Product Name: Norketamine hydrochloride  
CAS Number: 79499-59-5  
IUPAC Name: 2-Amino-2-(2-chlorophenyl)cyclohexanone hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: \( \text{C}_{12}\text{H}_{14}\text{ClNO.HCl.H}_2\text{O} \)
Batch Molecular Weight: 278.18
Physical Appearance: White solid
Solubility: water to 100 mM phosphate buffered saline to 100 mM
Storage: Desiccate at RT
Batch Molecular Structure:

2. ANALYTICAL DATA

TLC: \( R_f = 0.3 \) (DCM / MeOH/NH4OH (19:0.9.0.1))
HPLC: Shows >99.9% purity
\(^1\text{H NMR:} \) Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

<table>
<thead>
<tr>
<th></th>
<th>Theoretical</th>
<th>Found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>51.81</td>
<td>51.76</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>6.16</td>
<td>6.49</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>5.04</td>
<td>5.34</td>
</tr>
</tbody>
</table>
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**Description:**
Major metabolite of ketamine that is a potent non-competitive NMDA receptor antagonist ($K_i = 3.6 \mu M$ for displacement of $[^3H]$-MK 801 in rat brain). Antinociceptive and anesthetic in vivo. R-enantiomer and S-enantiomer also available.

**Physical and Chemical Properties:**
- Batch Molecular Formula: C$_{12}$H$_{16}$ClNO.HCl.H$_2$O
- Batch Molecular Weight: 278.18
- Physical Appearance: White solid
- Minimum Purity: >99%
- **Batch Molecular Structure:**

![Molecular Structure](image)

**Storage:** Desiccate at RT

**Solubility & Usage Info:**
- water to 100 mM
- phosphate buffered saline to 100 mM

CAUTION - This product is hygroscopic and we recommend that it is desiccated upon arrival. Solutions should be made up as soon as the vial is opened.

**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.

**Other Information:**
**INFORMATION FOR CUSTOMERS IN THE UK ONLY**
This product is a Schedule 2 Home Office controlled substance and customers in the UK are required to hold the relevant licence or be exempt from restrictions in order to purchase and possess this material.

**INFORMATION FOR CUSTOMERS IN CANADA ONLY**
This product is a Schedule I CDSA controlled substance and customers in Canada require an import permit to purchase this material.

**Licensing Information:**
Sold for research purposes under agreement from Pfizer Inc.

**References:**