1. Identification

Material name: BUFFERED ETCH 1:1 W/OHS, SEMI GRADE

Issue date: 05-August-2014

Revision date: -

Supersedes date: -

Other means of identification:

Spec ID: 10000002018

Synonyms: Ammonium hydrogen fluoride solution

Recommended use: Etchant used in semiconductor manufacturing.

Recommended restrictions: None known.

Supplier information:

FUJIFILM Electronic Materials U.S.A., Inc.
80 Circuit Drive
North Kingstown RI 02852

Transportation Emergency:
FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC: 1-800-424-9300

Medical Emergency (24HR):
FOR ANY HEALTH & MEDICAL EMERGENCY, 24 HOURS /7 DAYS CALL:
1-800-365-8951

Non-emergency Telephone:
FOR ALL SDS REQUESTS & QUESTIONS, CALL CUSTOMER SERVICE:
1-800-553-6546

SDS file: 10050_US_EN_V1.0

Replaces file: None

2. Hazard(s) identification

Physical hazards: Not classified.

Health hazards:
- Acute toxicity, oral: Category 3
- Acute toxicity, dermal: Category 2
- Acute toxicity, inhalation: Category 3
- Skin corrosion/irritation: Category 1B
- Serious eye damage/eye irritation: Category 1

OSHA defined hazards: Not classified.

Label elements:

Signal word: Danger

Hazard statement: Toxic if swallowed. Fatal in contact with skin. Toxic if inhaled. Causes severe skin burns and eye damage.

Precautionary statement:

Prevention:
Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Wear protective gloves/proective clothing/eye protection/face protection. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling.

Response:
If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. 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/doctor.

Storage:
Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal:
Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC): None known.
### 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium fluoride</td>
<td></td>
<td>12125-01-8</td>
<td>15-40</td>
</tr>
<tr>
<td>Hydrofluoric acid</td>
<td></td>
<td>7664-39-3</td>
<td>3-&lt;7</td>
</tr>
</tbody>
</table>

**Composition comments**

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Ammonium fluoride and hydrofluoric acid in aqueous solution react to form, and are in equilibrium with ammonium bifluoride (ammonium hydrogen difluoride, CAS no. 1341-49-7).

### 4. First-aid measures

**Inhalation**

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation. Be aware that symptoms of chemical pneumonia (shortness of breath) may occur several hours after exposure.

**Skin contact**

Remove contaminated clothes and rinse skin thoroughly with water for at least 15 minutes. Chemical burns must be treated by a physician. Get medical attention immediately. If 2.5% calcium gluconate is available, the water rinse time should be limited to 5 minutes and then the 2.5% calcium gluconate massaged into the burn site. It should be applied frequently and massaged continuously until pain and/or redness disappears or until more definitive medical care is given. Wear gloves when massaging calcium gluconate into the burn site.

**Eye contact**

Flush thoroughly with water for at least 15 minutes. Get immediate medical assistance. If medical assistance is not immediately available, flush an additional 15 minutes. Make sure to remove any contact lenses from the eyes before rinsing. A 1.0 pct calcium gluconate gel solution can be used to irrigate the eye using a syringe or a continuous irrigation device.

**Ingestion**

Rinse mouth thoroughly with water and give large amounts of milk or water to people not unconscious. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Lay on the side. Get medical attention immediately.

**Most important symptoms/effects, acute and delayed**

- **Inhalation**: May cause damage to mucous membranes in nose, throat, lungs and bronchial system. Be aware that symptoms of lung edema (shortness of breath) may develop up to 24 hours after exposure. Eye contact: Prolonged contact causes serious eye and tissue damage. May cause blindness. Skin contact: May cause serious chemical burns to the skin. Ingestion: May cause burns in mucous membranes, throat, esophagus and stomach.

**Indication of immediate medical attention and special treatment needed**

Symptoms may be delayed. Consult specific guidance on first aid procedures for accidents involving concentrated hydrofluoric acid. Attach a cardiac monitor. Monitor EKG for prolonged Q-T interval or QRS duration. For inhalation exposures, person should be held under observation for at least 24 hours.

**General information**

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting measures

**Suitable extinguishing media**

Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media**

None.

**Specific hazards arising from the chemical**

Hydrogen fluoride, a corrosive and toxic gas, and other potentially hazardous fluorine-containing compounds may be released upon combustion.

**Special protective equipment and precautions for firefighters**

Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire-fighting equipment/instructions**

Use standard firefighting procedures and consider the hazards of other involved materials.

### 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Avoid any exposure. Avoid contact with spilled material. If leakage cannot be stopped, evacuate area. Wear suitable protective clothing. See Section 8 of the SDS for Personal Protective Equipment.

**Methods and materials for containment and cleaning up**

Absorb spillage with suitable absorbent material. Collect in containers and seal securely. For waste disposal, see Section 13 of the SDS.

