Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Name: ALANINE, L-[3-3H]-
Version #: 01
Item #: NET348000MC
Manufacturer Information: PerkinElmer Life Sciences
549 Albany Street
Boston, MA 02118
CHEMTREC 800-424-9300
Technical Support 800-446-0035

2. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous ingredient(s)</th>
<th>CAS #</th>
<th>Percent</th>
<th>PEL</th>
<th>TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHANOL</td>
<td>64-17-5</td>
<td>1 - 2.5</td>
<td>1000 ppm</td>
<td>1000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-hazardous ingredient(s)</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER</td>
<td>7732-18-5</td>
<td>90 - 100</td>
</tr>
<tr>
<td>L-ALANINE</td>
<td>56-41-7</td>
<td>0 - 0.01</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION

Emergency Overview: Combustible

4. FIRST AID MEASURES

First Aid:

Skin contact
Wash off immediately with plenty of water.

Eye contact
Rinse immediately with plenty of water for at least 15 minutes.

Inhalation
Move to fresh air.

Ingestion
Clean mouth with water and drink afterwards plenty of water.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media
use dry chemical, CO2, water spray or "alcohol" foam

Special protective equipment for firefighters
In the event of fire, wear self contained breathing apparatus.
6. **ACCIDENTAL RELEASE MEASURES**

**Personal precautions**
Ensure adequate ventilation. Use personal protective equipment.

**Environmental precautions**
No special environmental precautions required.

**Methods for cleaning up**
Soak up with inert absorbent material. Keep in suitable and closed containers for disposal. Clean contaminated surface thoroughly.

7. **HANDLING AND STORAGE**

**Handling**
Use only in area provided with appropriate exhaust ventilation. Keep away from heat and sources of ignition. Wear personal protective equipment. Avoid contact with skin and eyes.

**Storage**
Keep tightly closed. Store in cool place.

8. **EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Controls**

**Engineering measures to reduce exposure**
Provide adequate ventilation.

**OSHA - Final PELs - Time Weighted Averages (TWAs)**

<table>
<thead>
<tr>
<th>Substance</th>
<th>PEL</th>
<th>TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHANOL</td>
<td>64-17-5</td>
<td>1000 ppm TWA; 1900 mg/m³ TWA</td>
</tr>
</tbody>
</table>

**Hygiene measures**
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Keep away from food and drink. Wash hands before breaks and at the end of workday.

**Respiratory protection**
No personal respiratory protective equipment normally required.

**Hand protection**
solvent-resistant gloves

**Eye protection**
safety glasses with side-shields

**Skin and body protection**
lab coat

9. **PHYSICAL & CHEMICAL PROPERTIES**

**General Information**

**Form**
liquid

**Color**
clear, colorless

**Odor**
not significant
10. CHEMICAL STABILITY & REACTIVITY INFORMATION

Stability
Stable

Hazardous decomposition products
carbon monoxide, carbon oxides

Incompatibility
strong oxidizing agents

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
May cause eye/skin irritation.
May be harmful by inhalation, in contact with skin and if swallowed.

NIOSH - Selected LD50s and LC50s

ETHANOL 64-17-5 Inhalation LC50 Rat: 20000 ppm/10H; Inhalation LC50 Mouse: 39 gm/m3/4H; Oral LD50 Rat: 7060 mg/kg; Oral LD50 Mouse: 3450 mg/kg

Chronic toxicity
Not established

ETHANOL 64-17-5 ACGIH Not Classified Carcinogen

Symptoms and Target Organs

NIOSH - Pocket Guide - Target Organs

ETHANOL 64-17-5 respiratory system, skin, eyes, CNS, liver, blood, reproductive system

12. ECOLOGICAL INFORMATION

Ecological Information
No data is available on the product itself.

13. DISPOSAL CONSIDERATIONS

Disposal Instructions
In accordance with local and national regulations.

Waste from residues / unused products
Dispose of in accordance with local regulations

14. TRANSPORTATION INFORMATION

15. REGULATORY INFORMATION
State Regulations

California - Prop. 65 - Developmental Toxicity
ETHANOL  64-17-5  developmental toxicity (when in alcoholic beverages); initial date 10/1/87

Florida - Substance List
ETHANOL  64-17-5  [present]

Massachusetts - Right To Know List
ETHANOL  64-17-5  teratogen

New Jersey - Department of Health RTK List
ETHANOL  64-17-5  sn 0844

Pennsylvania - Right to Know List
ETHANOL  64-17-5  [present]

Rhode Island - Hazardous Substance List
ETHANOL  64-17-5  Toxic, Flammable

16. OTHER INFORMATION

Recommended use
For research use only.

Disclaimer
The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.