**

**Product Identifier:** Ferric Chloride Solution  
**Synonyms:** Iron (III) solution  
**SDS Number:** R-091  
**Product Code:** 761324-PT, 761324-QT, 761324-1, 761324-5, 761324-55  
**Revision Date:** 6/23/2016  
**Version:** 1  
**Supplier Details:** High Valley Products, Inc.  
 1134 West 850 North  
 Centerville, Utah 84014  
**Emergency:** PERS: 800-633-8253  
**Phone:** 801-295-9591  
**Email:** sales@hvchemical.com  
**Web:** www.hvchemical.com

**2 HAZARDS IDENTIFICATION**

**Classification of the Substance or Mixture**

**GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS):**

- Physical, Corrosive to Metals, 1
- Health, Acute toxicity, 4 Oral
- Health, Skin corrosion/irritation, 2
- Health, Serious Eye Damage/Eye Irritation, 1
- Environmental, Hazards to the aquatic environment - Acute, 2
- Environmental, Hazards to the aquatic environment - Chronic, 2

**GHS Label Elements, Including Precautionary Statements**

**GHS Signal Word:** **DANGER**

**GHS Hazard Pictograms:**



**GHS Hazard Statements:**

- H290 - May be corrosive to metals
- H302 - Harmful if swallowed
- H315 - Causes skin irritation
- H318 - Causes serious eye damage
- H401 - Toxic to aquatic life
- H411 - Toxic to aquatic life with long lasting effects

**GHS Precautionary Statements:**

- P234 - Keep only in original container.
- P264 - Wash \_ thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P273 - Avoid release to the environment.
- 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.
- P302+352 - IF ON SKIN: Wash with soap and water.

P305+351+338 - IF IN EYES: Rinse continuously 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 \_ on this label).  
P330 - Rinse mouth.  
P332+313 - If skin irritation occurs: Get medical advice/attention.  
P362 - Take off contaminated clothing and wash before reuse.  
P390 - Absorb spillage to prevent material damage.  
P391 - Collect spillage.  
P406 - Store in a corrosive resistant/\_ container with a resistant inner liner.  
P501 - Dispose of contents/container to \_

### 3 COMPOSITION/INFORMATION ON INGREDIENTS

#### Ingredients:

Cas#	%	Chemical Name
7705-08-0	39-44%	Ferric chloride, solution

### 4 FIRST AID MEASURES

**Inhalation:** If inhaled, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.  
**Skin Contact:** Promptly flush skin with water until all chemical is removed. Remove contaminated clothing immediately.  
**Eye Contact:** Immediately flush eyes with large amounts of water for at least 15 minutes, lifting eyelids occasionally to facilitate irrigation.  
**Ingestion:** DO NOT INDUCE VOMITING. Give 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

### 5 FIRE FIGHTING MEASURES

Extinguishing media  
Suitable extinguishing media  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture  
Closed containers exposed to heat may explode.

Advice for firefighters  
Wear self-contained breathing apparatus for firefighting if necessary. Move exposed containers from fire area if it can be done without risk.

Further information  
No data

### 6 ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:**  
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

**Environmental precautions:**  
Do not let product enter drains.

**Methods and materials for containment and cleaning up:**  
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

### 7 HANDLING AND STORAGE

**Handling Precautions:** Avoid breathing vapors or mist. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling.  
**Storage Requirements:** Store in cool/dry area. Store away from heat and strong alkalis.

**Personal Protective Equipment:**

Ferric chloride, solution (7705-08-0) [39-44%]

Personal protective equipment

Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact: Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatril (KCL 740 / Aldrich Z677272, Size M)

Splash contact: Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatril (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Ferric chloride, solution (7705-08-0) [39-44%]

Components with workplace control parameters

TWA 1 mg/m3 USA. ACGIH Threshold Limit Values (TLV)

Upper Respiratory Tract & skin irritation varies

TWA 1 mg/m3 USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

TWA 1 mg/m3 USA. NIOSH Recommended Exposure Limits

**Appearance:** Reddish-brown liquid  
**Physical State:** Liquid  
**Odor:** Acidic  
**Odor Threshold:** No data available  
**Solubility:** No data available  
**Spec Grav./Density:** 1.26-1.48  
**Viscosity:** No data available

<b>Boiling Point:</b>	230° F (110° C)
<b>Freezing/Melting Pt.:</b>	30.2° F
<b>Flash Point:</b>	No data available
<b>Partition Coefficient:</b>	No data available
<b>Vapor Pressure:</b>	No data available
<b>Vapor Density:</b>	No data available
<b>pH:</b>	<2
<b>Evap. Rate:</b>	No data available
<b>Auto-Ignition Temp:</b>	No data available
<b>Decomp Temp:</b>	No data available
<b>UFL/LFL:</b>	No data available

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### STABILITY AND REACTIVITY

<b>Reactivity:</b>	No data available
<b>Chemical Stability:</b>	Stable under normal conditions.
<b>Conditions to Avoid:</b>	incompatibilities
<b>Materials to Avoid:</b>	Most common metals, aluminum strong bases, strong oxidizing agents, potassium.
<b>Hazardous Decomposition:</b>	When heated to decomposition, emits toxic hydrogen chloride or chlorine.

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### TOXICOLOGICAL INFORMATION

Ferric chloride, solution (7705-08-0) [39-44%]

Information on toxicological effects

Acute toxicity:

LD50 Oral - mouse - 1,300 mg/kg

Inhalation: no data available

LD50 Dermal - rabbit - > 2,000 mg/kg (OECD Test Guideline 402)

Skin corrosion/irritation: Skin - rabbit Result: Irritating to skin.

Serious eye damage/eye irritation: Eyes - rabbit Result: Severe eye irritation

Respiratory or skin sensitisation: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Specific target organ toxicity - single exposure: no data available

Specific target organ toxicity - repeated exposure: no data available

Aspiration hazard: no data available

Additional Information:

RTECS: LJ9100000

spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, 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., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## 12 ECOLOGICAL INFORMATION

Ferric chloride, solution (7705-08-0) [39-44%]

Information on ecological effects

Toxicity:

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 21.84 mg/l - 96 h.

Toxicity to daphnia and EC50 - Daphnia magna (Water flea) - 9.6 mg/l - 48 h.

other aquatic invertebrates

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life with long lasting effects.

no data available

## 13 DISPOSAL CONSIDERATIONS

Dispose of in accordance with local regulations.

## 14 TRANSPORT INFORMATION

UN2582, Ferric chloride, solution, 8, PGIII

## 15 REGULATORY INFORMATION

Component (CAS#) [%] - CODES

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RQ(1000LBS), Ferric chloride, solution (7705-08-0) [n/a%] CERCLA, CSWHS, MASS, PA, TSCA

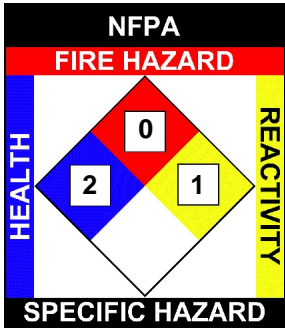
Regulatory CODE Descriptions

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RQ = Reportable Quantity  
CERCLA = Superfund clean up substance  
CSWHS = Clean Water Act Hazardous substances  
MASS = MA Massachusetts Hazardous Substances List  
PA = PA Right-To-Know List of Hazardous Substances  
TSCA = Toxic Substances Control Act

## 16 OTHER INFORMATION

NFPA Health = 2, Fire = 0, Reactivity = 1, Specific Hazard = n/a

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**Author: HVC**

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