**Environmental precautions**

Do not allow to enter drains, sewers or watercourses unless authorized by permit.
7. Handling and storage

Precautions for safe handling
Should be handled in closed systems, if possible. Avoid any exposure. Wear approved safety goggles. Wear protective gloves and appropriate clothing to prevent skin contact. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Store in closed original container in a dry place. Store above freezing. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium fluoride (CAS 12125-01-8)</td>
<td>PEL</td>
<td>2.5 mg/m3</td>
</tr>
<tr>
<td>Hydrofluoric acid (CAS 7664-39-3)</td>
<td>PEL</td>
<td>2.5 mg/m3</td>
</tr>
</tbody>
</table>

US. OSHA Table Z-2 (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium fluoride (CAS 12125-01-8)</td>
<td>TWA</td>
<td>2.5 mg/m3</td>
<td>Dust.</td>
</tr>
<tr>
<td>Hydrofluoric acid (CAS 7664-39-3)</td>
<td>TWA</td>
<td>3 ppm</td>
<td></td>
</tr>
</tbody>
</table>

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium fluoride (CAS 12125-01-8)</td>
<td>TWA</td>
<td>2.5 mg/m3</td>
</tr>
<tr>
<td>Hydrofluoric acid (CAS 7664-39-3)</td>
<td>Ceiling</td>
<td>2 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>0.5 ppm</td>
</tr>
</tbody>
</table>

US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium fluoride (CAS 12125-01-8)</td>
<td>TWA</td>
<td>2.5 mg/m3</td>
</tr>
<tr>
<td>Hydrofluoric acid (CAS 7664-39-3)</td>
<td>Ceiling</td>
<td>5 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>2.5 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 ppm</td>
</tr>
</tbody>
</table>

Biological limit values

ACGIH Biological Exposure Indices

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Determinant</th>
<th>Specimen</th>
<th>Sampling Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium fluoride (CAS 12125-01-8)</td>
<td>3 mg/l</td>
<td>Fluoride</td>
<td>Urine</td>
<td>*</td>
</tr>
<tr>
<td>Hydrofluoric acid (CAS 7664-39-3)</td>
<td>2 mg/l</td>
<td>Fluoride</td>
<td>Urine</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>3 mg/l</td>
<td>Fluoride</td>
<td>Urine</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>2 mg/l</td>
<td>Fluoride</td>
<td>Urine</td>
<td>*</td>
</tr>
</tbody>
</table>

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation
Hydrofluoric acid (CAS 7664-39-3) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation
Hydrofluoric acid (CAS 7664-39-3) Can be absorbed through the skin.

Appropriate engineering controls
Should be handled in closed systems, if possible. If enclosed handling cannot be guaranteed, ventilation and protective clothing must be used. 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 approved safety goggles.

Skin protection
Wear protective gloves impervious to the chemicals in use.
Other

Also wear appropriate clothing to prevent any possibility of skin contact. Suitable items can be recommended by the protective equipment supplier or by a qualified industrial hygienist.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 1910.134. Use a NIOSH/MSHA approved air purifying respirator as needed to control exposure. Consult with respirator manufacturer to determine respirator selection, use, and limitations. Use positive pressure, air-supplied respirator for uncontrolled releases or when air purifying respirator limitations may be exceeded. Follow respirator protection program requirements (OSHA 1910.134 and ANSI Z88.2) for all respirator use.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

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

- Physical state: Liquid.
- Form: Liquid.
- Color: Colorless to pale yellow.

Odor

Mild ammoniacal odor.

Odor threshold

No data available.

pH

4.5 - 6.5 (25°C)

Melting point/freezing point

50 °F (10 °C)

Initial boiling point and boiling range

219.2 °F (104 °C)

Flash point

Not applicable.

Evaporation rate

< 1 (Water = 1)

Flammability (solid, gas)

Not applicable.

Upper/lower flammability or explosive limits

- Flammability limit - lower (%): Not applicable.
- Flammability limit - upper (%): Not applicable.

Vapor pressure

No data available.

Vapor density

No data available.

Relative density

1.11-1.114

Solubility(ies)

- Solubility (water): Completely miscible in water.
- Partition coefficient (n-octanol/water): No data available.

Auto-ignition temperature

None.

Decomposition temperature

No data available.

Viscosity

No data available.

Other information

- Density: 1.11-1.114 g/cc
- Molecular weight: Not applicable/mixture.
- Percent volatile: 60 - 72 %

10. Stability and reactivity

Chemical stability

Stable under normal temperature conditions.

Possibility of hazardous reactions

Will not occur.

Conditions to avoid

Heat. Freezing.

Incompatible materials


Hazardous decomposition products

11. Toxicological information

Information on likely routes of exposure

Ingestion
Toxic if swallowed. Causes digestive tract burns. Erosion of exposed teeth.

