1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND THE COMPANY UNDERTAKING

Chemical Name: (Chloromethylene)dimethylammonium chloride
Product Code: FC41597
Synonyms: 
Recommended uses: For R&D purposes
Supplier: Carbosynth Ltd, 8&9 Old Station Business Park, Compton, Berkshire, RG20 6NE, UK.
Emergency contact numbers: Telephone: +44 (0)1635 578 444
Fax: +44 (0)1635 579 444
Mobile: +44 (0)7887 998 634

2. HAZARDS IDENTIFICATION

Reacts violently with water. Harmful if swallowed. Causes severe burns. May cause harm to the unborn child.

Classification:

Acute toxicity, oral (Category 4)
Skin corrosion (Category 1A)
Reproductive toxicity (Category 1B)

Labelling and precautionary statements:
Pictogram:

Signal word: Danger.

Hazard statement(s): H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H360 May damage fertility or the unborn child.

Precautionary statement(s):
P201 Obtain special instructions before use.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P330 + P301 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/ physician.

Supplemental Hazard information (EU)
EUH014
Reacts violently with water.

**Hazard symbol(s):**
- T  Toxic.
- Xn  Harmful.
- C  Corrosive.

**R-phrase(s):**
- R14  Reacts violently with water.
- R22  Harmful if swallowed.
- R35  Causes severe burns.
- R61  May cause harm to the unborn child.

**S-phrase(s):**
- S26  In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36/37/39  Wear suitable protective clothing, gloves and eye/face protection.
- S45  In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S53  Avoid exposure - obtain special instructions before use.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Molecular Formula</th>
<th>Molecular weight</th>
<th>CAS Number</th>
<th>EINECS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>C_3H_7Cl_2N</td>
<td>128.00</td>
<td>3724-43-4</td>
<td>425-970-6</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

- **Eye contact:** Immediately flush eye with copious amounts of water for at least 30 minutes. Get medical aid immediately.
- **Skin contact:** In case of contact remove contaminated clothing and immediately wash affected areas with copious quantities of water and soap for at least 30 minutes. Get medical aid immediately. Wash contaminated clothing before reuse.
- **Inhalation:** Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen. Get medical aid.
- **Ingestion:** Do not induce vomiting. Never give anything by mouth to an unconscious person. Wash out mouth with water provided person is conscious. Call a physician.
- **Notes to Physician:** Treat symptomatically and supportively.

### 5. FIRE-FIGHTING MEASURES

- **Personal precautions:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
- **Extinguishing media:** In case of fire use dry chemical powder, carbon dioxide, or alcohol-resistant foam.
- **Special hazards arising from the substance or mixture:** Carbon oxides, nitrogen oxides (NOx),
6. ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.
Personal precautions: Wear self-contained breathing apparatus, eye protection and gloves. Keep personal hygiene. Avoid contact with skin and eyes. Avoid dust formation. Avoid breathing dust, vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental precautions: Do not let product enter the drains. Prevent further leakage or spillage if safe to do so.
Spills/Leaks: Vacuum or sweep up and place the material in appropriate container for disposal without creating dust and dispose of as hazardous waste. Do not flush with water. Ventilate area, clean up spills and wash spill site after material pickup is complete, observing precautions in the Protective Equipment section.

7. HANDLING AND STORAGE

Handling: Wear appropriate protective clothing - see Section 8. Wash thoroughly after handling. Use only under a chemical fume hood. Use with adequate ventilation. Avoid contact with skin and eyes. Avoid ingestion and inhalation. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. Handle under inert gas. Do not allow contact with water because of violent reaction.
Storage: Store in a cool, dry, well-ventilated area. Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Never allow product to get in contact with water during storage. Store under inert gas. Corrosives area. Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protection equipment: 

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Eye protection: Wear appropriate protective safety glasses with side-shields conforming to EN166, chemical safety goggles or face-shield (min. 8-inch) as described by OSHA’s eye and face protection regulations. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection: Wear appropriate protective gloves to prevent skin exposure, as defined in EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body protection: Appropriate protective clothing, overalls.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) 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).

Hygiene measures: Use good working practices. Wash hands and face thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White to off-white solid.</td>
</tr>
<tr>
<td>Odour</td>
<td>Pungent.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>pH</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Melting point</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Flammability</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Danger of explosion</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Solubility</td>
<td>React with water.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Data not available/does not apply.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Data not available/does not apply.</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical stability</td>
<td>Stable under recommended storage conditions.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>Temperatures above 50°C, incompatible products, exposure to moist air or water.</td>
</tr>
<tr>
<td>Incompatibilities with other materials</td>
<td>Bases, water, strong oxidizing agents, amines, metals,</td>
</tr>
</tbody>
</table>
Material Safety Data Sheet

(Chloromethylene)dimethylammonium chloride

Hazardous decomposition products: Carbon oxides, nitrogen oxides (NOx), hydrogen chloride gas.
Hazardous polymerization: Will not occur.

11. Toxicological Information

RTCS #: Data not available.
Acute toxicity: Data not available.
Skin corrosion/irritation: Data not available.
Serious eye damage/eye irritation: Data not available.
Respiratory or skin sensitization: Data not available.
Germ cell mutagenicity: Data not available.
Carcinogenicity: There are no known carcinogenic chemicals in this product.
Reproductive toxicity: Data not available.
Specific target organ toxicity - single exposure: Data not available.
Specific target organ toxicity - repeated exposure: Data not available.
Aspiration hazard: Data not available.
Signs and symptoms of exposure: To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.
Target organs: Data not available.
Potential health effects:
Eye: Causes severe eye burns.
Skin: May be harmful by skin absorption. Causes skin burns.
Ingestion: Harmful if swallowed.
Inhalation: May be harmful if inhaled. Material is extremely destructive to the mucous membranes and respiratory tract.
Chronic: No information found.

12. Ecological Information

Toxicity
Data not available.

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Persistence and degradability
Data not available.

Bioaccumulative potential
Data not available.

Mobility in soil
Data not available.

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.

Other adverse effects
Data not available.

13. DISPOSAL CONSIDERATIONS

Observe all federal, state and local environmental regulations. Mix or dissolve the material in a combustible solvent and burn in chemical incinerator equipped with an afterburner and scrubber. Contact a licensed professional waste disposal service to dispose of this material.

14. TRANSPORT INFORMATION

This product is classified as hazardous for transport.

ADR/RID
Proper Shipping Name: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. ((Chloromethylene)dimethylammonium chloride)
UN Number: 3261
Class: 8
Packing Group: II
Environmental hazards: No.

IMDG
Proper Shipping Name: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. ((Chloromethylene)dimethylammonium chloride)
UN Number: 3261
Class: 8
Packing Group: II
Marine pollutant: No.

IATA
Proper Shipping Name: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. ((Chloromethylene)dimethylammonium chloride)
UN Number: 3261
Class: 8
Packing Group: II
15. REGULATORY INFORMATION

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

16. ADDITIONAL INFORMATION

Further information on PPE:
European Standard & performance category markings:

<table>
<thead>
<tr>
<th>Standard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN143</td>
<td>Particulates filter.</td>
</tr>
<tr>
<td>EN166</td>
<td>Standard applicable to all types of personal eye protectors.</td>
</tr>
<tr>
<td>EN374</td>
<td>Protects hands against chemicals and/or microorganisms.</td>
</tr>
</tbody>
</table>

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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 unless specified in the text.