Material Safety Data Sheet

Section 1: Chemical Product and Company Identification
Cat#: 02622
Part Name: 2,2,2-TRIFLUOROETHYL METHACRYLATE
Supplier: Polysciences, Inc.
400 Valley Road
Warrington, PA 18976 USA
MSDS Telephone #215-343-6484 Emergency only #215-378-4526

Identified uses: Laboratory use, manufacture of substances

Section 2: Hazards Identification
Hazard Overview
Causes skin, eye and respiratory tract irritation.
Flammable liquid and vapor.

GHS Classification

Flammable Liquids Category 3

Signal word: Danger

Hazard and Precautionary Statements

H226 Flammable liquid and vapour.
H312 Harmful in contact with skin.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P280A Wear protective gloves
P301A IF SWALLOWED do not induce vomiting. Do not give anything to drink. Obtain medical attention without delay.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P351 Rinse cautiously with water for several minutes.

NFPA Rating

Hazard Ratings:
These ratings are Polysciences' Inc. own assements of the properties of the material using the ANSI/NFPA 704 Standard. Additional information can be found by consulting in the NFPA published ratings lists (List 325 and List 49).

If no data is listed the information is not available.

Health Flammability Reactivity
1 3 0

Section 3: Composition/ Information on Ingredients

Note: Items listed with a CASRN... number have no CAS# available.

<table>
<thead>
<tr>
<th>Item#</th>
<th>Name</th>
<th>EINECS</th>
<th>CAS#</th>
<th>% in product</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2,2,2-Trifluoroethyl methacrylate</td>
<td>206-525-3</td>
<td>0000352874</td>
<td>95-100</td>
</tr>
<tr>
<td>2</td>
<td>4-Methoxyphenol</td>
<td>205-769-8</td>
<td>0000150765</td>
<td>0 - 5</td>
</tr>
</tbody>
</table>

Section 4: First Aid Measures

Flush eyes with flowing water for at least 15 minutes.
If breathing is difficult, contact emergency personnel.
If swallowed, wash out mouth with water if person is conscious.
Remove to fresh air.
Section 5: Fire Fighting Measures

Flash point, deg F.: 62 F  
Method: CC  
UEL: no data  
LEL: no data  
Autoignition temperature, deg. F.: no data  
Flame Propagation Rate: no data  
Flammability Classification: IB  
Hazardous Combustion Products: no data

Section 6: Accidental Release Measures

Any information listed below is to be considered in addition to internal guidelines for isolation of spill, containment of spill, removal of ignition sources from immediate area, and collection for disposal of spill by trained, properly protected clean up personnel.

Absorb liquids on absorbent material.

Contain spilled liquids.

Protect personnel from exposure.

Ventilate the area.

Section 7: Handling and Storage

Store at -20 deg. C.

Section 8: Exposure Controls/ Personal Protection

OSHA (ACGIH) Exposure Limits

<table>
<thead>
<tr>
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<th>STEL</th>
<th>CEILING</th>
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<td></td>
<td>ppm</td>
<td>mg/</td>
<td>ppm</td>
</tr>
<tr>
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<td>OSHA</td>
<td>Not classified</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>--</td>
<td>5</td>
</tr>
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<td>0000352874</td>
<td>OSHA</td>
<td>NE</td>
<td>NE</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>NE</td>
<td>NE</td>
</tr>
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Wash skin with deluge of water for at least 15 minutes.

Flash point, deg F.: 62 F  
Method: CC  
UEL: no data  
LEL: no data  
Autoignition temperature, deg. F.: no data  
Flame Propagation Rate: no data  
Flammability Classification: IB  
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The use of eye protection in the form of safety glasses with side shields and the use of skin protection for hands in the form of gloves are considered minimum and non-discretionary in work places and laboratories. Any recommended personal protection equipment or environmental equipment is to be considered as additional to safety glasses and gloves.

Use chemical splash goggles and face shield.

