SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
- Product form: Mixture
- Product name: tert-Amyl Ethyl Ether (TAEE)
- Product code: AL0-101489
- Product group: Trade product

1.2. Relevant identified uses of the substance or mixture and uses advised against
1.2.1. Relevant identified uses
- Main use category: Laboratory Use
- Industrial/Professional use spec: Industrial
  - For professional use only

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet
Phenova
6390 Joyce Dr. Suite 100
80403 Golden, CO - United States
T 1-866-942-2978 - F 1-866-283-0269
info@phenova.com - www.phenova.com

1.4. Emergency telephone number
- Emergency number: ChemTel Assistance (US/Canada) 1-800-255-3924
  - ChemTel Assistance (International) +1 813-248-0585

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP]
- Flam. Liq. 2: H225
- Acute Tox. 3 (Oral): H301
- Acute Tox. 3 (Dermal): H311
- STOT SE 1: H370

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
- F: R11
- T: R23/24/25
- T: R39/23/24/25

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects
No additional information available

2.2. Label elements
Labeling according to Regulation (EC) No. 1272/2008 [CLP]
- Hazard pictograms (CLP): GHS02, GHS06, GHS08
- Signal word (CLP): Danger
- Hazardous ingredients: methanol
- Hazard statements (CLP): H225 - Highly flammable liquid and vapor
  - H301+H311 - Toxic if swallowed or in contact with skin
  - H370 - Causes damage to organs
- Precautionary statements (CLP): P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No
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smoking
P233 - Keep container tightly closed
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P270 - Do not eat, drink or smoke when using this product
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P308+P313 - If exposed or concerned: Get medical advice/attention
P361+P364 - Take off immediately all contaminated clothing and wash it before reuse
P403+P235 - Store in a well-ventilated place. Keep cool

No labeling applicable

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
</table>
| methanol (Component) | (CAS No) 67-56-1 (EC no) 200-659-6 (EC index no) 603-001-00-X | 99.8 | Flam. Liq. 2, H225
Acute Tox. 3 (Oral), H301
Acute Tox. 3 (Dermal), H311
Acute Tox. 3 (Inhalation), H331
STOT SE 1, H370 |

name | Product identifier | Specific concentration limits |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>methanol (Component)</td>
<td>(CAS No) 67-56-1 (EC no) 200-659-6 (EC index no) 603-001-00-X</td>
<td>(C &lt;= 10) STOT SE 2, H371 (C &gt; 10) STOT SE 1, H370</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1. Description of first aid measures
First-aid measures general: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation: Allow victim to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
First-aid measures after eye contact: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/Injuries: Not expected to present a significant hazard under anticipated conditions of normal use.

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture
No additional information available

5.3. Advice for firefighters
Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders
Protective equipment: Equip cleanup crew with proper protection.
Emergency procedures: Ventilate area.
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6.2. Environmental precautions
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: Take up in absorbent material. Collect spillage.

6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

Hygiene measures: Gently wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Keep container closed when not in use. Keep container tightly closed and in a well-ventilated place. Keep away from any flames or sparking source.

Incompatible materials: Direct sunlight.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

8.2. Exposure controls
Appropriate engineering controls: Either local exhaust or general room ventilation is usually required.


Hand protection: Wear chemically resistant protective gloves. Wear suitable gloves resistant to chemical penetration.

Eye protection: Chemical goggles or safety glasses. Safety glasses.

Skin and body protection: Wear chemically protective gloves, lab coat or apron to prevent prolonged or repeated skin contact.

Respiratory protection: Wear appropriate mask.

Other information: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid
Color: Colorless.
Odor: Characteristic.
pH: No data available
Melting point: No data available
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): Non flammable
Relative density: No data available
Solubility: No data available
Explosive properties: No data available
Oxidizing properties: No data available
Explosion limits: No data available
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9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available

10.2. Chemical stability
Not established.

10.3. Possibility of hazardous reactions
Not established.

10.4. Conditions to avoid
Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity: Oral: Toxic if swallowed. Dermal: Toxic in contact with skin.

<table>
<thead>
<tr>
<th>tert-Amyl Ethyl Ether (TAEE)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE CLP (oral)</td>
<td>100.200 mg/kg body weight</td>
</tr>
<tr>
<td>ATE CLP (dermal)</td>
<td>300.601 mg/kg body weight</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>methanol (67-56-1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 5000 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>15800 mg/kg (Rabbit; Literature study)</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>85 mg/l/4h (Rat; Literature study)</td>
</tr>
<tr>
<td>LC50 inhalation rat (ppm)</td>
<td>64000 ppm/4h (Rat; Literature study)</td>
</tr>
<tr>
<td>ATE CLP (oral)</td>
<td>100.000 mg/kg body weight</td>
</tr>
<tr>
<td>ATE CLP (dermal)</td>
<td>300.000 mg/kg body weight</td>
</tr>
<tr>
<td>ATE CLP (gases)</td>
<td>700.000 ppmV/4h</td>
</tr>
<tr>
<td>ATE CLP (vapors)</td>
<td>3.000 mg/l/4h</td>
</tr>
<tr>
<td>ATE CLP (dust, mist)</td>
<td>0.500 mg/l/4h</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Not classified
Based on available data, the classification criteria are not met

