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## Section I - Product Identification

*Product:* A dilute aqueous solution ferric chloride hexahydrate and hydrochloric acid.

*Intended Uses:* This is an in-vitro diagnostic reagent used for iron hematoxylin staining in parasitology and histology.

*Uses advised against:* For laboratory use by trained professionals only.

### Manufacturer Identification

Medical Chemical Corp.  
19430 Van Ness Ave.  
Torrance, CA 90501

Customer Service: Phone (310)787-6800  
Email: Christinaavena@med-chem.com  
FAX (310)787-4464

### Emergency Telephone Number

CHEMTREC Emergency Response Telephone Number: (800)424-9300. Note: The CHEMTREC phone number is only for emergencies involving spills, leaks, fire, exposure or accident. Please direct all other inquiries to our customer service phone number.



## Section II - Hazard Identification

This item is not considered hazardous by 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Eye damage/eye irritation:** Category 2 (H319). May cause serious eye irritation.

**Acute toxicity (Oral):** Category 4 (H302). Harmful if swallowed.

**Acute toxicity (Dermal):** Category 4 (H312). Harmful in contact with skin

**Corrosive to Metals:** Category 1 (H290), May be corrosive to metals.

**Signal word:** Warning

- P102 Keep out of reach of children.
- P220 Keep away from clothing and other combustible materials.
- P260 Do not breathe dust/fume/gas/mist/vapors/spray.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P363 Wash contaminated clothing before reuse.

### Safety Ratings

*Health: Slight Flammability: None Reactivity: Stable Contact: Slight*  
*Recommended safety equipment: Not normally required.*

### NFPA Ratings

Health = 1 Flammability = 0 Reactivity = 0

### Potential Health Effects

The toxicology of this compound have not been completely examined. It is presumed that the toxicity of this item is similar to other solutions of dilute acids.

*Inhalation:* May be Irritating to respiratory tract.

*Ingestion:* While the toxicity of this compound is low, large doses will cause nausea, vomiting, diarrhea, etc

*Skin contact:* May cause skin damage. May cause skin irritation or aggravation of existing dermatitis.

*Eye contact:* A serious eye irritant.

*Chronic Exposure:* Unknown.

*Aggravation of preexisting conditions:* Unknown.

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### Section III - Composition/Information on Components

Ingredient	CAS#	EC/List No.	%
Hydrochloric acid	7647-01-0	231-595-7	1.2% w/w
Ferric chloride hexahydrate	10025-77-1	600-047-2	1% w/v

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### Section IV - First Aid Measures

*Inhalation:* Unlikely to be an issue. Remove from source of exposure and get medical attention for any breathing difficulty.

*Ingestion:* Do not induce vomiting. Contact a poison control center immediately

*Skin Contact:* Wash affected area with soap and water. Get medical advice if irritation develops.

*Eye Contact:* Rinse thoroughly with running water. Get medical advice.

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### Section V - Fire Fighting Measures

*Flash point:* Not applicable.

*Flammable Limits:* Not applicable.

*Fire:* Not normally a fire hazard.

*Explosion:* Not normally an explosion hazard.

*Fire Extinguishing Media:* Any means suitable for surrounding fire.

*Special information:* Not applicable.

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### Section VI - Accidental Release Measures

Absorb with a suitable absorbent such as paper towels and store in a suitable container for disposal.

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### Section VII - Handling and Storage

P403+P233+P102; Store in a well-ventilated place. Keep container tightly closed. Keep out of reach of children.

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### Section VIII - Exposure Control/Personal Protection

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrochloric acid	2 ppm Ceiling	5 ppm Ceiling	50 ppm
Ferric chloride hexahydrate	1 mg/m <sup>3</sup> TWA	1 mg/m <sup>3</sup> TWA	1 mg/m <sup>3</sup> TWA

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#### Legend

**ACGIH:** American Conference of Governmental Industrial Hygienists.

**OSHA:** Occupational Safety and Health Administration.

**NIOSH:** National Institute for Occupational Safety and Health.

**IDLH:** Immediately dangerous to life or health.

*Ventilation System:* Usually not required. When required, Refer to the ACGIH document, "Industrial Ventilation, a Manual of Recommended Practices" for details about ventilation.

*Personal Respirator:* Usually not required. In case of emergency, or when exposure levels are unknown, use a positive pressure, full face piece, air supplied respirator.

*Skin protection:* Protective gloves are not required but may be used as part of good laboratory practice.

*Eye Protection:* Laboratory safety goggles or similar products are not required but recommended as part of good laboratory practices

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### Section IX - Physical and Chemical Properties

*Boiling Point:* 100 °C

*Vapor pressure (mm Hg):* 18 @ 20 °C

*Density:* 1.01 g/ml

*Evaporation Rate (water = 1):* 1

Vapor Density (air = 1): 0.6

Solubility: Infinitely miscible with water

Appearance and Odor: A clear, yellow solution with the slightly acrid odor of hydrochloric acid.

**Section X - Stability and Reactivity**

Stability: Stable under normal conditions.

Hazardous Decomposition Products: No known hazardous decomposition products.

Hazardous polymerization: Will not occur.

Incompatibilities: Nothing unusual.

Conditions to avoid: Nothing unusual.

**Section XI - Toxicological Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrochloric acid	238 mg/kg (Rat)	> 5 g/kg (Rabbit)	3124 ppm/hour (Rat)
Ferric chloride hexahydrate	900 g/kg (Rat)	No data	No data

**Cancer lists**

Ingredient	Known Carcinogenicity?	NTP?	Anticipated?	IARC Category
Hydrochloric acid	No	No	No	No
Ferric chloride hexahydrate	No	No	No	No

**Section XII - Ecological Information**

This product is not expected to bioaccumulate. The product biodegrades quickly and does not contain endocrine disrupters, persistent organic pollutants or ozone depleters.

Soil Mobility: Unknown

Environmental Fate: Biodegradable

Environmental Toxicity: The product has low environmental toxicity.

Component	Freshwater Fish	Water Flea	Freshwater algae
Hydrochloric acid	LC50 282 mg/l 96 h	No data	No data
Ferric chloride hexahydrate	LC50 22 mg/l 96 h	EC50 9.6 mg/l 48 h	No data

**Section XIII - Disposal Considerations**

Not normally restricted but ultimate authority resides with local government agencies. In jurisdictions that restrict drain disposal of dilute acids the usual rule is that the sewage exiting the building must not have a pH below 4. Insure compliance with all government regulations. Dilute acids are corrosive to metal plumbing

**Section XIV - Transportation Information**

Not regulated by DOT or IATA.

**Section XV - Regulatory Information**

**Chemical Inventory Status**

Ingredient	TSCA	EC
Hydrochloric acid	Yes	Yes
Ferric chloride hexahydrate	Yes	Yes

**Federal and State Regulations**

Ingredient	SARA 302 RQ	TPQ	SARA 313 List	Category	RCRA 261.33	TSCA 8(D)	Ca. Prop 65
Hydrochloric acid	No	No	No	No	No	Yes	No
Ferric chloride hexahydrate	No	No	No	No	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No

**Section XVI - Other Information**

This information is believed to be correct at the time of publication but is not guaranteed as such, nor does it purport to be all inclusive. Medical Chemical Corp. assumes no liability for the accuracy or completeness of the information. The user assumes all responsibility for compliance with federal, state and local laws.

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