Inhalation
Toxic if inhaled. Causes respiratory tract burns. Absorption of fluoride ion can cause hypocalcaemia, hypomagnesaemia, and hyperkalaemia, which can result in cardiac arrest.

Skin contact
Fatal in contact with skin. Causes severe skin burns. Hypocalcaemia should be considered a risk in all instances of inhalation or ingestion and whenever skin burns exceed 25 square inches (an area about the size of the palm).

Eye contact
Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: May cause damage to mucous membranes in nose, throat, lungs and bronchial system. Be aware that symptoms of lung edema (shortness of breath) may develop up to 24 hours after exposure. Eye contact: Prolonged contact causes serious eye and tissue damage. Skin contact: May cause serious chemical burns to the skin. Ingestion: May cause burns in mucous membranes, throat, esophagus and stomach.

Information on toxicological effects

Acute toxicity
Fatal in contact with skin. Toxic if inhaled. Toxic if swallowed.

Components

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium fluoride (CAS 12125-01-8)</td>
<td></td>
</tr>
<tr>
<td>Acute Dermal</td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
</tr>
<tr>
<td>2000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Acute Oral</td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
</tr>
<tr>
<td>1000 - 2000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Hydrofluoric acid (CAS 7664-39-3)</td>
<td></td>
</tr>
<tr>
<td>Acute Inhalation</td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
</tr>
<tr>
<td>1310 ppm, 60 minutes</td>
<td></td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Causes severe skin burns.

Serious eye damage/eye irritation
Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization
No data available.

Skin sensitization
Not a skin sensitizer.

Germ cell mutagenicity
No data available.

Carcinogenicity
Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

<table>
<thead>
<tr>
<th>Species</th>
<th>carcinogen classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium fluoride (CAS 12125-01-8)</td>
<td>3 Not classifiable as to carcinogenicity to humans.</td>
</tr>
<tr>
<td>Hydrofluoric acid (CAS 7664-39-3)</td>
<td>3 Not classifiable as to carcinogenicity to humans.</td>
</tr>
</tbody>
</table>

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

IARC: 1 = Carcinogenic to Humans; There is sufficient evidence of carcinogenicity in humans. 2A = Probably Carcinogenic to Humans; There is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals. 2B = Possibly Carcinogenic to Humans; There is limited evidence of carcinogenicity in humans and less than sufficient evidence of carcinogenicity in experimental animals. 3 = Not classifiable as to carcinogenicity to humans; The evidence of carcinogenicity is inadequate in humans and inadequate or limited in experimental animals. 4 = Probably not carcinogenic to humans; There is inadequate evidence of carcinogenicity in humans but evidence suggesting lack of carcinogenicity in experimental animals. Not listed = Not evaluated by IARC.

Reproductive toxicity
No data available.

Specific target organ toxicity - single exposure
No data available.

Specific target organ toxicity - repeated exposure
No data available.

Aspiration hazard
Inhalation of vapor or mist may cause lung edema. Symptoms may be delayed. May cause damage to the liver and kidneys. Fluorides: Can cause bone damage. Prolonged overexposure to fluorides may increase fluoride content of bones and teeth, and may result in fluorosis, with mottling of teeth (in children) and brittleness of bones. Absorbed fluoride can cause metabolic imbalances with irregular heartbeat, nausea, dizziness, vomiting and seizures. Risk of hypocalcemia with nervous problems (tetany) and cardiac arrhythmia.
12. Ecological information

Ecotoxicity

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium fluoride (CAS 12125-01-8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algae</td>
<td>EC50</td>
<td>Algae</td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Daphnia</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Fish</td>
</tr>
<tr>
<td><strong>Persistence and degradability</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No data available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bioaccumulative potential</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No data available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mobility in soil</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No data available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mobility in general</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The product is miscible with water.</td>
<td></td>
<td>May spread in water systems.</td>
</tr>
<tr>
<td><strong>Other adverse effects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No data available.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. Disposal considerations

Disposal instructions

Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

Local disposal regulations

Dispose of in accordance with local regulations.

Hazardous waste code

Not regulated.

US RCRA Hazardous Waste U List: Reference

Hydrofluoric acid (CAS 7664-39-3) U134

Waste from residues / unused products

Dispose of waste and residues in accordance with local authority requirements.

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number: UN2817
UN proper shipping name: Ammonium hydrogendifluoride, solution
Transport hazard class(es)

- Class: 8
- Subsidiary risk: 6.1
- Label(s): 8, 6.1
- Packing group: II

Special precautions for user

Read safety instructions, SDS and emergency procedures before handling.

