1. IDENTIFICATION

Product Identifier
Product Name: Rust Removing Sour

Other Means of Identification
Product Code: 440400

Recommended use of the Chemical and Restrictions on Use
Recommended Use: Laundry destainer. For industrial use.

Details of the Supplier of the Safety Data Sheet
Midlab, Inc.
140 Private Brand Way
Athens, TN 37303

Emergency Telephone Number
Company Phone Number: Phone: 1-423-337-3180
Emergency Telephone (24 hr): INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance: Colorless
Physical State: Liquid
Odor: None

Classification

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute toxicity - Dermal</td>
<td>Category 3</td>
</tr>
<tr>
<td>Acute toxicity - Inhalation (Dusts/Mists)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 1 Sub-category B</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Corrosive to Metals</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

Signal Word
Danger

Hazard Statements
Harmful if swallowed.
Toxic in contact with skin.
Toxic if inhaled.
Causes severe skin burns and eye damage.
May be corrosive to metals.

Precautionary Statements - Prevention
Wear protective gloves/protective clothing/eye protection/face protection.
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.
Use only outdoors or in a well-ventilated area.
Keep only in original container.

Precautionary Statements - Response
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN: Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Call a POISON CENTER or doctor/physician if you feel unwell.

Specific measures: Remove from exposure and apply calcium gluconate gel 2.5%.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

IN CASE OF SPILL: Absorb spillage to prevent material damage.

Precautionary Statements - Storage
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Store in corrosive resistant container with a resistant inner liner.

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

Other Hazards
None known.

Unknown Acute Toxicity
None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>60-100</td>
</tr>
<tr>
<td>Hydrofluoric Acid</td>
<td>7664-39-3</td>
<td>5-10</td>
</tr>
<tr>
<td>Ammonium Bifluoride</td>
<td>1341-49-7</td>
<td>3-7</td>
</tr>
</tbody>
</table>

**If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret**

4. FIRST-AID MEASURES

First Aid Measures

General Advice
If exposed or concerned: Get medical advice/attention. When seeking medical attention, emphasize exposure to hydrofluoric acid.

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove and discard contact lenses. Get immediate medical advice/attention.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing. Wash contaminated clothing before reuse. Get medical attention immediately.

Inhalation
Remove to fresh air. Get medical attention immediately.

Ingestion
Rinse mouth. Drink plenty of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention immediately.

Most Important Symptoms and Effects

Symptoms
Irritation and corrosive burns to mouth, throat, and stomach. Corrosive to eyes. Prolonged contact may even cause severe skin irritation or mild burn. May cause hypocalcemia. Can also cause bone and joint changes in humans (Fluorosis).

Indication of any Immediate Medical Attention and Special Treatment Needed

Notes to Physician
This product contains hydrofluoric acid.

5. FIRE-FIGHTING MEASURES
Suitable Extinguishing Media
Water spray (fog). Carbon dioxide (CO2). Dry chemical. Foam.

Unsuitable Extinguishing Media
Not determined.

Specific Hazards Arising from the Chemical
Contents are corrosive and all personal contact must be avoided.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Personal Precautions
Use personal protective equipment as required.

Environmental Precautions
Avoid release to the environment.

Methods and Material for Containment and Cleaning Up

Methods for Containment
Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up
Collect spillage. Collect in a clean, dry waste container for disposal. Dilute with water and clean up.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Advice on Safe Handling
Wash thoroughly after handling. Use personal protection recommended in Section 8. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Use only in well-ventilated areas.

Conditions for Safe Storage, including any Incompatibilities

Storage Conditions
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep locked up and out of reach of children. Keep only in original container. Keep from freezing.

Incompatible Materials

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrofluoric Acid</td>
<td>TWA: 0.5 ppm F TWA: 2.5 mg/m³ F S*</td>
<td>TWA: 3 ppm F TWA: 2.5 mg/m³ F TWA: 2.5 mg/m³ dust (vacated) TWA: 3 ppm F (vacated) TWA: 2.5 mg/m³ (vacated) STEL: 6 ppm F</td>
<td>IDLH: 30 ppm Ceiling: 6 ppm 15 min Ceiling: 5 mg/m³ 15 min TWA: 3 ppm TWA: 2.5 mg/m³</td>
</tr>
<tr>
<td>7664-39-3</td>
<td>Ceiling: 2 ppm F</td>
<td>TWA: 2.5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Ammonium Bifluoride</td>
<td>TWA: 2.5 mg/m³</td>
<td>TWA: 2.5 mg/m³</td>
<td>-</td>
</tr>
<tr>
<td>71341-49-7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appropriate Engineering Controls

Engineering Controls
Ventilation systems. Eyewash stations. Showers.
Individual Protection Measures, such as Personal Protective Equipment

