Certificate of Analysis

Product Name: **Lamotrigine** **Catalog No.: 1611** **Batch No.: 2**

CAS Number: 84057-84-1 EC Number: 281-901-8

IUPAC Name: 6-(2,3-Dichlorophenyl)-1,2,4-triazine-3,5-diamine

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_9H_7Cl_2N_5$

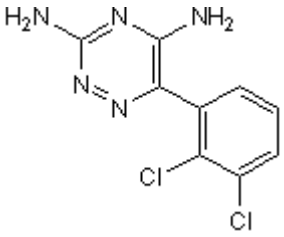
Batch Molecular Weight: 256.09

Physical Appearance: White solid

Solubility: ethanol to 10 mM
DMSO to 100 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.8 (Dichloromethane:Methanol [4:1])

Melting Point: At 212°C

HPLC: Shows 100% purity

^{1}H NMR: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	42.21	2.75	27.33
Found	42.08	2.68	27.37

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IUPAC Name: 6-(2,3-Dichlorophenyl)-1,2,4-triazine-3,5-diamine

Description:

Anticonvulsant. Inhibits glutamate release, possibly through inhibition of Na^+, K^+ and Ca^{2+} currents. Also blocks heterologously expressed and native α4β2 nAChRs with a similar affinity to Na^+ channels. Water-soluble salt available (lamotrigine isethionate, Cat. No. 2289).

Physical and Chemical Properties:

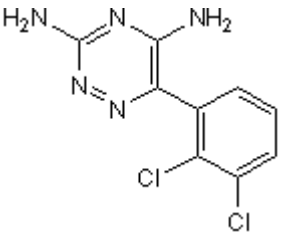
Batch Molecular Formula: $C_9H_7Cl_2N_5$

Batch Molecular Weight: 256.09

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

ethanol to 10 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.

References:

Leach *et al* (1991) Neurochemical and behavioral aspects of lamotrigine. Epilepsia ***32*** S4. PMID: 1685439.

Zona and Avoli (1997) Lamotrigine reduces voltage-gated sodium currents in rat central neurons in culture. Epilepsia ***38*** 522. PMID: 9184596.

Grunze *et al* (1998) Modulation of calcium and potassium currents by lamotrigine. Neuropsychobiology ***38*** 131. PMID: 9778600.

Zheng *et al* (2010) The anticonvulsive drug lamotrigine blocks neuronal α4β2 nicotinic acetylcholine receptors. J.Pharmacol.Exp.Ther. ***335*** 401. PMID: 20688974.