Serious eye damage/irritation: Not classified
Based on available data, the classification criteria are not met

Respiratory or skin sensitization: Not classified
Based on available data, the classification criteria are not met

Germ cell mutagenicity: Not classified
Based on available data, the classification criteria are not met

Carcinogenicity: Not classified
Based on available data, the classification criteria are not met
May cause cancer

Reproductive toxicity: Not classified
Based on available data, the classification criteria are not met

Specific target organ toxicity (single exposure): Causes damage to organs.
Based on available data, the classification criteria are not met

Specific target organ toxicity (repeated exposure): Not classified
Based on available data, the classification criteria are not met

Aspiration hazard: Not classified
Based on available data, the classification criteria are not met

Potential Adverse human health effects and symptoms: Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity
tert-Amyl Ethyl Ether (TAEE)

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**12.2. Persistence and degradability**

<table>
<thead>
<tr>
<th>tert-Amyl Ethyl Ether (TAEE)</th>
<th>Persistence and degradability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not established.</td>
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</table>

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>0.6 - 1.12 g O₂ / g substance</td>
<td></td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>1.42 g O₂ / g substance</td>
<td></td>
</tr>
<tr>
<td>ThOD</td>
<td>1.5 g O₂ / g substance</td>
<td></td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>0.8 (Literature study)</td>
<td></td>
</tr>
</tbody>
</table>

**12.3. Bioaccumulative potential**

<table>
<thead>
<tr>
<th>tert-Amyl Ethyl Ether (TAEE)</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not established.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>methanol (67-56-1)</th>
<th>BCF fish 1</th>
<th>&lt; 10 (BCF; 72 h; Leuciscus idus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>-0.77</td>
<td>(Experimental value; Other)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Low potential for bioaccumulation (BCF &lt; 500).</td>
<td></td>
</tr>
</tbody>
</table>

**12.4. Mobility in soil**

<table>
<thead>
<tr>
<th>methanol (67-56-1)</th>
<th>Surface tension</th>
<th>0.023 N/m (20 °C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Koc</td>
<td>Koc,PCKOCWIN v1.66; 1; Calculated value</td>
<td></td>
</tr>
</tbody>
</table>

**12.5. Results of PBT and vPvB assessment**

No additional information available

**12.6. Other adverse effects**

Additional information: Avoid release to the environment

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials: Avoid release to the environment.

**SECTION 14: Transport information**

In accordance with ADR / RID / IMDG / IATA / ADN

<table>
<thead>
<tr>
<th>14.1. UN number</th>
<th>UN-No. (ADR)</th>
<th>1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-No.(IATA)</td>
<td>1992</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>14.2. UN proper shipping name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name (ADR)</td>
</tr>
<tr>
<td>Proper Shipping Name (IATA)</td>
</tr>
<tr>
<td>Transport document description (ADR)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.3. Packing group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class (ADR)</td>
</tr>
<tr>
<td>Classification code (ADR)</td>
</tr>
<tr>
<td>Class (IATA)</td>
</tr>
<tr>
<td>Subsidiary risks (ADR)</td>
</tr>
<tr>
<td>Hazard labels (ADR)</td>
</tr>
</tbody>
</table>
Hazard labels (IATA) : 3, 6.1

14.4. Packing group
Packing group (ADR) : II
Packing group (IATA) : II

14.5. Environmental hazards
Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport
Hazard identification number (Kemler No.) : 336
Classification code (ADR) : FT1
Orange plates : 336
1992

Special provision (ADR) : 274
Transport category (ADR) : 2
Tunnel restriction code (ADR) : D/E
Limited quantities (ADR) : 1
Excepted quantities (ADR) : E2

14.6.2. Transport by sea
No additional information available

14.6.3. Air transport
CAO packing instructions (IATA) : 364
CAO max net quantity (IATA) : 60L
PCA packing instructions (IATA) : 352
PCA Limited quantities (IATA) : Y341
PCA limited quantity max net quantity (IATA) : 1
PCA max net quantity (IATA) : 1
PCA Excepted quantities (IATA) : E2
ERG code (IATA) : 3HP

14.6.4. Inland waterway transport
Carriage prohibited (ADN) : No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations
Contains no substances with Annex XVII restrictions
Contains no REACH candidate substance
Contains no REACH Annex XIV substances.

15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information

Other information: None.