Use latex or equivalent gloves.

Chemical-resistant gloves should be worn whenever this material is handled. The glove material has to be impermeable and resistant to the product. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water. All glove recommendations presume that the risk of exposure is through splash and not intentional immersion of the hands into the product.

Since glove permeation data does not exist for this material, no recommendation for the glove material can be given for the product. Permeation data must be obtained from the glove manufacturer to determine if the glove is suitable for the task.

Section 9: Physical and Chemical Properties

Formula: C6H7F3O2  
Formula Weight: 168.1  
boiling point: 239  
melting point:  
solubility:  
Vapor pressure:  
Vapor density:  
Specific gravity: 1.18  
Ph:  
Appearance: colorless liquid

Section 10: Stability and Reactivity

Chemical Stability: stable  
Conditions to Avoid: heat, spark, flame  
Incompatibility with other materials: oxidizers, polymerization initiators  
Hazardous Decomposition Products: elemental oxides  
Hazardous Polymerization: may occur

Section 11: Toxicological Information
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no data

Section 12: Ecological Information

no data

Section 13: Disposal Considerations

The following chart lists the status of the chemical and its components in reference to 40 CFR Part 261.33. If the product is listed by code number the substance may be subject to special federal and state disposal regulations. If no codes are listed the material must be disposed in compliance with all Federal, State and Local Regulations.

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Waste Code</th>
<th>Regulated Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000150765</td>
<td>not listed</td>
<td>not listed</td>
</tr>
<tr>
<td>0000352874</td>
<td>not listed</td>
<td>not listed</td>
</tr>
</tbody>
</table>

Section 14: Transportation Data

Proper Shipping Name: ESTERS, N.O.S.
Chemical Name: 2,2,2-Trifluoroethyl methacrylate
UN: UN3272
Class: 3
PG: II

Section 15: Regulatory Information

All components of this product are on the TSCA public inventory.

Prop 65 - Column A identifies those items which are known to the State of California to cause cancer. Column B identified items which are known to the State of California to cause reproductive toxicity.

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000150765</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>0000352874</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

State Regulatory Information: If a CAS# is listed below this material is subject to the listed state right-to-know requirements.

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000150765</td>
<td>not listed</td>
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</tbody>
</table>

SARA Toxic Release Chemicals (as defined in Section 313 of SARA Title III)
This list identifies the toxic chemicals, including their de minimis concentrations for which reporting is required under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA). The list is also referred to as the Toxics Release Inventory (TRI) List.

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Regulated name</th>
<th>de minimis conc. %</th>
<th>Rep. Thres.</th>
</tr>
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<tbody>
<tr>
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SARA Extremely Hazardous Substances and TPQs
This list includes hazardous chemicals as defined in 29 CFR 1910.1200(c); and extremely hazardous substances regulated under Section 302 of SARA Title III with their TPQs (in pounds), as listed in 40 CFR 355, Appendices A and B.

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Regulated name</th>
<th>TPQ (pounds)</th>
<th>EHS-RQ (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000150765</td>
<td>not listed</td>
<td>not listed</td>
<td>not listed</td>
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<td>0000352874</td>
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CERCLA
The hazardous substances, and their reportable quantities (RQs) are listed in the federal regulations at 40 CFR Part 302, Table 302.4. Release of a CERCLA hazardous substance in an amount equal to or greater than its RQ, in any 24-hour period, must be reported to the National Response Center at (800) 424-8802.

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Regulated name</th>
<th>RQ (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000150765</td>
<td>Not listed</td>
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Section 16: Other Information
POLYSCIENCES, INC. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. POLYSCIENCES, INC. makes no representations or warranties, either expressed or implied of merchantability, fitness for particular purposes with respect to the information set forth herein or to which the information refers. Accordingly, POLYSCIENCES, INC. will not be responsible for damages resulting from the use of or reliance upon this information.

END OF MSDS