Special provisions

IB2, N34, T8, TP2, TP12, TP13

Packaging exceptions

154

Packaging non bulk

202

Packaging bulk

243

IATA

UN number: UN2817
UN proper shipping name: Ammonium hydrogendifluoride solution
Transport hazard class(es)

- Class: 8
- Subsidiary risk: 6.1
- Label(s): 8
- +6.1
- Packing group: II

Environmental hazards

No

ERG Code

8P

Special precautions for user

Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number: UN2817
UN proper shipping name: Ammonium hydrogendifluoride solution
Transport hazard class(es)

- Class: 8
- Subsidiary risk: 6.1
- Label(s): 8
- +6.1
- Packing group: II
Environmental hazards  
Marine pollutant: No  
EmS: F-A, S-B  
Special precautions for user: Read safety instructions, SDS and emergency procedures before handling. This substance/mixture is not intended to be transported in bulk.

15. Regulatory information

US federal regulations  
This product is hazardous according to OSHA 29 CFR 1910.1200.  
TSCA Section 4(a) Final Test Rules & Testing Consent Orders: Not regulated.  
TSCA Section 5(e) PMN-Substance Consent Orders: Not regulated.  
Drug Enforcement Administration (DEA). List 1(i), Precursor Chemicals (21 CFR 1310.02(a) and 1310.04(f)(1))  
Not listed.  
TSCA Section 5(a)(2) Final Significant New Use Rules (SNURs)(40CFR 721, Subpt. E)  
Not regulated.  
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)  
Not regulated.  
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List  
Hydrofluoric acid (CAS 7664-39-3)  
US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Spill: Reportable quantity  
Hydrofluoric acid (CAS 7664-39-3) 100 LBS  
US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Substance: Threshold Planning Quantity  
Hydrofluoric acid (CAS 7664-39-3) 100 LBS  
US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration  
Ammonium fluoride (CAS 12125-01-8) 1.0 %  
Hydrofluoric acid (CAS 7664-39-3) 1.0 %  
US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance  
Ammonium fluoride (CAS 12125-01-8) Listed.  
Hydrofluoric acid (CAS 7664-39-3) Listed.  
CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)  
Ammonium fluoride: 100  
Hydrofluoric acid: 100  
Superfund Amendments and Reauthorization Act of 1986 (SARA)  
Hazard categories  
Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No  
Section 302 extremely hazardous substance (40 CFR 355, Appendix A)  
No  
Section 311/312 (40 CFR 370)  
Yes  
Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)  
Not controlled  

Inventory status  
Country(s) or region: Australia  
Inventory name: Australian Inventory of Chemical Substances (AICS)  
On inventory (yes/no)*: Yes  
Canada  
Domestic Substances List (DSL)  
Yes  
Canada  
Non-Domestic Substances List (NDSL)  
No  
New Zealand  
New Zealand Inventory  
Yes  
Philippines  
Philippine Inventory of Chemicals and Chemical Substances (PICCS)  
Yes  
United States & Puerto Rico  
Toxic Substances Control Act (TSCA) Inventory  
Yes  
All ingredients are TSCA compliant.  
*"Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

State regulations  
This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.
US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance
Not listed.

US. Massachusetts RTK - Substance List
Ammonium fluoride (CAS 12125-01-8) Listed.
Hydrofluoric acid (CAS 7664-39-3) Listed.

US. New Jersey Worker and Community Right-to-Know Act
Ammonium fluoride (CAS 12125-01-8)
Hydrofluoric acid (CAS 7664-39-3)

US. Pennsylvania Worker and Community Right-to-Know Law
Ammonium fluoride (CAS 12125-01-8)
Hydrofluoric acid (CAS 7664-39-3)

US. Rhode Island RTK
Ammonium fluoride (CAS 12125-01-8) Listed.
Hydrofluoric acid (CAS 7664-39-3) Listed.

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

Further information
HMIS® is a registered trade and service mark of the NPCA.
G - Safety Glasses, Gloves, Vapor Respirator

HMIS® ratings
Health: 3
Flammability: 0
Physical hazard: 0
Personal protection: G

NFPA ratings
Health: -
Flammability: -
Instability: -

Disclaimer
THIS SAFETY DATA SHEET (SDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE
FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE
INFORMATION IN THIS SDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE,
STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS
INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING,
OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING
THIS PRODUCT. FUJIFILM PLANAR SOLUTIONS BELIEVES THIS INFORMATION TO BE
RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION BUT, MAKES NO
WARRANTY THAT IT IS. ADDITIONALLY, IF THIS SDS IS MORE THAN THREE YEARS OLD,
YOU SHOULD CONTACT FUJIFILM PLANAR SOLUTIONS AT THE PHONE NUMBER
1-800-553-6546 (CUSTOMER SERVICE) TO MAKE CERTAIN THAT THIS DOCUMENT IS
CURRENT.

SDS file
10050_US_EN_V1.0

Replaces file
None