MATERIAL SAFETY DATA SHEET

METHYL 2-ACETAMIDO-2-DEOXY-α-D-GLUCOPYRANOSIDE

1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND THE COMPANY UNDERTAKING

   Chemical Name: Methyl 2-acetamido-2-deoxy-α-D-glucopyranoside
   Product Code: MM04776
   Synonyms: GlcNAc-a-Ome,
              Methyl N-acetyl-a-D-glucosamine.
   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

   Classification: Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008 or GHS.
                   Not a hazardous substance or mixture according to EC-Directives 67/548/EEC or 1999/45/EC.

   Labelling and precautionary statements:
   Caution – Substance not fully tested.
   
   Hazard statement(s): - Not required.
   Precautionary statement(s): - Not required.
   Hazard symbol(s): - Data not available.
   R-phrase(s): - Data not available.
   S-phrase(s): - Data not available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

   Molecular Formula: C₉H₁₇NO₆
   Molecular weight: 235.23
   CAS Number: 6082-04-8
   EINECS Number: -
   Synonyms: GlcNAc-a-Ome,
              Methyl N-acetyl-a-D-glucosamine.

4. FIRST AID MEASURES

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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, carbon dioxide, or alcohol-resistant foam.

- **Special hazards arising from the substance or mixture:**
  Carbon monoxide, carbon dioxide, nitrogen oxides.
  Under fire conditions material may decompose to form flammable and/or explosive mixtures in air.

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.

- **Environmental precautions:**
  Do not let product enter the drains.

- **Spills/Leaks:**
  Sweep up and place the material in appropriate container for disposal and dispose of as hazardous waste. Avoid raising dust. 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
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Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Avoid prolonged or repeated exposure. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Storage: Store in a cool, dry, well-ventilated area. Keep container tightly closed. Refrigerate. Keep cold. Store at 2-8°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 N95 (US) or type P1 (EN 143) respirator. Respirators and components must tested and approved under appropriate government standards - NIOSH (US) or CEN (EU).

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White to off-white solid.
Odour: Data not available/does not apply.
Odour threshold: Data not available/does not apply.
pH: Data not available/does not apply.
Melting point: 198 °C.
Boiling point: Data not available/does not apply.
Flash point: Data not available/does not apply.
Evaporation rate: Data not available/does not apply.
Flammability: Data not available/does not apply.
Flammability or explosive limits: Data not available/does not apply.

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10. STABILITY AND REACTIVITY

Chemical stability: Stable under normal temperatures and pressures.
Conditions to avoid: Data not available.
Incompatibilities with other materials: Strong oxidizing agents, strong bases.
Hazardous decomposition products: Carbon monoxide, carbon dioxide, nitrogen oxides.
Hazardous polymerization: Data not available.

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: 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: 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.
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Potential health effects:
Eye: May cause eye irritation.
Skin: May be harmful by skin absorption.
May cause skin irritation.
Ingestion: May be harmful if swallowed.
Inhalation: May be harmful if inhaled.
May cause respiratory tract irritation.
Chronic: No information found.

12. ECOLOGICAL INFORMATION
Data not available.

13. DISPOSAL CONSIDERATIONS
Dispose of in a manner consistent with federal, state, and local regulations. Dissolve or mix the material with a combustible solvent and burn it in a chemical incinerator equipped with an after burner 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.

IATA
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:

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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>

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.