

## Certificate of Analysis

**Product Name:** TMPH hydrochloride

**Catalog No.:** 2438

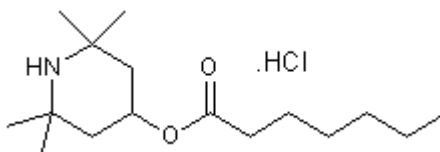
**Batch No.:** 2

CAS Number: 849461-91-2

IUPAC Name: 2,2,6,6-Tetramethylpiperidin-4-yl heptanoate

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>16</sub>H<sub>31</sub>NO<sub>2</sub>.HCl  
**Batch Molecular Weight:** 305.88  
**Physical Appearance:** Off-white solid  
**Solubility:** water to 100 mM  
DMSO to 100 mM  
**Storage:** Desiccate at RT  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.5 (Dichloromethane:Methanol:Ammonia soln. [10:1:0.1])  
**HPLC:** Shows >98.8% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	62.83	10.54	4.58
Found	62.57	10.55	4.56

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**Description:**

Potent non-competitive antagonist of neuronal nicotinic ACh receptors (nAChRs). Produces long-lasting inhibition of neuronal nAChRs formed by the combination of the most abundant  $\alpha$  and  $\beta$  subunits (i.e.  $\alpha 3$ ,  $\alpha 4$  and  $\beta 2$ ,  $\beta 4$  respectively). Displays little inhibition of muscle-type ( $\alpha 1\beta 1\gamma\delta$ ) or  $\alpha 7$  receptors.

**Physical and Chemical Properties:**

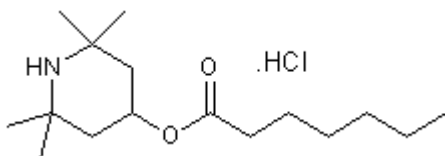
Batch Molecular Formula: C<sub>16</sub>H<sub>31</sub>NO<sub>2</sub>.HCl

Batch Molecular Weight: 305.88

Physical Appearance: Off-white solid

**Minimum Purity:** >98%

**Batch Molecular Structure:**



**References:**

**Papke et al** (2005) The effects of subunit composition on the inhibition of nicotinic receptors by the amphipathic blocker 2,2,6,6-tetramethylpiperidin-4-yl heptanoate. *Mol.Pharmacol.* **67** 1977. PMID: 15761116.

**Storage:** Desiccate at RT

**Solubility & Usage Info:**

water to 100 mM

DMSO 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.

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