Material Safety Data Sheet
Rubidium Fluoride Hydrate, 99+%  
ACC# 94070

Section 1 - Chemical Product and Company Identification

MSDS Name: Rubidium Fluoride Hydrate, 99+%
Catalog Numbers: AC218230000, AC218230100, AC218230500
Synonyms: None Known.
Company Identification:
   - Acros Organics N.V.
   - One Reagent Lane
   - Fair Lawn, NJ 07410
For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>16422-67-6</td>
<td>Rubidium Fluoride Hydrate</td>
<td>99+%</td>
<td>unlisted</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white powder.
Caution! May cause eye and skin irritation. May cause respiratory and digestive tract irritation. The toxicological properties of this material have not been fully investigated.
Target Organs: No data found.

Potential Health Effects

Eye: May cause eye irritation.
Skin: May cause skin irritation.
Ingestion: May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated.
Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.
Chronic: No information found.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupful of milk or water.
Inhalation: Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Containers may explode when heated. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes. Runoff from fire control or dilution water may cause pollution.
Extinguishing Media: Use water spray to cool fire-exposed containers. Do NOT get water inside containers. Do NOT use straight streams of water. For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use water spray, fog or regular foam.
Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 1; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.
Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubidium Fluoride Hydrate</td>
<td>2.5 mg/m3 TWA (as F) (listed under Fluorides).</td>
<td>none listed</td>
<td>2.5 mg/m3 TWA (as F) (listed under Fluorides).</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: Rubidium Fluoride Hydrate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective clothing to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Powder
Appearance: white
Odor: None reported.
P-H: Not available.
Vapor Pressure: Not available.
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 1410 deg C @ 760.00mmHg
Freezing/Melting Point: 775 deg C
Decomposition Temperature: Not available.
Solubility: soluble
Specific Gravity/Density: 3.5570g/cm3
Molecular Formula: FRb.xH2O
Molecular Weight: 104.47

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, dust generation, excess heat.
Incompatibilities with Other Materials: Strong acids.
Hazardous Decomposition Products: Imitating and toxic fumes and gases, hydrogen fluoride gas.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 16422-67-6 unlisted.
LD50/LC50: Not available.

Carcinogenicity: CAS# 16422-67-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: No information found
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

No information available.
Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>US DOT</th>
<th>Canada TDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping Name:</td>
<td>TOXIC SOLID, INORGANIC, N.O.S.</td>
</tr>
<tr>
<td>Hazard Class:</td>
<td>6.1</td>
</tr>
<tr>
<td>UN Number:</td>
<td>UN3288</td>
</tr>
<tr>
<td>Packing Group:</td>
<td>III</td>
</tr>
</tbody>
</table>

Section 15 - Regulatory Information

US FEDERAL

TSCA
- CAS# 16422-67-6 is not listed on the TSCA inventory. It is for research and development use only.

Health & Safety Reporting List
- None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules
- None of the chemicals in this product are under a Chemical Test Rule.

Section 12b
- None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule
- None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs
- None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances
- None of the chemicals in this product have an RQ.

Section 313
- No chemicals are reportable under Section 313.

Clean Air Act:
- This material does not contain any hazardous air pollutants.
- This material does not contain any Class 1 Ozone depletors.
- This material does not contain any Class 2 Ozone depletors.

Clean Water Act:
- None of the chemicals in this product are listed as Hazardous Substances under the CWA.
- None of the chemicals in this product are listed as Priority Pollutants under the CWA.
- None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
- None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 16422-67-6 can be found on the following state right to know lists: California, (listed as Fluorides), Pennsylvania, (listed as Fluorides), Minnesota, (listed as Fluorides).

California Prop 65
- California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:
- XN

Risk Phrases:
- R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

Safety Phrases:
- S24/25 Avoid contact with skin and eyes.
- S37 Wear suitable gloves.
- S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S28A After contact with skin, wash immediately with plenty of water.

WGK (Water Danger/Protection)
- CAS# 16422-67-6: No information available.

Canada - DSL/NDSL
- None of the chemicals in this product are listed on the DSL or NDSL list.

Canada - WHMIS
- This product has a WHMIS classification of D28.
- This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.
Canadian Ingredient Disclosure List

CAS# 16422-67-6 is not listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

**MSDS Creation Date:** 9/02/1997  
**Revision #5 Date:** 10/03/2005

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.