Product Name: Carbamazepine

CAS Number: 298-46-4

IUPAC Name: 5H-Dibenz[b,f]azepine-5-carboxamide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{15}H_{12}N_2O$

Batch Molecular Weight: 236.27

Physical Appearance: White solid

Solubility:
- DMSO to 100 mM
- ethanol to 25 mM

Storage: Store at +4°C

2. ANALYTICAL DATA

HPLC: Shows 99.7% 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>76.25</td>
<td>5.12</td>
<td>11.86</td>
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<tr>
<td>Found</td>
<td>75.69</td>
<td>5.11</td>
<td>11.93</td>
</tr>
</tbody>
</table>

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use
**Product Name:** Carbamazepine  
**CAS Number:** 298-46-4  
**IUPAC Name:** 5H-Dibenz[b,f]azepine-5-carboxamide

### Description:
Inhibitor of neuronal voltage-gated Na⁺ channels. Exhibits anticonvulsant activity. Potentiates GABA-induced Cl⁻ currents in HEK 293 cells expressing the GABA_A receptor α1β2γ2 subtype combination. Can induce autophagy by inhibiting inositol synthesis.

### Physical and Chemical Properties:
- **Batch Molecular Formula:** C₁₇H₁₃N₂O
- **Batch Molecular Weight:** 236.27  
- **Physical Appearance:** White solid  
- **Minimum Purity:** >99%

### Batch Molecular Structure:
![Molecular Structure Image]

### Storage:
Store at +4°C

### Solubility & Usage Info:
- DMSO to 100 mM  
- Ethanol to 25 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: