1. Product /Company Identification

Product Name: N-BUTYL BUTYRATE

Manufacturer: Elan Chemical Co. Inc.
268 Doremus Ave.
Newark, NJ 07105
U.S.A.
Phone: (973)344-8014
Fax: (973)344-5880
Emergency: 800-424-9300 (Chemetrec)

2. Composition/Information on Ingredient

Synonyms: Butanoic Acid, Butyl Butyrate
CAS Number: 109-21-7
FEMA: 2186
Molecular Formula: C₈H₁₆O₂
Molecular Weight: 144.21

3. Hazards Identification

Emergency Overview:

Harmful by inhalation and if swallowed.
Irritant. Irritating to eyes, respiratory system and skin.

Combustible (USA) Flammable (EU) Irritant.
Irritating to skin.

<table>
<thead>
<tr>
<th></th>
<th>HMIS</th>
<th>NFPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Flammability</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Reactivity</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

4. First Aid Measures

Oral Exposure: If swallowed, wash out mouth with water provided person is conscious.
Call a physician.
Inhalation Exposure: If inhaled, move to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Skin 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

5. Fire Fighting Measures

Flammable Hazards: YES

Explosion Hazard: Vapor may travel considerable distance to source of ignition and flash back.

Flash Point: 53°C (127.4°F)

Extinguishing Material: Carbon Dioxide
Dry Chemical Powder
Foam
Water Spray

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Fire Fighting Hazards: Emits toxic fumes under fire conditions. Flammable liquid. Emits toxic fumes under fire conditions.

Exposure Hazards: Irritant.

6. Accidental Release Measures

Procedure to be followed in case of leak or spill: Shut off all sources of ignition. Use nonsparking tools.

Personal Protection: Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Clean up Methods: Cover area with a dry lime or soda ash, take up and place in a closed container, and hold for waste disposal. Ventilate area and wash spill site after clean up is complete.

7. Handling and Storage Procedures

Handling: Do not breathe vapor. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure.
Storage:  Keep container tightly closed. Keep away from heat and open flame. Store in a cool, dry place.

8. Exposure Controls/ PPE

Respiratory:  At a minimum, workers should wear a NIOSH-approved full-face air-purifying respirator.
Eyes:  Chemical Safety goggles
Skin:  Chemical resistant gloves.
Ventilation:  Mechanical exhaust required.

General Hygiene Measures:  Wash contaminated clothing before reuse. Wash thoroughly after handling.

9. Physical/Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colorless to pale yellow liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Fruity like odor.</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>164-167°C</td>
</tr>
<tr>
<td>Melting Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Flash Point</td>
<td>53°C (127.4°F)</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>N/A</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.868</td>
</tr>
<tr>
<td>Refractive Index</td>
<td>1.407</td>
</tr>
</tbody>
</table>

10. Stability and Reactivity

Stability:  Stable
Materials to Avoid:  Strong oxidizing agents.
Hazardous Decomposition Products:  Carbon Monoxide, Carbon Dioxide

11. Toxicological Information

Exposure Effects:
  Skin Contact:  Causes skin irritation.
  Skin Absorption:  May be harmful if absorbed through skin.
  Eye Contact:  Causes eye irritation.
  Inhalation:  May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.
  Ingestion:  May be harmful if swallowed.

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

12. Ecological Information

No Data Available.
13. Disposal Considerations

Disposal: Contact a licensed professional. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Dispose of in accordance with local, state, and federal regulations.

14. Transportation Information

Ground (DOT) & Air (IATA)
Flammable Liquid n.o.s.
UN# 1993
Class: 3
PG III
Hazard Label: Flammable

15. Regulatory Information

EU Classifications:
Indication of Danger: Flammable

US Classifications:
Indication of Danger: Combustible (USA) Flammable (EU)
Risk Statements: Flammable. Irritating to 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 eye/face protection.

United States Regulatory Information
SARA Listed: No
TSCA Inventory Item: Yes

Canada:
DSL: NO
NDSL: No

16. Additional Information

This material safety data sheet is intended to meet the specific requirements of 29 CFR 1910.1200 and should be used accordingly. While the information has been obtained from sources believed to be accurate and reliable, no warranty, expressed or implied, can be made with regard to its completeness, correctness or accuracy. Any users or handlers of this product who are not under the direct control of Elan Chemical Co., Inc. are responsible for evaluating this information in light of their particular situation and are responsible for all losses, damages or expenses that result while this material is under their control. It is also the responsibility of the users and handlers to observe any and all laws and regulations (Federal, State and Local) concerning the transportation, use, handling, storage and disposal of this product.