Section 1 - Product and Company Information

Product Name: 2-FLUOROTOLUENE, 99+%  
Product Number: F15323  
Brand: ALDRICH  
Company: Sigma-Aldrich  
Address: 3050 Spruce Street  
SAINT LOUIS MO 63103 US  
Technical Phone: 800-325-5832  
Fax: 800-325-5052  
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name: 2-FLUOROTOLUENE  
CAS #: 95-52-3  
SARA: 313  
Formula: C7H7F  
Synonyms: Benzene, 1-fluoro-2-methyl- (9CI) *  
1-Fluoro-2-methylbenzene * o-Fluorotoluene *  
2-Fluorotoluene  
RTECS Number: XT2579000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW  
Flammable (USA) Highly Flammable (EU). Irritant.  
Irritating to eyes, respiratory system and skin.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE  
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE  
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE  
In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE  
In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures
EXPLOSION HAZARDS
Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.

FLASH POINT
46.4 °F   8 °C   Method: closed cup

EXPLOSION LIMITS
Lower: 1.3 %

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Vapor may travel considerable distance to source of ignition and flash back. Emits toxic fumes under fire conditions. Specific Method(s) of Fire Fighting: Use water spray to cool fire-exposed containers.

EXPOSURE HAZARD(S)
Material: Irritant.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area. Shut off all sources of ignition.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing.

STORAGE
Suitable: Keep tightly closed. Keep away from heat, sparks, and open flame. Store in a cool dry place.

Section 8 - Exposure Controls / PPE
ENGINEERING CONTROLS
Safety shower and eye bath. Use only in a chemical fume hood. Use nonsparking tools.

PERSONAL PROTECTIVE EQUIPMENT
Other: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Very faintly yellow</td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>Clear liquid</td>
<td></td>
</tr>
<tr>
<td>Molecular Weight</td>
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</tr>
<tr>
<td>pH</td>
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<tr>
<td>BP/MP Range</td>
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<tr>
<td>MP/MP Range</td>
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<tr>
<td>Freezing Point</td>
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<tr>
<td>Vapor Pressure</td>
<td>20.2 mmHg</td>
<td>20 °C</td>
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<tr>
<td>Vapor Density</td>
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<td>Saturated Vapor Conc.</td>
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<tr>
<td>SG/Density</td>
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<tr>
<td>Bulk Density</td>
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<td>Odor Threshold</td>
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<td>Volatile%</td>
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<tr>
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<tr>
<td>Decomposition Temp.</td>
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<tr>
<td>Flash Point</td>
<td>46.4 °F 8 °C</td>
<td>Method: closed cup</td>
</tr>
<tr>
<td>Explosion Limits</td>
<td>Lower: 1.3 %</td>
<td></td>
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<tr>
<td>Flammability</td>
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<td>Autoignition Temp</td>
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<td>N/A = not available</td>
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</tbody>
</table>

Section 10 - Stability and Reactivity

STABILITY
Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Hydrogen fluoride.

Section 11 - Toxicological Information
ROUTE OF EXPOSURE
Inhalation: Material is irritating to mucous membranes and upper respiratory tract.
Multiple Routes: Causes eye and skin irritation. May be harmful by inhalation, ingestion, or skin absorption.

SIGNS AND SYMPTOMS OF EXPOSURE
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA

Oral
Bird (wild)
100 mg/kg
LD50

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: Fluorotoluenes
UN#: 2388
Class: 3
Packing Group: Packing Group II
Hazard Label: Flammable liquid
PIH: Not PIH

IATA
Proper Shipping Name: Fluorotoluenes
IATA UN Number: 2388
Hazard Class: 3
Packing Group: II

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION
Symbol of Danger: F-Xi
Indication of Danger: Highly Flammable. Irritant.
R: 11-36/37/38
Risk Statements: Highly flammable. Irritating to eyes, respiratory system and skin.
S: 16-26-33-36
Safety Statements: Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take precautionary measures against static discharges. Wear suitable protective clothing.

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Flammable (USA) Highly Flammable (EU).
Irritant.
Risk Statements: Irritating to eyes, respiratory system and skin. Safety Statements: Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER
For R&D use only. Not for drug, household or other uses.

WARRANTY
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 does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.