4-Ethoxy-1,1,1-trifluoro-3-buten-2-one (cas 17129-06-5) MSDS

Section 1 - Chemical Product and Company Identification
MSDS Name: 4-Ethoxy-1,1,1-trifluoro-3-buten-2-one
Catalog Numbers: HAN00202DA, HAN00202EA, HAN00202EE, HAN00202ZZ
Synonyms: None known.
Company Identification:
Maybridge PLC
Trevillett, Tintagel
Cornwall, England. PL34 0HW
For information, call: +44(0)1840770453
For emergencies, call: +44(0)7702924616

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>17129-06-5</td>
<td>4-Ethoxy-1,1,1-trifluoro-3-buten-2-one</td>
<td>unlisted</td>
<td></td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Appearance: yellow liquid.
Warning! Harmful if swallowed. Causes eye, skin, and respiratory tract irritation.
Target Organs: Respiratory system, gastrointestinal system, eyes, skin.

Potential Health Effects
Eye: Causes eye irritation.
Skin: Causes skin irritation. May be harmful if absorbed through the skin.
Ingestion: Harmful if swallowed. May cause irritation of the digestive tract.
Inhalation: Causes respiratory tract irritation. May be harmful if inhaled.
Chronic: No information found.

Section 4 - First Aid Measures

Eyes: Immediately 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. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion: Do not induce vomiting. Get medical aid immediately. Call a poison control center.
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 victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
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.
Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.
Flash Point: Not available.
Autoignition Temperature: Not available.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 2; Flammability: 1; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Provide ventilation. Do not let this chemical enter the environment.

Section 7 - Handling and Storage
Handling: Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

Storage: Store in a cool, dry place. Store in a tightly closed container.

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>4-Ethoxy-1,1,1-trifluorobut-3-en-2-one</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: 4-Ethoxy-1,1,1-trifluorobut-3-en-2-one: 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 gloves 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: Liquid

Appearance: yellow

Odor: Not available.

pH: Not available.

Vapor Pressure: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 60 deg C @15mm Hg

Freezing/Melting Point: Not available.

Decomposition Temperature: Not available.

Solubility: Not available.

Specific Gravity/Density: Not available.

Molecular Formula: C6H7F3O2

Molecular Weight: 168.11

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials.

Incompatibilities with Other Materials: Strong oxidizing agents, strong reducing agents.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, hydrogen fluoride gas, fluorine.

Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#: 17129-06-5 unlisted.

CAS#: 17129-06-5 unlisted.

LD50/LC50: Not available.

Carcinogenicity: 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

Ecotoxicity: No data available. No information available.

Environmental: No information available.

Physical: No information available.

Other: Do not empty into drains.

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><strong>Shipping Name:</strong> Not regulated.</td>
<td><strong>Hazard Class:</strong> Not regulated.</td>
</tr>
<tr>
<td><strong>Hazard Class:</strong></td>
<td><strong>UN Number:</strong></td>
</tr>
<tr>
<td><strong>UN Number:</strong></td>
<td><strong>Packing Group:</strong></td>
</tr>
</tbody>
</table>

Section 15 - Regulatory Information

US FEDERAL

TSCA
   CAS# 17129-06-5 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 a TPQ.

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 material have an RQ.

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

STATE
   CAS# 17129-06-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

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:
      R 22 Harmful if swallowed.
      R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:
      S 23 Do not inhale gas/fumes/vapour/spray.
      S 26 In case of contact with eyes, rinse immediately with plenty of
      water and seek medical advice.
      S 36/37/39 Wear suitable protective clothing, gloves and eye/face pr
      otection.

WGK (Water Danger/Protection)
   CAS# 17129-06-5: 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 D1B, D2B.
   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.

Section 16 - Additional Information

MSDS Creation Date: 7/13/2007
Revision #1 Date: 8/09/2007

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.