1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND THE COMPANY UNDERTAKING

   Chemical Name: 1,3,4,6-Tetra-O-acetyl-2-azido-2-deoxy-D-glucopyranose  
   Product Code: MT06207  
   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

Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin. Limited evidence of a carcinogenic effect.

Classification:  

Acute toxicity, oral (Category 4)  
Acute dermal toxicity (Category 4)  
Skin irritation (Category 2)  
Eye irritation (Category 2A)  
Acute toxicity, inhalation (Category 4)  
Specific target organ toxicity - single exposure (Category 3)  
Carcinogenicity (Category 2)

Labelling and precautionary statements:

Pictogram:  

Signal word: Warning.

Hazard statement(s):  
H302 Harmful if swallowed.  
H312 Harmful in contact with skin.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H332 Harmful if inhaled.  
H335 May cause respiratory irritation.  
H351 Suspected of causing cancer.

Precautionary statement(s):  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
1,3,4,6-TETRA-O-ACETYL-2-AZIDO-2-DEOXY-D-GLUCOPYRANOSE

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Hazard symbol(s):  
Xn Harmful.  
Xi Irritant.

R-phrase(s):  
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.  
R36/37/38 Irritating to eyes, respiratory system and skin.  
R40 Limited evidence of a carcinogenic effect.

S-phrase(s):  
S24/25 Avoid contact with skin and eyes.  
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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Molecular Formula: C_{14}H_{19}N_{3}O_{9}  
Molecular weight: 373.32  
CAS Number: 171032-74-9  
EINECS Number: -

4. FIRST AID MEASURES

Eye contact: Immediately flush eye with copious amounts of water for at least 15 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 15 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: 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 water spray, 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 or water courses.

**Spills/Leaks:** Sweep up and place the material in appropriate container for disposal without creating dust and dispose of as hazardous waste. 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. Do not breathe dust. Provide appropriate exhaust ventilation at places where dust is formed.

**Storage:** Store in a cool, dry, well-ventilated area. Keep container tightly closed. Freeze. Keep cold. Store at -20 °C.

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

Contains no substances with occupational exposure limit values.

**Personal protection equipment:**

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 indicates air-purifying respirators are required use a dust mask type P95 (US) or type P1 (EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Respirators and components must
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>
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<tr>
<td>Odour</td>
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<tr>
<td>Odour threshold</td>
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</tr>
<tr>
<td>pH</td>
<td>Data not available/does not apply.</td>
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<tr>
<td>Melting point</td>
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<tr>
<td>Boiling point</td>
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<td>Flash point</td>
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<tr>
<td>Evaporation rate</td>
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<tr>
<td>Flammability</td>
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<tr>
<td>Flammability or explosive limits</td>
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<tr>
<td>Vapor pressure</td>
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</tr>
<tr>
<td>Vapor density</td>
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</tr>
<tr>
<td>Relative density</td>
<td>Data not available/does not apply.</td>
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<tr>
<td>Solubility</td>
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<td>Partition coefficient: n-octanol/water</td>
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<tr>
<td>Decomposition temperature</td>
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<tr>
<td>Viscosity</td>
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10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
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<tbody>
<tr>
<td>Chemical stability</td>
<td>Data not available.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>Heat, flames and sparks. In solid form stable under normal temperatures and pressures.</td>
</tr>
<tr>
<td>Incompatibilities with other materials</td>
<td>Strong oxidizing agents, acids.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Carbon oxides, nitrogen oxides (NOx).</td>
</tr>
<tr>
<td>Hazardous polymerization</td>
<td>Data not available.</td>
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</table>

11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Property</th>
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<tbody>
<tr>
<td>RTCS #</td>
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<tr>
<td>Acute toxicity</td>
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<tr>
<td>Skin corrosion/irritation</td>
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</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Data not available.</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Data not available.</td>
</tr>
</tbody>
</table>
MATERIAL SAFETY DATA SHEET

1,3,4,6-TETRA-O-ACETYL-2-AZIDO-2-DEOXY-D-GLUCOPYRANOSE

Germ cell mutagenicity: Data not available.

Carcinogenicity: No classification data on carcinogenic properties of this material is available from EPA, IARC, NTP, OSHA or ACGIH.

Reproductive toxicity: Data not available.

Specific target organ toxicity - single exposure: Inhalation - May cause respiratory irritation.

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 serious eye irritation.
- Skin: May be harmful by skin absorption. Causes skin irritation.
- Ingestion: Harmful if swallowed.
- Inhalation: Harmful if inhaled. Causes respiratory tract irritation.
- Chronic: No information found.

12. ECOLOGICAL INFORMATION

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

ADR/RID
Not classified as hazardous for transport.

IMDG
Not classified as hazardous for transport.
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>Description</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>

Gas & vapour protection:

- A: Organic vapours
- B: Inorganic vapours
- E: Acid gases
- K: Ammonia and its derivatives

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.