1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product Name

Other means of identification
Product Code
UN/ID No

Recommended use of the chemical and restrictions on use
Recommended Use
Uses advised against

Details of the supplier of the safety data sheet
Manufacturer Address

Emergency telephone number
8:00 AM – 5:00 PM CST Monday-Friday
NON-BUSINESS HOURS (INFOTRAC)

2. HAZARDS IDENTIFICATION

Classification
Skin corrosion/irritation
Serious eye damage/eye irritation
Reproductive toxicity

Label elements
Emergency Overview

Hazard statements
Causes severe skin burns and eye damage
May damage fertility or the unborn child

Appearance
Physical state
Odor

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor/physician
Specific treatment (see TREATMENT FOR HYDROFLUORIC ACID EXPOSURE on this label)
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 (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
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

Precautionary Statements - Storage
Store locked up

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

Hazards not otherwise classified (HNOC) - Other Information
Burns from this product may not be immediately painful or evident. Exposures require fluoride specific treatment
• May be harmful if swallowed
No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>40 - 70</td>
<td>*</td>
</tr>
<tr>
<td>Glycolic Acid</td>
<td>79-14-1</td>
<td>10 - 30</td>
<td>*</td>
</tr>
<tr>
<td>sulfamic acid</td>
<td>5329-14-6</td>
<td>7 - 13</td>
<td>*</td>
</tr>
<tr>
<td>Ammonium Hydrogen Fluoride</td>
<td>1341-49-7</td>
<td>1 - 5</td>
<td>*</td>
</tr>
<tr>
<td>Quaternary amine compound</td>
<td>Proprietary</td>
<td>1 - 5</td>
<td>*</td>
</tr>
<tr>
<td>Ethoxylated alcohol</td>
<td>Proprietary</td>
<td>1 - 5</td>
<td>*</td>
</tr>
<tr>
<td>Methoxycetic acid</td>
<td>625-45-6</td>
<td>0.1 - 1</td>
<td>*</td>
</tr>
</tbody>
</table>

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

4. FIRST AID MEASURES

First aid measures

General advice
Immediate medical attention is required.

Eye contact
Keep eye wide open while rinsing. Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do not rub affected area. Rinse the eyes with a calcium gluconate 1% solution.

Skin Contact
Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediately apply calcium gluconate gel 2.5% and massage into the affected area using rubber gloves; continue to massage while repeatedly applying gel until 15 minutes after pain is relieved.

Inhalation
Remove to fresh air. Call a physician or poison control center immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Ingestion
Immediate medical attention is required. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Self-protection of the first aider
Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed
Symptoms
Burns from this product may not be immediately painful or evident. Exposures require fluoride specific treatment. The product causes burns of eyes, skin and mucous membranes.

Indication of any immediate medical attention and special treatment needed
Note to physicians
Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes.

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
Evacuate personnel to safe areas. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

Environmental precautions
Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up
Dam up. Soak up with inert absorbent material. Prevent product from entering drains. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Precautions for safe handling
Advice on safe handling

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation, especially in confined areas. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Keep out of the reach of children.

Incompatible materials

Incompatible with strong acids and bases. Incompatible with oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

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>Ammonium Hydrogen Fluoride 1341-49-7</td>
<td>TWA: 2.5 mg/m³ F</td>
<td>TWA: 2.5 mg/m³ F</td>
<td>TWA: 2.5 mg/m³ F</td>
</tr>
</tbody>
</table>

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls

Brush on or apply at the lowest practical pressure. Do not atomize during application. Beware of wind drift. Proper work practices and planning should be utilized to avoid contact with workers, passersby, and non-masonry surfaces. Application equipment, scaffolding, swing stages and support systems must be constructed of acid resistant materials.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear tight sealing safety goggles. Face protection shield.

Skin and body protection

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.

General Hygiene Considerations

When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Take off all contaminated clothing and wash it before reuse. Wear suitable gloves and eye/face protection.

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>Odor Mild</td>
</tr>
<tr>
<td>Appearance</td>
<td>clear</td>
<td>Odor threshold</td>
</tr>
<tr>
<td>Color</td>
<td>light yellow</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Strong bases. Heat. Exposure to air or moisture over prolonged periods.

Incompatible materials
Incompatible with strong acids and bases. Incompatible with oxidizing agents.

Hazardous Decomposition Products
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information
Causes burns Corrosive

Inhalation
Avoid breathing vapors or mists. May be harmful if inhaled.

Eye contact
Corrosive to the eyes and may cause severe damage including blindness.

