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SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and company/undertaking

1.1 Product identifiers

Product name: Stainless Steel Etchant

CAS number: See section 3

Synonyms: None

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Scientific research and development

1.3 Details of the supplier of the safety data sheet

Company

Lab Alley, LLC

12501 Pauls Valley Road, Suite A,
Austin, TX 78737 U.S.A

Telephone 512-668-9918

Fax 512-886-4008

1.4 Emergency telephone

Emergency Phone # US & Canada: 1-800-535-5053 INFOTRACK

International 1-352-323-3500 INFOTRACK

SECTION 2: Hazards identification

Hazardous classification of the substance or mixture:

Hazard Class Category code

Skin Corrosion 1A

Serious Eye Damage 1

Corrosive to metal 1

Acute aquatic toxicity 3

Chronic aquatic toxicity 3

Pictogram



Signal word: Danger

Hazard Statement

H290 May be corrosive to metals.

H314 Cause severe skin burn and eye damage.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statement(s):

P280 Wear protective gloves, protective clothing, eye protection, face protection.

Response statement(s):

P303+P361+P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinses skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage statement(s):

P405 Store locked up.

Disposal statement(s):

P273 Avoid release to environment.

P501 Dispose of contents/container in accordance

with local, regional, national, international regulations.

Hazard(s) not otherwise classified: No information.

Label elements: See tables above

HMIS Ratings: NFPA Ratings:

Health: 3 Health: 3

Flammability: 0 Flammability: 0

Reactivity: 0 Reactivity: 0

SECTION 3: Composition/information on ingredients

Chemical name	Common name	CAS number	Concentration by weight
Hydrochloric acid		7647-01-0	8-10%
Ferric chloride, anhydrous		7705-08-0	8-12%

SECTION 4: First aid measures

4.1 Description of first-aid measures

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical aid immediately.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid immediately.

Skin contact: Wash the areas of contact with water for at least 15

minutes while removing contaminated clothing and shoes. Get medical aid immediately.

Ingestion: Do not induce vomiting. Rinse mouth. Get medical aid immediately.

Most important symptoms and effects, both acute and delayed: No further relevant information.

Recommendation for immediate medical care and special treatment needed, when necessary: No further relevant information.

SECTION 5: Firefighting measures

Extinguishing media: Water, dry chemical, foam, or carbon dioxide.

Special hazards arising from the substance or mixture: In the case of fire, the following can be released: acidic liquid and irritating fumes.

Special protective equipment or precautions for firefighters: Wear full protective clothing and a self-contained respirator.

SECTION 6: Accidental release measures

Personal precautions, protective equipment, and emergency procedures: Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation.

Environmental precautions: Do not allow the material to be released to the environment without proper governmental permits.

Methods and materials for containment and cleaning up: Absorb with a liquid binding material (sand, diatomite, acid binder, universal binders, sawdust). Dispose of contaminated material as waste according to section 13. Ensure adequate ventilation.

SECTION 7: Handling and storage

Precautions for safe handling: Wear protective equipment. Ensure good ventilation in the workplace. Open and handle with care.

Condition for safe storage: Keep container tightly sealed. Store in an approved corrosive liquid storage container/area.

Incompatibilities: Store away from strong bases and reducing agents.

Specific storage requirement(s): No information.

SECTION 8. Exposure controls/personal protection

8.1 Occupations Exposure Guidelines

Component	CAS#	ACGIH TLV	OSHA PEL
Hydrochloric acid	7647-01-0	C 2 PPM	C 5 PPM
Ferric chloride, anhydrous	7705-08-0	1 mg/m ³	1 mg/m ³

ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering controls: Use general and/or local exhaust ventilation to control the vapor concentration.

Eye protection: Wear safety glasses or goggles.

Skin protection: Wear protective clothing and chemical-resistant gloves.

Respiratory protection: Use a self-contained respiratory device in an emergency.

SECTION 9: Physical and chemical properties

Appearance: Brown liquid
UFL/LEL: Not determined
LFL/LEL: Not determined
Odor: Acidic, pungent
Vapor pressure: Not determined
Odor threshold: Not determined
Vapor density: Not determined
pH: Not determined
Relative density: Not determined
Melting Point/Freezing point: Approximately 0 °C
Solubility in water: Miscible
Boiling point/boiling range: Approximately 100 °C
Flashpoint: Not determined
Evaporation Rate: Not determined
Flammability (solid, gas): Not applicable
Partition coefficient (noctanol/water): Not determined
Auto-ignition temperature: Not determined
Decomposition temperature: Not determined
Viscosity: Not determined

SECTION 10: Stability and reactivity

Reactivity: No information.

Chemical stability: Stable under recommended conditions.

Stabilizer(s): Not required.

Safety issues that may arise should the product change in appearance: No information.

Thermal decomposition/ conditions to Avoid: Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions: see incompatibilities.

Incompatibilities: Strong bases and reducing agents. May react with metals and generate hydrogen gas.

Hazardous decomposition products: Acidic and irritating fumes when heated to decomposition.

SECTION 11: Toxicological information

For Hydrochloric Acid:

Acute toxicity:

Oral rat LD50: 900 mg/kg.

Other exposure effect:

Inhalation: Strong corrosive effect.

On the Skin: Strong corrosive effect.

On the Eye: Strong corrosive effect.

Sensitization: No sensitizing effects were known.

Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from NTP or OSHA.

IARC-3 Not classifiable as to human carcinogenicity.

For Ferric Chloride, Anhydrous:

Acute toxicity:

Oral rat LD50: 450mg/kg.

Other exposure effect:

Inhalation: No data available.

On the Skin: Cause skin irritation.

On the Eye: Cause serious eye damage.

Sensitization: No sensitizing effects were known.

Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from NTP, IARC, or OSHA.

SECTION 12. Ecological information

Toxicity:

Aquatic toxicity: Ferric chloride is toxic to aquatic organisms.

Persistence and degradability: Ferric chloride may cause long-lasting harmful effects on aquatic life.

Behavior in environmental system: No information

Bio-accumulative potential: No information.

Mobility in soil: No information.

Additional ecological information: No information.

Other adverse effects: No information.

SECTION 13. Disposal considerations

13.1 Waste Disposal Method

Chemical waste generators must determine whether a discarded chemical is classified as hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

D.O.T. shipping name: Corrosive liquid, acidic, inorganic, n.o.s.

(Hydrochloric Acid, Ferric chloride)

D.O.T. hazard class: 8

UN number: UN3264

Packing group: II



SECTION 15: Regulatory information

Not meant to be all inclusive, selected regulation represented

OSHA status: These items meet the OSHA Hazard Communication Standard (29 CFR 1910.1200) definition of a hazardous material.

TSCA status: All components are listed.

SECTION 16: Other information

Date of issue: 4/19/2024

Revision: None

SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.