Product Name: Topiramate
CAS Number: 97240-79-4
IUPAC Name: 2,3:4,5-Bis-O-(1-methylethylidene)-β-D-fructopyranose sulfamate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₂H₂₁NO₈S
Batch Molecular Weight: 339.36
Physical Appearance: White solid
Solubility: DMSO to 100 mM, ethanol to 100 mM
Storage: Store at +4°C

2. ANALYTICAL DATA

HPLC: Shows 100% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Optical Rotation: [α]D = -38.1 (Concentration = 0.4, Solvent = Methanol)
Microanalysis:

<table>
<thead>
<tr>
<th>Element</th>
<th>Theoretical</th>
<th>Found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>42.47</td>
<td>42.69</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>6.24</td>
<td>6.2</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>4.13</td>
<td>4.22</td>
</tr>
</tbody>
</table>
**Product Name:** Topiramate  
**Catalog No.:** 3620  
**Batch No.:** 2

**Description:** Anticonvulsant. Antagonizes GluK1 (formerly GluR5) kainate receptors (IC\(_{50} = 0.46 \mu M\)), acts as a positive allosteric modulator of GABA\(_A\) receptor-mediated currents, inhibits Na\(_\text{v}\) channels (IC\(_{50} = 48.9 \mu M\)) and inhibits L-type Ca\(^{2+}\) channels. Also inhibits carbonic anhydrase (CA) (K\(_i\) values are 0.1 and 0.2 \mu M at rat CA II and CA IV respectively), which lowers intracellular neuronal pH. Please refer to IUPHAR Guide to Pharmacology for the most recent naming conventions. Please see product datasheet on www.tocris.com for full description.

**Physical and Chemical Properties:**
- **Batch Molecular Formula:** C\(_{12}\)H\(_{17}\)NO\(_4\)S
- **Batch Molecular Weight:** 339.36
- **Physical Appearance:** White solid
- **Minimum Purity:** ≥99%
- **Batch Molecular Structure:**

![Batch Molecular Structure](image)

**Storage:** Store at +4°C

**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:**