Skin Contact
Causes burns. Burns from this product may not be immediately painful or evident. Exposures require fluoride specific treatment.

Ingestion
Do not taste or swallow. 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>Water</td>
<td>&gt; 90 mL/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7732-18-5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycolic Acid</td>
<td>= 1950 mg/kg (Rat)</td>
<td>-</td>
<td>= 7.7 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>79-14-1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sulfamic acid</td>
<td>= 1450 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5329-14-6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ammonium Hydrogen Fluoride</td>
<td>= 130 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1341-49-7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quaternary amine compound</td>
<td>= 580 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Ethoxylated alcohol  
= 1378 mg/kg (Rat)  
> 2 g/kg (Rabbit)  

Information on toxicological effects

Symptoms
Burns from this product may not be immediately painful or evident. Exposures require fluoride specific treatment.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization  
No information available.

Germ cell mutagenicity  
No information available.

Carcinogenicity  
This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Reproductive toxicity  
No information available.

STOT - single exposure  
No information available.

STOT - repeated exposure  
No information available.

Chronic toxicity  
Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Possible risk of irreversible effects.

Aspiration hazard  
Risk of serious damage to the lungs (by aspiration).

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEmix (oral)</td>
<td>3310 mg/kg</td>
<td></td>
</tr>
<tr>
<td>ATEmix (dermal)</td>
<td>160000 mg/kg mg/l</td>
<td></td>
</tr>
<tr>
<td>ATEmix (inhalation-dust/mist)</td>
<td>48.6 mg/l</td>
<td></td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

Ecotoxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Toxicity to microorganisms</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycolic Acid</td>
<td>-</td>
<td>5000: 96 h Brachydanio rerio mg/L LC50 static</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>79-14-1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>sulfamic acid</td>
<td>-</td>
<td>14.2: 96 h Pimephales promelas mg/L LC50 static</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>5329-14-6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Persistence and degradability  
No information available.

Bioaccumulation  
No information available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycolic Acid</td>
<td>-1.11</td>
</tr>
<tr>
<td>79-14-1</td>
<td></td>
</tr>
</tbody>
</table>

Other adverse effects  
No information available

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  Do not reuse container.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>DOT</th>
<th>Regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN/ID No</td>
<td>UN1760</td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>Corrosive liquid, n.o.s. (Hydroxyacetic &amp; Sulfamic Acid)</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>8</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
</tbody>
</table>

15. REGULATORY INFORMATION

International Inventories

- TSCA: Complies
- DSL/NDSL: Complies

Legend:

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

<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>Ammonium Hydrogen Fluoride - 1341-49-7</td>
<td>1341-49-7</td>
<td>1 - 5</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories

- Acute health hazard: Yes
- Chronic Health Hazard: Yes
- Fire hazard: No
- Sudden release of pressure hazard: No
- Reactive Hazard: No

CWA (Clean Water Act)
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

<table>
<thead>
<tr>
<th>Chemical Name</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>Ammonium Hydrogen Fluoride 1341-49-7</td>
<td>100 lb</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)
Ammonium Hydrogen Fluoride
1341-49-7

CERCLA/SARA RQ

Reportable Quantity (RQ)

RQ 100 lb final RQ
RQ 45.4 kg final RQ

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>sulfamic acid</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5329-14-6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ammonium Hydrogen Fluoride</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>1341-49-7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formic acid</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>64-18-6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

NFPA  Health hazards 3  Flammability 0  Instability 0  Physical and Chemical Properties -

HMIS  Health hazards 3  Flammability 0  Physical hazards 0  Personal protection X

Prepared By  Regulatory Department
Issue Date  07-Jan-2015
Revision Date  14-Jul-2015
Revision Note  SDS sections updated

Disclaimer
The information contained on the Material Safety Data Sheet has been compiled from data considered accurate. This data is believed to be reliable, but it must be pointed out that values for certain properties are known to vary from source to source. PROSOCO, Inc. expressly disclaims any warranty express or implied as well as any liability for any injury or loss arising from the use of this information or the materials described. This data is not to be construed as absolutely complete since additional data may be desirable when particular conditions or circumstances exist. It is the responsibility of the user to determine the best precautions necessary for the safe handling and use of this product for his unique application. This data relates only to the specific material designated and is not to be used in combination with any other material. Many federal and state regulations pertain directly or indirectly to the product’s end use and disposal of containers and unused material. It is the purchaser’s responsibility to familiarize himself with all applicable regulations.

End of Safety Data Sheet