SECTION 1: Identification

1.1. Product identifiers

Product Code: kumi1F199
Substance name: Fluoromethyl 4-methylbenzenesulfonate
Synonym: Fluoromethyl 4-toluene-sulfonate, Fluoromethyl tosylate, FMTS
CAS No: 114435-86-8
Reach No: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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
Acute toxicity, Oral(Category 4), H302
Skin corrosion (Category 1B), H314
Skin sensitization (Category 1), H317
For the full text of the H-Statements mentioned in this Section, see Section 16.
Classification according to EU Directives 67/548/EEC or 1999/45/EC
Harmful if swallowed. Causes burns. May cause sensitization by skin contact.

2.2. Label elements

Labeling according to Regulation (EC) No 1272/2008

Signal word: Danger
Hazard statements:
- H302 – Harmful if swallowed.
- H314 – Causes severe skin burns and eye damage.
- H317 – May cause an allergic skin reaction.
Precautionary statements:
- P310 – Immediately call a POISON CENTER/Doctor/physician.
- P260 – Do not breathe vapours.
- P280 – Wear protective gloves/protective clothing/eye protection/face protection.
- P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements (EU): None

2.3. Other hazards

This product is not identified as a PBT/vPvB substance.
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SECTION 3: Composition/information on ingredients

3.1. Substances
Substance type: Mono-constituent
Formula: C₈H₉FO₃S
Molecular weight: 204.22 g/mol
Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Product identifier</th>
<th>Concentration</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoromethyl 4-methylbenzenesulfonate (Main constituent)</td>
<td>(CAS No.) 114435-86-8</td>
<td>≤ 100%</td>
<td>Acute Tox. 4, H302 Skin Corr. 1B, H314 Skin Sens. 1, H317</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.

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
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Special hazards arising from the substance or mixture
Carbon oxides(COₓ), Sulphur oxides(SOₓ), Hydrogen fluoride(HF).

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 vapors, 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).
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6.4. Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
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.

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
Handle in accordance with good industrial hygiene and safety practice. 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. 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 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).

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
Appearance : Liquid
Color : Pale Yellow
Odor : No data available
Odor threshold : No data available
pH : No data available
Melting point : No data available
Freezing point : No data available
Initial boiling point and boiling range : No data available
Flash point : No data available
Evaporation rate : No data available
Flammability (solid, gas) : No data available
Explosion limits : No data available
Explosive properties : No data available
Oxidizing properties : No data available
Vapor pressure : No data available
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<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>204.22 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
No data available

10.4. Conditions to avoid
No data available.

10.5. Incompatible materials

10.6. Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides (COx), Sulphur oxides (SOx), Hydrogen fluoride (HF).
Other decomposition products – No data available.
In the event of fire: see section 5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>No data available</td>
</tr>
<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</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>Potential health effects</td>
<td>Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Ingestion: May be harmful if swallowed. Causes burns. Skin: May be harmful if absorbed through skin. Causes skin burns. Eyes: Causes eye burns.</td>
</tr>
<tr>
<td>Signs and Symptoms of Exposure</td>
<td>No data available</td>
</tr>
<tr>
<td>Additional Information</td>
<td>Swallowing will lead to a strong caustic effect on mouth and throat and the danger of perforation of oesophagus and stomach. To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.</td>
</tr>
</tbody>
</table>

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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
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: 3265                                                                                     IMDG: 3265                                                                           IATA: 3265

14.2. UN proper shipping name
ADR/RID: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Fluoromethyl 4-methylbenzenesulfonate)
IMDG: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Fluoromethyl 4-methylbenzenesulfonate)
IATA: Corrosive liquid, acidic, organic, n.o.s. (Fluoromethyl 4-methylbenzenesulfonate)

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

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

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:
Restrictions on the marketing and use of certain dangerous substances and preparations:
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals:
REACH-Candidate list of Substances of Very High Concern for Authorisation(Article 59):
Neither banned nor restricted
Neither banned nor restricted
Neither banned nor restricted
This product does not contain substances of very High concern(Regulation(EC) No 1907/2006(REACH), Article 57).

15.2. Chemical safety assessment
No data available.

SECTION 16: Other information

16.1. Full text of H-statements referred to under sections 2 and 3.
Fluoromethyl 4-methylbenzenesulfonate
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<table>
<thead>
<tr>
<th>H302</th>
<th>Harmful if swallowed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
</tbody>
</table>

### 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.