

Safety Data Sheet

File version: 1

Ammonium fluoride, 1M

SDS Date: 27 Nov 2016

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 1M Ammonium fluoride
PRODUCT CODES: 1008101
1008102
MANUFACTURER: Rigaku Reagents
ADDRESS: 9009 New Trails Drive
The Woodlands, TX 77381
USA
PHONE: +1 (281) 362-2300 x 502
EMAIL: ReagentOrders@Rigaku.com

CHEMICAL NAME: Ammonium fluoride
CHEMICAL FAMILY: Ammonium salts
CHEMICAL FORMULA: NH₄F

PREPARED BY: Rigaku Reagents

SECTION 1 NOTES:

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

OSHA HAZARDS: Target organ effect, toxic by inhalation., toxic by ingestion, toxic by skin absorption

TARGET ORGANS: Bone

GHS CLASSIFICATION

Acute toxicity, Oral (Category 3)
Acute toxicity, Inhalation (Category 3)
Acute toxicity, Dermal (Category 3)

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

Signal word: Danger

Hazard statement(s):

H301 + H311 Toxic if swallowed or in contact with skin
H331 Toxic if inhaled.

Precautionary statement(s):

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P280 Wear protective gloves/ protective clothing.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P311 Call a POISON CENTER or doctor/ physician

POTENTIAL HEALTH EFFECTS:

EYES: May cause eye irritation.

SKIN: Toxic if absorbed through skin. May cause skin irritation.

INGESTION: Toxic if swallowed.

INHALATION: Toxic if inhaled. May cause respiratory tract irritation.

SECTION 2 NOTES:

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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INGREDIENTS: 1M Ammonium fluoride**SODIUM FLUORIDE:**

| <u>CAS NO.</u> | <u>% WT</u> | <u>% VOL</u> |
|----------------|-------------|--------------|
| 12125-01-8 | 3.704 | |

| | <u>ppm</u> | <u>mg/m3</u> |
|-----------------|------------|--------------|
| OSHA PEL-TWA: | | 2.5 |
| OSHA PEL STEL : | | |

| | |
|-----------------|-----|
| ACGIH TLV-TWA: | 2.5 |
| ACGIH TLV STEL: | |

SECTION 3 NOTES:**SECTION 4: FIRST AID MEASURES****EYES:** Flush eyes with water as a precaution.**SKIN:** Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.**INGESTION:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.**INHALATION:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.**SECTION 4 NOTES:** Salivation, nausea, vomiting, fever, material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.**SECTION 5: FIRE-FIGHTING MEASURES****FLASH POINT:****F:** No data available**C:** No data available**AUTOIGNITION TEMPERATURE:****F:** No data available**C:** No data available**NFPA HAZARD CLASSIFICATION**

| | | |
|-----------|-----------------|---------------|
| HEALTH: 2 | FLAMMABILITY: 0 | REACTIVITY: 0 |
|-----------|-----------------|---------------|

HMIS HAZARD CLASSIFICATION

| | | |
|-----------|-----------------|---------------|
| HEALTH: 2 | FLAMMABILITY: 0 | REACTIVITY: 0 |
|-----------|-----------------|---------------|

EXTINGUISHING MEDIA: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.**HAZARDOUS DECOMPOSITION PRODUCTS:** Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NOx), Hydrogen fluoride**SECTION 5 NOTES:** Not flammable or combustible**SECTION 6: ACCIDENTAL RELEASE MEASURES****PERSONAL PRECAUTIONS:** Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.**ENVIRONMENTAL PRECAUTIONS:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Keep in suitable, closed containers for disposal.**SECTION 6 NOTES:**

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep container tightly closed in a dry and well-ventilated place. Hygroscopic.**SECTION 7 NOTES:**

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).**EYE PROTECTION:** Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).**SKIN PROTECTION:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.**OTHER PROTECTIVE CLOTHING OR EQUIPMENT:** Impervious clothing, flame retardant antistatic protective clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.**WORK HYGIENIC PRACTICES:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.**SECTION 8 NOTES:**