**Eye/Face Protection**  
Splash goggles or safety glasses.

**Skin and Body Protection**  
Rubber, Nitrile, PVC, or other chemically resistant skin protection to prevent contact.

**Respiratory Protection**  
Ensure adequate ventilation, especially in confined areas.

**General Hygiene Considerations**  
Handle in accordance with good industrial hygiene and safety practice.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>1.0 - 1.5</td>
<td></td>
</tr>
<tr>
<td>Melting Point/Freezing Point</td>
<td>Not known</td>
<td></td>
</tr>
<tr>
<td>Boiling Point/Boiling Range</td>
<td>100.5 °C / 213 °F</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>n/a-liquid</td>
<td></td>
</tr>
<tr>
<td>Upper Flammability Limits</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.03</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Completely soluble</td>
<td>@ 25 °C (77 °F)</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Kinematic Viscosity</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Dynamic Viscosity</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>Not determined</td>
<td></td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

**Reactivity**  
Not reactive under normal conditions.

**Chemical Stability**  
Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**  
None under normal processing.

**Conditions to Avoid**  
Keep out of reach of children. Keep from freezing.

**Incompatible Materials**  

**Hazardous Decomposition Products**  
Thermal decomposition may release toxic ammonia fumes. It may generate toxic fluorides and hydrogen fluorides. Decomposition by reaction with certain metals releases flammable and explosive hydrogen gas.

### 11. TOXICOLOGICAL INFORMATION
Information on Likely Routes of Exposure

Product Information

Eye Contact Causes severe eye damage.
Skin Contact Causes severe skin burns. Fatal in contact with skin.
Inhalation Toxic if inhaled.
Ingestion Harmful if swallowed.

Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrofluoric Acid 7664-39-3</td>
<td>LD100 = 80 mg/kg (Guinea Pig) (2% solution)</td>
<td>-</td>
<td>= 850 mg/m³ ( Rat ) 1 h</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>= 1276 ppm ( Rat ) 1 h</td>
</tr>
<tr>
<td>Ammonium Bifluoride 1341-49-7</td>
<td>= 31 mg/kg ( Rat ) (Intraperitoneal)</td>
<td>-</td>
<td>= 1276 ppm ( Rat ) 1 h</td>
</tr>
</tbody>
</table>

Information on Physical, Chemical and Toxicological Effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and Immediate Effects as well as Chronic Effects from Short and Long-Term Exposure

Carcinogenicity Not a human carcinogen.

Numerical Measures of Toxicity
Not determined

Unknown Acute Toxicity None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Harmful to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Toxicty to microorganisms</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrofluoric Acid 7664-39-3</td>
<td>-</td>
<td>= 51 mg/L (96hr) Salmo gairdneri</td>
<td>-</td>
<td>= 10.5 mg/L (96hr) Mysidopsis</td>
</tr>
<tr>
<td>Ammonium Bifluoride 1341-49-7</td>
<td>-</td>
<td>&gt; 100 mg/L (96hr)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Persistence/Degradability
Not determined

Bioaccumulation
Not determined

Mobility

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrofluoric Acid 7664-39-3</td>
<td>-1.4</td>
</tr>
</tbody>
</table>

Other Adverse Effects
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods
Disposal of Wastes
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging
Disposal should be in accordance with applicable regional, national and local laws and regulations.

US EPA Waste Number

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>RCRA</th>
<th>RCRA - Basis for Listing</th>
<th>RCRA - D Series Wastes</th>
<th>RCRA - U Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrofluoric Acid</td>
<td>U134</td>
<td></td>
<td></td>
<td>U134</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

Note
Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT
UN3264, Corrosive Liquid, Acidic, Inorganic, NOS (Containing Hydrofluoric Acid and Ammonium Bifluoride), 8, PG II

IATA

IMDG
Marine Pollutant
This material may meet the definition of a marine pollutant

15. REGULATORY INFORMATION

International Inventories
Not determined

US Federal Regulations

CERCLA

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA/SARA RQ</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrofluoric Acid 7664-39-3</td>
<td>100 lb</td>
<td>100 lb</td>
<td>RQ 100 lb final RQ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RQ 45.4 kg final RQ</td>
</tr>
<tr>
<td>Ammonium Bifluoride 1341-49-7</td>
<td>1000 lb</td>
<td>100 lb</td>
<td>RQ 100 lb final RQ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RQ 45.4 kg final RQ</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories

Acute Health Hazard  Yes
Chronic Health Hazard Yes
Reactive Hazard  Yes

SARA 313

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrofluoric Acid 7664-39-3</td>
<td>7664-39-3</td>
<td>5-10</td>
<td>1.0</td>
</tr>
<tr>
<td>Ammonium Bifluoride 1341-49-7</td>
<td>1341-49-7</td>
<td>3-7</td>
<td>1.0</td>
</tr>
</tbody>
</table>

CWA (Clean Water Act)

<table>
<thead>
<tr>
<th>Component</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrofluoric Acid 7664-39-3</td>
<td>100 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

US State Regulations

U.S. State Right-to-Know Regulations
16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazards</th>
<th>Personal Protection</th>
<th>Physical Hazards</th>
<th>Physical Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Issue Date: 01-Oct-2013
Revision Date: 26-Jan-2014
Revision Note: New format Version 1.0

Disclaimer
The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

Keep Out of Reach of Children. For Industrial and Institutional Use Only.

*Denotes changes from last version.

End of Safety Data Sheet