SAFETY DATA SHEET
Benzyl chloromethyl ether

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

1.1. Product identifier
Product name Benzyl chloromethyl ether
Product number FB34249
CAS number 3587-60-8
EC number 628-927-1

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses Laboratory reagent. Manufacture of substances. Research and development.

1.3. Details of the supplier of the safety data sheet
Supplier Carbosynth Ltd
8&9 Old Station Business Park
Compton
Berkshire
RG20 6NE
UK
+44 1635 578444
+44 1635 579444
info@carbosynth.com

1.4. Emergency telephone number
Emergency telephone +44 7887 998634

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification (EC 1272/2008)
Physical hazards Not Classified
Health hazards Acute Tox. 4 - H302 Acute Tox. 4 - H312 Acute Tox. 3 - H331 Skin Irrit. 2 - H315 Eye Dam. 1 - H318
Environmental hazards Not Classified

2.2. Label elements
EC number 628-927-1
Pictogram

Signal word Danger
Benzyl chloromethyl ether

Hazard statements
- H302+H312 Harmful if swallowed or in contact with skin.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H331 Toxic if inhaled.

Precautionary statements
- P264 Wash contaminated skin thoroughly after handling.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P301+P312 IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.
- P302+P352 IF ON SKIN: Wash with plenty of water.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards
No data available.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name: Benzyl chloromethyl ether
CAS number: 3587-60-8
EC number: 628-927-1
Chemical formula: C₈H₉ClO

SECTION 4: First aid measures

4.1. Description of first aid measures

General information
Get medical advice/attention if you feel unwell.

Inhalation
Remove person to fresh air and keep comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. If breathing stops, provide artificial respiration. Get medical attention if symptoms are severe or persist.

Ingestion
Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention if symptoms are severe or persist.

Skin contact
Remove contaminated clothing. Rinse with water. Continue to rinse for at least 15 minutes. Wash contaminated clothing before reuse. Get medical attention if symptoms are severe or persist.

Eye contact
Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention if symptoms are severe or persist.

4.2. Most important symptoms and effects, both acute and delayed

General information
See Section 11 for additional information on health hazards.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor
Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture
Benzyl chloromethyl ether

Specific hazards
None known.

Hazardous combustion products
Thermal decomposition or combustion products may include the following substances: Oxides of carbon. Hydrogen chloride (HCl).

5.3. Advice for firefighters
Special protective equipment for firefighters
Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents. Use protective equipment appropriate for surrounding materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Personal precautions
Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid inhalation of vapours. Provide adequate ventilation. Keep unnecessary and unprotected personnel away from the spillage.

6.2. Environmental precautions
Environmental precautions
Avoid discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up
Wear protective clothing as described in Section 8 of this safety data sheet. Absorb spillage with sand or other inert absorbent. Clear up spills immediately and dispose of waste safely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Provide adequate ventilation. Eliminate all sources of ignition. For waste disposal, see Section 13.

6.4. Reference to other sections
Reference to other sections
For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Usage precautions
Wear protective clothing as described in Section 8 of this safety data sheet. Avoid exposure - obtain special instructions before use. Wash hands thoroughly after handling. Provide adequate ventilation. Avoid contact with skin and eyes. Avoid inhalation of vapours and spray/mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge.

7.2. Conditions for safe storage, including any incompatibilities
Storage precautions
Keep container tightly closed. Store in a cool and well-ventilated place. Keep containers upright. Store away from incompatible materials (see Section 10). Store contents under inert gas. Handle under inert gas. Protect from moisture. Store at room temperature.

7.3. Specific end use(s)
Specific end use(s)
The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters
Occupational exposure limits
No exposure limits known for ingredient(s).
Benzyl chloromethyl ether

8.2. Exposure controls

Appropriate engineering controls
Provide adequate ventilation.

Eye/face protection
Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection
Wear protective gloves. To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection
Wear appropriate clothing to prevent repeated or prolonged skin contact.

Respiratory protection
Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is ‘CE’-marked. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

Environmental exposure controls
Keep container tightly sealed when not in use.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless to pale yellow.</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH</td>
<td>No data available.</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available.</td>
</tr>
<tr>
<td>Initial boiling point and range</td>
<td>56°C @ 0.2 kPa</td>
</tr>
<tr>
<td>Flash point</td>
<td>91°C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available.</td>
</tr>
<tr>
<td>Upper/lower flammability or</td>
<td>No data available.</td>
</tr>
<tr>
<td>explosive limits</td>
<td></td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>No data available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.14</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>No data available.</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No data available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available.</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available.</td>
</tr>
</tbody>
</table>
## Benzyl chloromethyl ether

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity</td>
<td>No data available.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

### 9.2. Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular weight</td>
<td>156.61</td>
</tr>
</tbody>
</table>

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

### 10.2. Chemical stability

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Stable under the prescribed storage conditions.</td>
</tr>
</tbody>
</table>

### 10.3. Possibility of hazardous reactions

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possibility of hazardous reactions</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

### 10.4. Conditions to avoid

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditions to avoid</td>
<td>Keep away from heat, sparks and open flame.</td>
</tr>
</tbody>
</table>

### 10.5. Incompatible materials

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials to avoid</td>
<td>Strong oxidising agents. Strong alkalis. Aluminium.</td>
</tr>
</tbody>
</table>