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: clear, colorless**PHYSICAL STATE:** liquid, clear**pH AS SUPPLIED:** No data available**pH (Other):** No data available**BOILING POINT:****F:** No data available**C:** No data available**FREEZING POINT:****F:** No data available**C:** No data available**VAPOR PRESSURE (mmHg):** No data available

@

F: No data available**C:** No data available**VAPOR DENSITY (AIR = 1):** No data available**SPECIFIC GRAVITY (H2O = 1):** No data available

@

F: No data available**C:** No data available**EVAPORATION RATE:** No data available

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SOLUBILITY IN WATER: completely soluble**VISCOSITY:** No data available

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F: No data available

C: No data available

SECTION 9 NOTES:

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable under recommended storage conditions.**CONDITIONS TO AVOID (STABILITY):** No data available**INCOMPATIBILITY (MATERIAL TO AVOID):** Hygroscopic**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NO_x), Hydrogen fluoride Other decomposition products - no data available.**SECTION 10 NOTES:**

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:**ORAL LD50:** No data available**INHALATION LC50:** No data available**DERMAL LD50:** No data available**SKIN CORROSION/IRRITATION:** No data available**SERIOUS EYE DAMAGE/EYE IRRITATION:** No data available**RESPIRATORY OR SKIN SENSITIZATION:** No data available**GERM CELL MUTAGENICITY:** No data available**CARCINOGENICITY:****IARC:** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.**OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.**REPRODUCTIVE TOXICITY:** No data available**SECTION 11 NOTES:**

SECTION 12: ECOLOGICAL INFORMATION

TOXICITY

No data available

PERSISTENCE AND DEGRADABILITY

No data available

BIOACCUMULATIVE POTENTIAL

No data available

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MOBILITY IN SOIL

No data available

PBT AND vPvB ASSESSMENT

No data available

SECTION 12 NOTES:

SECTION 13: DISPOSAL CONSIDERATIONS

PRODUCT: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

CONTAMINATED PACKAGING: Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

PROPER SHIPPING NAME: Ammonium fluoride
HAZARD CLASS: 6.1
ID NUMBER: 2505
PACKING GROUP: III
MARINE POLLUTANT: No
POISON INHALATION HAZARD: No

WATER TRANSPORTATION

PROPER SHIPPING NAME: Ammonium fluoride
HAZARD CLASS: 6.1
ID NUMBER: 2505
PACKING GROUP: III EMS-No: F-A, S-A
MARINE POLLUTANT: No

AIR TRANSPORTATION

PROPER SHIPPING NAME: Ammonium fluoride
HAZARD CLASS: 6.1
ID NUMBER: 2505
PACKING GROUP: III

SECTION 14 NOTES:

SECTION 15: REGULATORY INFORMATION

OSHA HAZARDS: Target organ effect, toxic by inhalation, toxic by ingestion, toxic by skin absorption

SARA 302 COMPONENTS: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 COMPONENTS: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 HAZARDS: Acute health hazard, chronic health hazard

MASSACHUSETTS RIGHT TO KNOW COMPONENTS:

| | <u>CAS-No.</u> |
|-------------------|----------------|
| Ammonium fluoride | 12125-01-8 |

PENNSYLVANIA RIGHT TO KNOW COMPONENTS:

| | <u>CAS-No.</u> |
|-------------------|----------------|
| Ammonium fluoride | 12125-01-8 |
| Water | 7732-18-5 |

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NEW JERSEY RIGHT TO KNOW COMPONENTS:

| | <u>CAS-No.</u> |
|-------------------|----------------|
| Ammonium fluoride | 12125-01-8 |
| Water | 7732-18-5 |

CALIFORNIA PROP. 65 COMPONENTS: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 15 NOTES:

SECTION 16: OTHER INFORMATION

DISCLAIMER: The above information is believed to be correct but does not necessarily include all information and should be used only as a guide. The information in this document is based on our current knowledge and applies to the product with regard to appropriate safety precautions. This document does not represent any guarantee of the properties of the product. Rigaku Reagents will not be held liable for any damage resulting from handling or contact with the above product.