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

1.1 Product identifiers
Product name: N-Butyl Lactate
CAS-No.: 138-22-7

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet
Company: Central Drug House (P) Ltd
7/28 Vardaan House
New Delhi-10002
INDIA
Telephone: +91 11 49404040
Email: care@cdhfinechemical.com

1.4 Emergency telephone number
Emergency Phone #: +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Skin irritation (Category 2), H315
Eye irritation (Category 2), H319
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal word: Warning
Hazard statement(s)
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.
Precautionary statement(s)
P261 Avoid breathing vapours.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances
Formula : C7H14O3
Molecular weight : 146.18 g/mol
CAS-No. : 138-22-7
EC-No. : 205-316-4

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butyl lactate</td>
<td>Skin Irrit. 2; Eye Irrit. 2; STOT</td>
<td>&lt;= 100 %</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>138-22-7</td>
<td></td>
</tr>
<tr>
<td>EC-No.</td>
<td>205-316-4</td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2 Special hazards arising from the substance or mixture
Carbon oxides

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Storage class (TRGS 510): Combustible liquids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Body Protection
Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use (US) or type ABEK (EN 14387) respirator cartridges as a backup to enginee protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
a) Appearance
   Form: liquid
   Colour: colourless
b) Odour
   No data available
c) Odour Threshold
   No data available
d) pH
   No data available
e) Melting point/freezing point
   Melting point/range: -28 °C - lit.
f) Initial boiling point and boiling range
   185 - 187 °C - lit.
g) Flash point
   69 °C - closed cup
h) Evaporation rate
   No data available
i) Flammability (solid, gas)
   No data available
j) Upper/lower flammability or explosive limits
   No data available
k) Vapour pressure
   0.4 mmHg at 20 °C
l) Vapour density
   5.05 - (Air = 1.0)5.05 - (Air = 1.0)
m) Relative density
   0.984 g/cm³ at 25 °C
n) Water solubility
   No data available
o) Partition coefficient: n-octanol/water
   No data available
p) Auto-ignition temperature
   No data available
q) Decomposition temperature
   No data available
r) Viscosity
   No data available
s) Explosive properties
   No data available
t) Oxidizing properties
   No data available

9.2 Other safety information
Relative vapour density
5.05 - (Air = 1.0)
5.05 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity
   No data available
10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Heat, flames and sparks.

10.5 Incompatible materials
Strong oxidizing agents, Strong bases

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

   Acute toxicity
   LD50 Oral - Rat - > 5,000 mg/kg (Butyl lactate)
   Inhalation: No data available (Butyl lactate)
   LD50 Subcutaneous - Rat - 12,000 mg/kg (Butyl lactate)

   Skin corrosion/irritation
   Skin - Rabbit (Butyl lactate)

   Serious eye damage/eye irritation
   No data available (Butyl lactate)

   Respiratory or skin sensitisation
   No data available (Butyl lactate)

   Germ cell mutagenicity
   No data available (Butyl lactate)

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
No data available (Butyl lactate)

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation (Butyl lactate)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available (Butyl lactate)

Additional Information
RTECS: OD4025000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated (Butyl lactate)

SECTION 12: Ecological information

12.1 Toxicity
Toxicity to fish
Toxicity to daphnia and other aquatic invertebrates

LC50 - Danio rerio (zebra fish) - 75 mg/l - 96 h (Butyl lactate)
Mortality NOEC - Danio rerio (zebra fish) - 56 mg/l - 96 h (Butyl lactate)
EC50 - Daphnia magna (Water flea) - 320 mg/l - 48 h (Butyl lactate)

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available (Butyl lactate)

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
Harmful to aquatic life.
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: -
IMDG: -
IATA: -

14.2 UN proper shipping name
ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

14.3 Transport hazard class(es)
ADR/RID: -
IMDG: -
IATA: -

14.4 Packaging group
ADR/RID: -
IMDG: -
IATA: -

14.5 Environmental hazards
ADR/RID: no
IMDG Marine pollutant: no
IATA: no

14.6 Special precautions for user
No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out
SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Further information
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. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.