### 10.6. Hazardous decomposition products

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
</table>

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - oral</td>
<td>Acute Tox. 4 - H302 Harmful if swallowed.</td>
</tr>
<tr>
<td>Notes (oral LD₅₀)</td>
<td></td>
</tr>
<tr>
<td>ATE oral (mg/kg)</td>
<td>500.0</td>
</tr>
<tr>
<td>Acute toxicity - dermal</td>
<td>Acute Tox. 4 - H312 Harmful in contact with skin.</td>
</tr>
<tr>
<td>Notes (dermal LD₅₀)</td>
<td></td>
</tr>
<tr>
<td>ATE dermal (mg/kg)</td>
<td>1,100.0</td>
</tr>
<tr>
<td>Acute toxicity - inhalation</td>
<td>Acute Tox. 3 - H331 Toxic if inhaled.</td>
</tr>
<tr>
<td>Notes (inhalation LC₅₀)</td>
<td></td>
</tr>
<tr>
<td>ATE inhalation (dusts/mists mg/l)</td>
<td>0.5</td>
</tr>
</tbody>
</table>

### Skin corrosion/irritation

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal data</td>
<td>Irritating.</td>
</tr>
</tbody>
</table>

### Serious eye damage/irritation

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/irritation</td>
<td>Eye Dam. 1 - H318 Causes serious eye damage.</td>
</tr>
</tbody>
</table>

### Respiratory sensitisation

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory sensitisation</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
</tbody>
</table>
Benzyl chloromethyl ether

**Skin sensitisation**
Based on available data the classification criteria are not met.

**Germ cell mutagenicity**
Genotoxicity - *in vitro*
Based on available data the classification criteria are not met.

**Carcinogenicity**
Carcinogenicity
Based on available data the classification criteria are not met.

**IARC carcinogenicity**
None of the ingredients are listed or exempt.

**Reproductive toxicity**
Reproductive toxicity - *fertility*
Based on available data the classification criteria are not met.

Reproductive toxicity - *development*
Based on available data the classification criteria are not met.

**Specific target organ toxicity - single exposure**
STOT - *single exposure*
Not classified as a specific target organ toxicant after a single exposure.

**Specific target organ toxicity - repeated exposure**
STOT - *repeated exposure*
Not classified as a specific target organ toxicant after repeated exposure.

**Aspiration hazard**
Based on available data the classification criteria are not met.

**General information**
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation**
A single exposure may cause the following adverse effects: Drowsiness, dizziness, disorientation, vertigo. Unconsciousness. High concentrations may be fatal.

**Ingestion**
May cause discomfort if swallowed. Stomach pain. Nausea, vomiting.

**Skin contact**
Redness. Irritating to skin.

**Eye contact**
Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

**Route of exposure**
Ingestion Inhalation Skin and/or eye contact

**Target organs**
No specific target organs known.

**SECTION 12: Ecological Information**

**Ecotoxicity**
Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

**12.1. Toxicity**
Toxicity
Based on available data the classification criteria are not met.

**12.2. Persistence and degradability**
Persistence and degradability
The degradability of the product is not known.

**12.3. Bioaccumulative potential**
Bioaccumulative potential
No data available on bioaccumulation.

**Partition coefficient**
No data available.

**12.4. Mobility in soil**
Benzyl chloromethyl ether

Mobility

No data available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

Other adverse effects

None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information

Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 2810
UN No. (IMDG) 2810
UN No. (ICAO) 2810
UN No. (ADN) 2810

14.2. UN proper shipping name

Proper shipping name (ADR/RID) TOXIC LIQUID, ORGANIC, N.O.S. (Benzyl chloromethyl ether)
Proper shipping name (IMDG) TOXIC LIQUID, ORGANIC, N.O.S. (Benzyl chloromethyl ether)
Proper shipping name (ICAO) TOXIC LIQUID, ORGANIC, N.O.S. (Benzyl chloromethyl ether)
Proper shipping name (ADN) TOXIC LIQUID, ORGANIC, N.O.S. (Benzyl chloromethyl ether)

14.3. Transport hazard class(es)

ADR/RID class 6.1
ADR/RID classification code T1
ADR/RID label 6.1
IMDG class 6.1
ICAO class/division 6.1
ADN class 6.1

Transport labels

14.4. Packing group

ADR/RID packing group III
IMDG packing group III
Benzyl chloromethyl ether

ADN packing group III
ICAO packing group III

14.5. Environmental hazards
Environmentally hazardous substance/marine pollutant No.

14.6. Special precautions for user
EmS F-A, S-A
ADR transport category 2
Emergency Action Code 2X
Hazard Identification Number (ADR/RID) 60
Tunnel restriction code (E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory information

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

National regulations
Health and Safety at Work etc. Act 1974 (as amended).
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) "CDG 2009".
EH40/2005 Workplace exposure limits.

EU legislation

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

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
CAS: Chemical Abstracts Service.
ATE: Acute Toxicity Estimate.
LC₅₀: Lethal Concentration to 50 % of a test population.
LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
EC₅₀: 50% of maximal Effective Concentration.
PBT: Persistent, Bioaccumulative and Toxic substance.
vPvB: Very Persistent and Very Bioaccumulative.
Benzyl chloromethyl ether

Training advice
Only trained personnel should use this material.

Revision date
19/01/2018

Revision
1

SDS number
144929

Hazard statements in full
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H331 Toxic if inhaled.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.