

Product Data Sheet

Product Name: Primidone

Cat. No.: GC15960

Chemical Properties

Cas. No. 125-33-7

Chemical Name 5-ethyl-5-phenyl-1,3-diazinane-4,6-dione

SMILES CCC1(C(=O)NCNC1=O)C2=CC=CC=C2

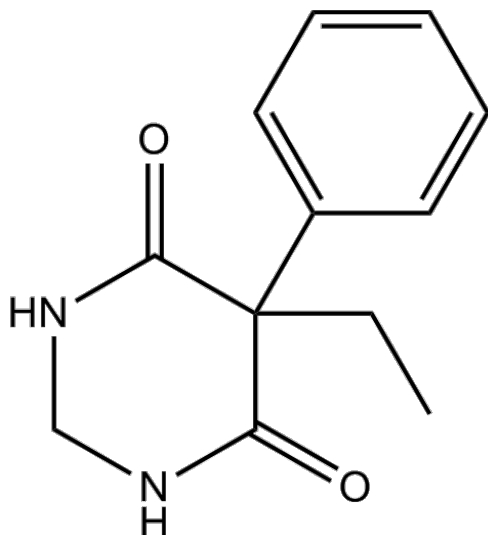
Formula $C_{12}H_{14}N_2O_2$ M.Wt 218.25

Solubility $\geq 10.9\text{mg/mL}$ in DMSO Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Primidone is an anticonvulsant of the pyrimidinedione class. Target: GABA Receptor. Primidone is an anticonvulsant of the pyrimidinedione class, the active metabolites of which, phenobarbital (minor) and phenylethylmalonamide (PEMA) (major), are also anticonvulsants. It is believed to work via

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interactions with voltage-gated sodium channels which inhibit high-frequency repetitive firing of action potentials [1]. The effect of primidone in essential tremor is not mediated by PEMA.[76] The major metabolite, phenobarbital, is also a potent anticonvulsant in its own right and likely contributes to primidone's effects in many forms of epilepsy [2]. Primidone and the other enzyme-inducing anticonvulsants can cut the half-life of antipyrine roughly in half (6.2 ± 1.9 h vs. 11.2 ± 4.2 h), and increases the clearance rate by almost 70%. Phenobarbital reduces the half-life to 4.8 ± 1.3 and increases the clearance by almost 109% [3].

References:

- [1]. Macdonald, R.L. and K.M. Kelly, Antiepileptic drug mechanisms of action. *Epilepsia*, 1995. 36 Suppl 2: p. S2-12.
- [2]. Calzetti, S., et al., Phenylethylmalonamide in essential tremor. A double-blind controlled study. *J Neurol Neurosurg Psychiatry*, 1981. 44(10): p. 932-4.
- [3]. Perucca, E., et al., A comparative study of the relative enzyme inducing properties of anticonvulsant drugs in epileptic patients. *Br J Clin Pharmacol*, 1984. 18(3): p. 401-10.

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