1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $\text{C}_{14}\text{H}_{18}\text{N}_{2}\text{O}_{2}$

Batch Molecular Weight: 246.3

Physical Appearance: White crystalline solid

Solubility: DMSO to 100 mM, ethanol to 100 mM

Storage: Store at RT

2. ANALYTICAL DATA

Melting Point: Between 152 - 153°C

HPLC: Shows >99.9% purity

$^1\text{H NMR}$: 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>68.27</td>
<td>7.37</td>
<td>11.37</td>
</tr>
<tr>
<td>Found</td>
<td>68.31</td>
<td>7.4</td>
<td>11.37</td>
</tr>
</tbody>
</table>
**Product Name:** Nefiracetam  
**CAS Number:** 77191-36-7  
**IUPAC Name:** \(N\)-(2,6-Dimethylphenyl)-2-oxo-1-pyrrolidineacetamide

**Description:**  
Cognitive enhancer that displays various pharmacological effects. Activates L/N-type calcium channels, cholinergic, monoaminergic and GABAergic systems. Displays potent neuroprotective action in the retinal ischemia-reperfusion model in vivo.

**Physical and Chemical Properties:**  
- **Batch Molecular Formula:** C\(_{14}H_{16}N_2O_2\)  
- **Batch Molecular Weight:** 246.3  
- **Physical Appearance:** White crystalline solid  
- **Minimum Purity:** >99%

**Storage:** Store at RT

**Solubility & Usage Info:**  
- DMSO to 100 mM  
- Ethanol to 100 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:**