Safety Data Sheet  kumi3F14  
(Bis-(2-methoxyethyl)amino)sulfur trufluoride  
Date of issue: 18/01/2017  
Version: 1.0

SECTION 1: Identification

1.1. Product identifiers

Product Code: Kumi3F14  
Substance name: (Bis-(2-methoxyethyl)amino)sulfur trufluoride  
Synonym: Deoxo-Fluar, BAST  
Trademark: Fluora  
CAS No: 202289-38-1  
Formula: C₆H₁₄F₃NO₂S  
Reach No: Exempted from registration

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified Uses: Laboratory chemicals, Manufacture of substances, Scientific research and development

1.3. Details of the supplier of the safety data sheet

Kumidas SA  
Avenue Louise 279,1050,Brussels, Belgium  
T:+32(0)2 699 82 36  
F: +32(0)2 699 82 36 40  
E: info@kumidas.com  
W: www.kumidas.com

1.4. Emergency telephone number

Emergency Phone#: +32(0)484 58 71 75

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008  
Substances, which in contact with water, emit flammable gases (Category 2), H261  
Acute toxicity, Inhalation (Category 3), H331  
Acute toxicity, Oral (category 3), H301  
Skin corrosion (Category 1A), H314  
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. Label elements

Labeling according to Regulation (EC) No 1272/2008

Hazard pictogram(s):  
Signal word: Danger

Hazard statement(s): H261 – In contact with water releases flammable gas.  
H301 – Toxic if swallowed.  
H314 – Causes severe skin burns and eye damage.  
H331 – Toxic if inhaled.

Precautionary statement(s): P231+P231 – Handle under inert gas. Protect from moisture.  
P261 – Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 – Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P310 – IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P422 – Store contents under inert gas.

Supplemental Hazard Statements (EU): EUH014 – Reacts violently with water.  
EUH029 – Contact with water liberates toxic gas.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.  
Strong hydrogen fluoride releaser.
(Bis-(2-methoxyethyl)amino)sulfur trufluoride

Safety Data Sheet

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Product identifier</th>
<th>Concentration</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mono-constituent</td>
<td>(CAS No.) 202189-38-1</td>
<td>≤ 100%</td>
<td>Water-react. 2; Acute Tox. 3; Skin Corr. 1A, H261, H331, H314</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Hydrofluoric (HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24 hours depending on the concentration of HF. After decontamination with water, further damage can occur due to penetration/absorption of the fluoride ion. Treatment should be directed toward binding the fluoride ion as well as the effects of exposure. Skin exposures can be treated with a 2.5% calcium gluconate gel repeated until burning ceases. More serious skin exposures may require subcutaneous calcium gluconate except for digital areas unless the physician is experienced in this technique, due to the potential for tissue injury from increased pressure. Absorption can readily occur through the subungal areas and should be considered when undergoing decontamination. Prevention of absorption of the fluoride ion in cases of ingestion can be obtained by giving milk, chewable calcium carbonate tablets or Milk of Magnesia to conscious victims. Conditions such as hypocalcemia, hypomagnesemia and cardiac arrhythmias should be monitored for, since they can occur after exposure. Consult a physician. Show this safety data sheet to the doctor in attendance. Hydrofluoric (HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24 hours depending on the concentration of HF. After decontamination with water, further damage can occur due to penetration/absorption of the fluoride ion. Treatment should be directed toward binding the fluoride ion as well as the effects of exposure. Skin exposures can be treated with a 2.5% calcium gluconate gel repeated until burning ceases. More serious skin exposures may require subcutaneous calcium gluconate except for digital areas unless the physician is experienced in this technique, due to the potential for tissue injury from increased pressure. Absorption can readily occur through the subungal areas and should be considered when undergoing decontamination. Prevention of absorption of the fluoride ion in cases of ingestion can be obtained by giving milk, chewable calcium carbonate tablets or Milk of Magnesia to conscious victims. Conditions such as hypocalcemia, hypomagnesemia and cardiac arrhythmias should be monitored for, since they can occur after exposure.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician. First treatment with calcium gluconate paste.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
Dry powder.

5.2. Special hazards arising from the substance or mixture

No data available.
(Bis-(2-methoxyethyl)amino)sulfur trifluoride

Safety Data Sheet

5.3. Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4. Further information
No data available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2. Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up
Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

6.4. Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid inhalation of vapour or mist. Avoid contact with skin and eyes. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Never allow product to get in contact with water during storage.
Recommended storage temperature 2-8 °C.
Store under inert gas. Don not store in class.

