

1. Identification

Product identifier IRON REMOVING SOUR

Other means of identification

SDS number 187IRS

Product code HIL09959

Recommended use Laundry Sour

Recommended restrictions For Labeled Use Only

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name HILLYARD INDUSTRIES

Address 302 North Fourth St.

St. Joseph, MO 64501

Contact person Regulatory Affairs

Telephone number (800) 365-1555 (Ext. 8206)

Fax (816) 383-8406

E-mail regulatoryaffairs@hillyard.com

Emergency telephone # (800) 424-9300

(Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals)

2. Hazard(s) identification

Physical hazards Corrosive to metals Category 1

Health hazards Acute toxicity, oral Category 4

Skin corrosion/irritation Category 1B

Serious eye damage/eye irritation Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Harmful if swallowed. Causes severe skin burns and eye damage. May be corrosive to metals.

Precautionary statement

Prevention Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection. Keep only in original container.

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

Storage Store locked up. Store in a corrosive resistant container.

Disposal Dispose of contents/container to an approved waste disposal plant.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Silicate(2-), hexafluoro-, dihydrogen		16961-83-4	25
Other components below reportable levels			75

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Rinse mouth with water. Give water to dilute. Do not induce vomiting. Get immediate medical attention. Never give anything by mouth to a semi-comatose, comatose, convulsing or unconscious person.
Most important symptoms/effects, acute and delayed	Corrosive. Contact may cause severe eye irritation, eye burns, and permanent eye damage. Contact may cause severe skin irritation, skin burns, and permanent skin damage. Harmful if inhaled. May cause severe irritation and burns of the nose, throat, and respiratory tract. Harmful or fatal if swallowed. May cause severe irritation and burns of the mouth, throat and digestive tract. Symptoms of overexposure may include ulceration of the nose and throat, coughing, salivation, headache, fatigue, dizziness, nausea, shock, and pulmonary edema (accumulation of fluid around the lungs). May lead to coma or death. Onset of symptoms may be delayed. Prolonged or repeated overexposure to fluoride compounds may cause fluorosis. Fluorosis is characterized by skeletal changes, consisting of osteosclerosis (hardening or abnormal density of bone) and osteomalacia (softening of bones) and by mottled discoloration of the enamel of teeth (if exposure occurs during enamel formation). Symptoms may include bone and joint pain and limited range of motion. Conditions aggravated by exposure may include skin and respiratory (asthma-like) disorders.
Indication of immediate medical attention and special treatment needed	Beware of late onset of pulmonary edema for up to 48 hours. Treat severe burns similar to hydrofluoric acid exposure.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Hazardous combustion products: When heated to decomposition (222°F), it emits highly toxic and corrosive fumes of hydrofluoric acid, silicon tetrafluoride and hydrogen gas.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.
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Methods and materials for containment and cleaning up	Should not be released into the environment. Prevent entry into waterways, sewer, basements or confined areas.
	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.
	Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
	Never return spills to original containers for re-use.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep containers tightly closed and properly labeled. Containers that have been emptied will retain product residue and should be handled as if they were full. Store in a cool, dry, well-ventilated place away from incompatible materials. Wash hands before eating, drinking, using tobacco, applying make-up or using the toilet. Do not store, use, and/or consume foods, beverages, tobacco in areas where this product is stored. Keep away from heat, sparks and open flame.

8. Exposure controls/personal protection

Occupational exposure limits	This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Wear protective gloves.
Other	Wear protective gloves and protective clothing.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Thermal hazards	None known.
General hygiene considerations	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear, red orange liquid
Physical state	Liquid.
Form	Liquid.
Color	Red orange
Odor	Pungent
Odor threshold	Not available.
pH	1 - 1.4 (1% solution)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	222 °F (105.56 °C)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits**Explosive limit - lower (%)** Not available.**Explosive limit - upper (%)** Not available.**Vapor pressure** Not available.**Vapor density** Not available.**Relative density** 1.234 at 77°F**Solubility(ies)****Solubility (water)** Soluble**Partition coefficient (n-octanol/water)** Not available.**Auto-ignition temperature** Not available.**Decomposition temperature** Not available.**Viscosity** Not available.**Other information****Density** 10.28 lb/gal**Explosive properties** Not explosive.**Oxidizing properties** Not oxidizing.**Percent volatile** 76 - 77 %**10. Stability and reactivity****Reactivity** Reacts violently with strong alkaline substances. This product may react with reducing agents. May be corrosive to metals.**Chemical stability** Material is stable under normal conditions.**Possibility of hazardous reactions** Hazardous polymerization does not occur.**Conditions to avoid** Heat, flames and sparks.**Incompatible materials** Avoid contact with metals, stoneware, strong acids and alkalis, explosives, toxicants, readily oxidizable materials, alkali metals, combustible solids, and organic peroxides.**Hazardous decomposition products** When heated to decomposition (222°F), it emits highly toxic and corrosive fumes of hydrofluoric acid, silicon tetrafluoride and hydrogen gas.**11. Toxicological information****Information on likely routes of exposure****Inhalation** May cause irritation to the respiratory system.**Skin contact** Causes severe skin burns.**Eye contact** Causes serious eye damage.**Ingestion** Causes digestive tract burns. Harmful if swallowed.**Symptoms related to the physical, chemical and toxicological characteristics** Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.**Information on toxicological effects****Acute toxicity** Harmful if swallowed.

Components	Species	Test Results
Silicate(2-), hexafluoro-, dihydrogen (CAS 16961-83-4)		
Acute		
Oral		
LD50	Rat	430 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes severe skin burns and eye damage.**Serious eye damage/eye irritation** Causes serious eye damage.**Respiratory or skin sensitization****Respiratory sensitization** Not a respiratory sensitizer.**Skin sensitization** This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Persistence and degradability

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code D002: Waste Corrosive material [pH ≤2 or =>12.5, or corrosive to steel]
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. Transport information

DOT

UN number UN1778

UN proper shipping name Fluorosilicic acid

Transport hazard class(es)

Class 8

Subsidiary hazard -

Label(s) 8

Packing group II

Environmental hazards

Marine pollutant No.

Special precautions for user Not assigned.

Special provisions A6, A7, B2, B15, IB2, N3, N34, T8, TP2, TP12

Packaging exceptions None

Packaging non bulk 202

Packaging bulk 242

IATA

UN number UN1778

UN proper shipping name Fluorosilicic acid

Transport hazard class(es)

Class 8
Subsidiary hazard -
Packing group II
Environmental hazards No.
ERG Code 8L
Special precautions for user Not assigned.

Other information

Passenger and cargo aircraft Allowed with restrictions.
Cargo aircraft only Allowed with restrictions.

IMDG

UN number UN1778
UN proper shipping name FLUOROSILICIC ACID
Transport hazard class(es)
Class 8
Subsidiary hazard -
Packing group II
Environmental hazards
Marine pollutant No.
EmS F-A, S-B
Special precautions for user Not assigned.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

DOT**IATA; IMDG****15. Regulatory information**

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Classified hazard categories Corrosive to metal
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	11-22-2017
Revision date	08-15-2024
Version #	02
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 1

Disclaimer

No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.

Revision information

Identification: Recommended restrictions

First-aid measures: Ingestion

Fire-fighting measures: Specific hazards arising from the chemical

Handling and storage: Conditions for safe storage, including any incompatibilities

Physical & Chemical Properties: Multiple Properties

Stability and reactivity: Conditions to avoid

Ecological information: Ecotoxicity

Disposal considerations: Contaminated packaging