1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: \( \text{C}_{14}\text{H}_{16}\text{ClN}_{3}\text{O}_{4}\text{S}_{2} \)

Batch Molecular Weight: 389.87

Physical Appearance: White solid

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

Storage: Store at RT

2. ANALYTICAL DATA

TLC: \( R_{f} = 0.33 \) (Chloroform:Methanol [9:1])

HPLC: Shows 99.2% purity

\(^1\text{H} \text{NMR:} \) Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

<table>
<thead>
<tr>
<th>Element</th>
<th>Theoretical</th>
<th>Found</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>43.13</td>
<td>42.83</td>
</tr>
<tr>
<td>H</td>
<td>4.14</td>
<td>4.12</td>
</tr>
<tr>
<td>N</td>
<td>10.78</td>
<td>10.66</td>
</tr>
</tbody>
</table>

Residual acetonitrile: 4.3% mol, 0.47% wt
**Product Name:** Cyclothiazide  
**Catalog No.:** 0713  
**Batch No.:** 8

**CAS Number:** 2259-96-3  
**EC Number:** 218-859-7

**IUPAC Name:** 6-Chloro-3,4-dihydro-3-(5-norbornen-2-yl)-2H,1,2,4-benzothiadiazine-7-sulfonamide-1,1-dioxide

**Description:**  
Positive allosteric modulator of AMPA receptors that potently inhibits AMPA receptor desensitization. Selective for the flip variant of each of the four receptor subunits.

**Physical and Chemical Properties:**  
**Batch Molecular Formula:** C_{14}H_{16}ClN_{2}O_{4}S_{2}  
**Batch Molecular Weight:** 389.87  
**Physical Appearance:** White solid  
**Minimum Purity:** >98%

**Batch Molecular Structure:**

![Batch Molecular Structure](image)

**Storage:** Store at RT

**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:**  

Donevan and Rogawski (1998) Allosteric regulation of a-amino-3-hydroxy-5-methyl-4-isoxazole propionic acid receptors by thiocyanate and cyclothiazide at a common modulatory site distinct from that of 2,3-benzodiazepines. Neuroscience 87 615. PMID: 9758228.