7.3. Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Components with workplace control parameters
Contains no substances with occupational exposure limit values.

8.2. Exposure controls
Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection
Tightly fitting safety goggles. Faceshield (8-inch minimum). 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. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body protection
Complete suit protecting against chemicals, Flame retardant protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) 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).
(Bis-(2-methoxyethyl)amino)sulfur trifluoride

Safety Data Sheet

Control of environment exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Yellow to Brown</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>&gt; 80 °C at 1,013 hPa - Decomposes on heating.</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.2 g/cm³ at 25 °C</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>221.24 g/mol</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other safety information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

The product is stable at normal handling and recommended storage conditions.

10.3. Possibility of hazardous reactions

Reacts violently with water.

10.4. Conditions to avoid

Reacts dangerously with glass.

Exposure to moisture.

10.5. Incompatible materials

Strong oxidizing agents, Alcohols, Aldehydes, Ketones, Sulfides, Glass.

10.6. Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), Sulphur oxides, Hydrogen fluoride.

Reacts with water to form: -Warning: Hydrolyzes to form hydrofluoric acid! Do not store in glass!, Hydrogen fluoride.

In the event of fire: see section 5.
# (Bis- (2-methoxyethyl)amino)sulfur trifluoride

**Safety Data Sheet**


## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Acute toxicity</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>No data available</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>No data available</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>No data available</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>No data available</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>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.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>No data available</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>No data available</td>
</tr>
<tr>
<td>Additional information</td>
<td>RTECS: Not available</td>
</tr>
</tbody>
</table>

**Material reacts with moisture on the skin, eyes, and mucous membranes to generate hydrogen fluoride.**

**Hydrogen fluoride is extremely destructive and may cause deep progressive burns that induce Subcutaneous tissues to become blanched and bloodless resulting in lesions of dead tissue that are slow to heal.**

**Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia.**

**Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.**

**Cough, Shortness of breath, Headache, Nausea**

## SECTION 12: Ecological information

### 12.1. Toxicity

No data available

### 12.2. Persistence and degradability

No data available

### 12.3. Bioaccumulative potential

No data available

### 12.4. Mobility in soil

No data available

### 12.5. Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

### 12.6. Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

## SECTION 14: Transport information

### 14.1. UN number

ADR/RID: 3094  
IMDG: 3094  
IATA: 3094

### 14.2. UN proper shipping name

ADR/RID: CORROSIVE LIQUID, WATER-REACTIVE, N.O.S. (Sulfur, trifluoro(2-methoxy-N-(2-methoxyethyl)ethanaminato-kappa.N), (T-4)-)  
IMDG: CORROSIVE LIQUID, WATER-REACTIVE, N.O.S. (Sulfur, trifluoro(2-methoxy-N-(2-methoxyethyl)ethanaminato-kappa.N), (T-4)-)  
IATA: Corrosive liquid, water-reactive, n.o.s. (Sulfur, trifluoro(2-methoxy-N-(2-methoxyethyl)ethanaminato-kappa.N), (T-4)-)  
Passenger Aircraft: Not permitted for transport.
(Bis-(2-methoxyethyl)amino)sulfur trifluoride

Safety Data Sheet


14.3. Transport hazard class (es)
ADR/RID: 8(4.3)  IMDG: 8(4.3)  IATA: 8(4.3)

14.4. Packaging group
ADR/RID: I  IMDG: I  IATA: I

14.5. Environmental hazards
ADR/RID: no  IMDG: Marine pollutant: no  IATA: no

14.6. Special precautions for user
No data available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors: Neither banned nor restricted
Restrictions on the marketing and use of certain dangerous substances and preparations: Neither banned nor restricted
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals: Neither banned nor restricted
REACH-Candidate list of Substances of Very High Concern for Authorisation(Article 59): This product does not contain substances of very High concern(Regulation(EC) No 1907/2006(REACH), Article 57).

15.2. Chemical safety assessment
For this product, a chemical safety assessment was not carried out.

SECTION 16: Other information

16.1. Full text of H-statements referred to under sections 2 and 3.

| EUH014 | Reacts violently with water. |
| EUH029 | Contact with water liberates toxic gas. |
| H261  | In contact with water releases flammable gases. |
| H301  | Toxic if swallowed. |
| H314  | Causes severe skin burns and eye damage. |
| H331  | Toxic if inhaled. |

16.2. Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It, therefore, does not represent any guarantee of the properties of the product. Kumidas shall not be held liable or any damage resulting from handling or from contact with the above product.