1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: \( \text{C}_4\text{H}_{11}\text{N}_5\text{.HCl} \)
Batch Molecular Weight: 165.62
Physical Appearance: White solid
Solubility: water to 100 mM
DMSO to 20 mM with gentle warming
Storage: Store at RT
Batch Molecular Structure:

\[
\text{NH} \quad \text{NH} \quad \text{HCl}
\]

2. ANALYTICAL DATA

\(^1\text{H NMR:}\) Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis: Carbon Hydrogen Nitrogen

<table>
<thead>
<tr>
<th>Theoretical</th>
<th>Found</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>42.29</td>
<td>42.65</td>
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</table>

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use
**Product Name:** Metformin hydrochloride  
**Catalog No.:** 2864  
**Batch No.:** 3

**CAS Number:** 1115-70-4  
**EC Number:** 214-230-6  
**IUPAC Name:** N,N-Dimethylimidodicarbonimidic diamide hydrochloride

**Description:**  
Antidiabetic agent; lowers plasma glucose levels and improves insulin sensitivity. Inhibits hepatic gluconeogenesis via activation of the LKB1/AMPK pathway. Displays antiproliferative effects in cancer cell lines. Activates the aPKC-CBP pathway in neural precursors to promote neurogenesis. Activates autophagy. Deuterated analog also available.

**Physical and Chemical Properties:**  
- **Batch Molecular Formula:** C_{10}H_{15}N_{5}.HCl  
- **Batch Molecular Weight:** 165.62  
- **Physical Appearance:** White solid

**Storage:** Store at RT

**Solubility & Usage Info:**  
- Water to 100 mM  
- DMSO to 20 mM with gentle warming

**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:**