Butane (cas 106-97-8) MSDS

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product name : Butane
Product Number : 494402
Brand : Anonymous
Index-No. : 601-004-00-0
CAS-No. : 106-97-8

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]
Flammable gases (Category 1)
Gases under pressure (Liquefied gas)

Classification according to EU Directives 67/548/EEC or 1999/45/EC
Extremely flammable.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram

Signal word : Danger
Hazard statement(s)
H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
Precautionary statement(s)
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P410 + P403 Protect from sunlight. Store in a well-ventilated place.
Supplemental Hazard Statements : none


Hazard symbol(s)

R-phrase(s)
R12 Extremely flammable.
S-phrase(s)
S9 Keep container in a well-ventilated place.
S16 Keep away from sources of ignition - No smoking.

2.3 Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula : C4H10
Molecular Weight : 58.12 g/mol

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
Flush eyes with water as a precaution.

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
Central nervous system depression, giddiness, Shortness of breath, narcosis, Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite,. Exposure can cause numbness, tingling, and weakness in extremities,. Cyanosis, Pulmonary edema. Effects may be delayed,. Abdominal pain, Nausea, Vomiting

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

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 fire fighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES
6.1 Personal precautions, protective equipment and emergency procedures
Avoid breathing vapors, 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.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Clean up promptly by sweeping or vacuum.

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE
7.1 Precautions for safe handling
Avoid inhalation of vapour or mist.
Keep away from sources of ignition - No smoking,Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
Contents under pressure.

7.3 Specific end uses
no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
8.1 Control parameters
Components with workplace 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
Face shield and safety glasses 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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Body Protection**
Impervious clothing, Flame retardant antistatic protective 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 a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of 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).

9. **PHYSICAL AND CHEMICAL PROPERTIES**

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
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<tbody>
<tr>
<td>a)</td>
<td>Appearance</td>
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<tr>
<td>b)</td>
<td>Odour</td>
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<tr>
<td>c)</td>
<td>Odour Threshold</td>
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<td>d)</td>
<td>pH</td>
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<td>e)</td>
<td>Melting point/freezing point</td>
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<td>f)</td>
<td>Initial boiling point and boiling range</td>
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<tr>
<td>g)</td>
<td>Flash point</td>
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<tr>
<td>h)</td>
<td>Evaporation rate</td>
</tr>
<tr>
<td>i)</td>
<td>Flammability (solid, gas)</td>
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<tr>
<td>j)</td>
<td>Upper/lower flammability or explosive limits</td>
</tr>
<tr>
<td>k)</td>
<td>Vapour pressure</td>
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<tr>
<td>l)</td>
<td>Vapour density</td>
</tr>
<tr>
<td>m)</td>
<td>Relative density</td>
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<tr>
<td>n)</td>
<td>Water solubility</td>
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<tr>
<td>o)</td>
<td>Partition coefficient: n-octanol/water</td>
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<tr>
<td>p)</td>
<td>Autoignition temperature</td>
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<tr>
<td>q)</td>
<td>Decomposition temperature</td>
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<tr>
<td>r)</td>
<td>Viscosity</td>
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<tr>
<td>s)</td>
<td>Explosive properties</td>
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<tr>
<td>t)</td>
<td>Oxidizing properties</td>
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</tbody>
</table>

9.2 Other safety information

- no data available

10. **STABILITY AND REACTIVITY**

10.1 Reactivity
- no data available

10.2 Chemical stability
- no data available

10.3 Possibility of hazardous reactions
- no data available

10.4 Conditions to avoid
Heat, flames and sparks. Extremes of temperature and direct sunlight.

10.5 Incompatible materials
no data available

10.6 Hazardous decomposition products
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
no data available

LC50 Inhalation - rat - 4 h - 658.000 mg/m3

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

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

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Potential health effects

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>May be harmful if inhaled. May cause respiratory tract irritation.</th>
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</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td>May be harmful if swallowed.</td>
</tr>
<tr>
<td>Skin</td>
<td>May be harmful if absorbed through skin. May cause skin irritation.</td>
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<tr>
<td>Eyes</td>
<td>May cause eye irritation.</td>
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</table>

Signs and Symptoms of Exposure
Central nervous system depression, giddiness, Shortness of breath, narcosis, Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite., Exposure can cause numbness, tingling, and weakness in extremities., Cyanosis, Pulmonary edema. Effects may be delayed., Abdominal pain, Nausea, Vomiting

Additional Information
RTECS: EJ4200000

12. ECOLOGICAL INFORMATION

12.1 Toxicity
no data available

12.2 Persistence and degradability
no data available

12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available

12.5 Results of PBT and vPvB assessment
no data available

12.6 Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**
Dispose of as unused product.

### 14. TRANSPORT INFORMATION

#### 14.1 UN number

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#### 14.2 UN proper shipping name

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**Passenger Aircraft:** Not permitted for transport

#### 14.3 Transport hazard class(es)

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#### 14.4 Packaging group

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#### 14.5 Environmental hazards

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#### 14.6 Special precautions for user

|          |       |       |
| no data  | no data| no data|

### 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

|          |       |       |
| no data  | no data| no data|

#### 15.2 Chemical Safety Assessment

|          |       |       |
| no data  | no data| no data|

### 16. OTHER INFORMATION

**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 this document is based on the resent 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. Guidechem shall not be held liable for any damage resulting from handling or from contact with the above product.

See reverse side of invoice or packing slip for additional terms and conditions of sale.