

Section 1. Product and Company Identification

Product Identification: 1000 µg/mL Iron in 2% HCl + 1% Hydroxylamine Hydrochloride

MSDS Number: 100026-6

Recommended Use: For Laboratory Use.

Company Identification: High-Purity Standards
P.O. Box 41727
Charleston, SC 29423
Telephone: (843) 767-7900
FAX: (843) 767-7906

In case of emergency call INFOTRAC: 800-535-5053

Section 2. Hazard Identification

Skin Corrosion/Irritation, Category 1

Serious Eye Damage/ Eye Irritation, Category 1

Acute toxicity, Oral Category 3

Acute toxicity, Dermal Category 4

Skin sensitization, Category 1

Carcinogenicity, Category 2

Specific target organ toxicity - repeated exposure, Category 2

Acute aquatic toxicity, Category 1

Labeling:



Symbol:

Signal Word: Danger.

Hazard Statement: Causes severe skin irritation. Causes serious eye damage. Toxic if swallowed. May cause an allergic skin reaction. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life.

Precautionary Statement: Use personal protective equipment as required. Wash thoroughly after handling. Do not eat/drink or smoke when using this product. Avoid breathing dust/fume/gas/mist/vapours/or spray. Do not handle until all safety precautions have been read and understood. Avoid release to the environment.

Section 3. Composition

Component	CAS/EINECS Registry #	Percent Concentration
Iron	7439-89-6/231-096-4	0.1
Hydrochloric Acid	7647-01-0/231-595-7	2
Hydroxylamine Hydrochloride (H ₃ NO HCl)	5470-11-1/ 226-798-2	1
Water, deionized	7732-18-5/231-791-2	Balance

Section 4. First Aid Measures

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Call a physician if irritation develops.

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

Safety Data Sheet No. 100026-6	Date: March 6, 2014	
1000 ~g/mL Iron in 2% HCl + 1% Hydroxylamine Hydrochloride	Revision: New	Page 2 of 4

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a physician. May cause nausea, vomiting, and diarrhea.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membrane and upper respiratory tract.

Target Organs: Eyes, skin, respiratory tract.

Section 5. Fire Fighting Measures

Fire & Explosion hazards: Hydrochloric acid is a negligible fire hazard when exposed to heat and/or flames. Hydrochloric acid may react with the evolution of heat on contact with water; the acid may release toxic, corrosive, flammable, or explosive gases.

Extinguishing Media: Use regular dry chemical, carbon dioxide, water, or regular foam..

Specific Methods: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Section 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Do not allow to enter drainage systems or water ways. Dike area and dilute spill with water and neutralize with soda ash, limestone, etc. Place the neutralized material into containers suitable for eventual disposal, reclamation, or destruction. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Always dispose of in accordance with local regulations.

Section 7. Handling and Storage

Store in a cool, dry, ventilated storage area with acid resistant floors and good drainage. Keep out of direct sunlight and away from heat, water, and incompatible materials. When diluting, the acid should always be added slowly to water and in small amounts. Refer to Section 8 for personal handling instructions.

Section 8. Exposure Controls and Personal Protection

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep any buildup of airborne contaminants below their respective threshold limit value. Ensure the availability of eyewash stations and safety showers.

Personal Protection: Wear proper gloves, safety glasses with side shields, lab coat/apron.

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).

Exposure Limits:

Component	ACGIH TLV	OSHA PEL
Iron	10 mg/m ³	5 mg/m ³
Hydrochloric Acid	C 2ppm	C 5ppm C 7 mg/m ³
Hydroxylamine Hydrochloride	Not available	Not available

Safety Data Sheet No. 100026-6	Date: March 6, 2014	
1000 ~g/mL Iron in 2% HCl + 1% Hydroxylamine Hydrochloride	Revision: New	Page 3 of 4

:

Section 9. Physical and Chemical Properties

Physical State: Liquid
Color: Clear, yellow tint
Odor: Odorless
Odor threshold: None
pH: <2
Melting point: N/A
Freezing Point: N/A
Boiling Point: Approximately 100°C
Flash point: N/A
Evaporation rate: N/A
Flammability: N/A
Explosion limits: N/A
Vapor Pressure (mm): N/A
Vapor Density (air+1): N/A
Relative density: (H₂O = 1): Approximately 1.0
Solubility in H₂O: Complete
Auto ignition temperature: N/A
Decomposition temperature: N/A
Molecular Weight: 55.85 (Fe)

Section 10. Stability and Reactivity

Stability Indicator: YES
Conditions to Avoid: Metals, hydroxides, carbonates, cyanides
Incompatibles: Strong oxidizing agents
Hazardous Decomposition Products: When heated to decomposition, emits toxic hydrogen chloride fumes and will react with water or steam to produce heat and toxic and corrosive fumes. Thermal oxidative decomposition produces toxic chlorine fumes and explosive hydrogen gas.
Hazardous Polymerization: Will not occur.

Section 11. Toxicological Information

HCl-RTECS# MW4025000 H₃NO HCl RTECS# NC3675000
Fe-RTECS# NO4565500

Toxicity Data:

LD₅₀ Oral, Rabbit: (Hydrochloric Acid) 900 mg/kg
LC_{LO}, inhalation, human: (Hydrochloric Acid) 3000 ppm/5 minutes: No toxic effects noted; LD₅₀ Oral,
Rat: (H₃NO HCl) 141 mg/kg
LD50 Oral, rat(iron): = 30 gm/kg

Section 12. Ecological Information

Ecotoxicological information: Do not allow material to reach ground water, water bodies, or sewage system.
H₃NO HCl : LC50 - Leuciscus idus (Golden orfe) - 1 - 10 mg/l - 48.0 h

Safety Data Sheet No. 100026-6	Date: March 6, 2014	
1000 ~g/mL Iron in 2% HCl + 1% Hydroxylamine Hydrochloride	Revision: New	Page 4 of 4

Section 13. Disposal Considerations

General: Follow Federal, state and local regulations for waste.

Section 14. Transport Information

D.O.T. Classification: Hazardous by IATA and 49CFR regulations (based on concentration of acid).

D.O.T. Shipping Name: Corrosive liquid, Toxic, n.o.s. (Nitric Acid, Hydroxylamine Hydrochloride)

D.O.T. Hazard Class: 8, 6.1

U.N./N.A. Number: 2922

Packing Group: II

D.O.T. Label: Corrosive (8), Toxic (6.1)

Section 15. Regulations (Not meant to be all inclusive-selected regulation listed)

TSCA Status: Components of this solution are listed on the TSCA Inventory.

RCRA Status: No.

SARA: Subject to the reporting requirements of Section 302/313/311/312 of SARA Title III and of 40 CFR 372

Risk Phrases: R22 Harmful if swallowed

Safety Phrases: S36/37/39 Wear suitable protective clothing, gloves and eye/face protection

WHMIS Information (Canada): E: Corrosive

Section 16. Other Information

HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel only. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The SDS was prepared carefully and represents the best data currently available to us; however, HPS does not certify the data on the SDS. Certified values for this material are given only on the Certificate of Analysis.

Theodore C. Rains, Ph.D.