1. PHYSICAL AND CHEMICAL PROPERTIES

- **Batch Molecular Formula:** $C_9H_{14}N_4O_5$
- **Batch Molecular Weight:** 258.23
- **Physical Appearance:** White solid
- **Solubility:** Water to 75 mM, DMSO to 75 mM
- **Storage:** Store at -20°C
- **Batch Molecular Structure:**

![Molecular Structure](image)

2. ANALYTICAL DATA

- **HPLC:** Shows 100% purity
- **$^1$H NMR:** Consistent with structure
- **Mass Spectrum:** Consistent with structure
- **Microanalysis:**

<table>
<thead>
<tr>
<th></th>
<th>Carbon</th>
<th>Hydrogen</th>
<th>Nitrogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theoretical</td>
<td>41.86</td>
<td>5.46</td>
<td>21.69</td>
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<tr>
<td>Found</td>
<td>41.8</td>
<td>5.4</td>
<td>21.57</td>
</tr>
</tbody>
</table>
**Product Information**

**Product Name:** AICAR  
Catalog No.: 2840  
Batch No.: 6  
EC Number: 220-097-5

**CAS Number:** 2627-69-2  
**IUPAC Name:** \(N^1-(\beta\text{-D-Ribofuranosyl})-5\text{-aminoimidazole-4-carboxamide}\)

**Description:**  
Cell-permeable, allosteric activator of AMP-activated protein kinase (AMPK). Augments proliferation, differentiation and mineralization of osteoblastic MC3T3-E1 cells and attenuates psychosine-induced expression of proinflammatory cytokines and iNOS in astrocytes. Promotes osteogenic differentiation of hAMSCs and BM-MSCs in vitro.

**Physical and Chemical Properties:**  
Batch Molecular Formula: \(C_{12}H_{14}N_4O_5\)  
Batch Molecular Weight: 258.23  
Physical Appearance: White solid  
Minimum Purity: >99%

**Storage:** Store at -20°C

**Solubility & Usage Info:**  
water to 75 mM  
DMSO to 75 mM

**Stability and Solubility Advice:**  
Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).  
Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:  
SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.  
SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**  

