

Product Data Sheet

Product Name: Chlothianidin

Cat. No.: GC46118

Chemical Properties

Cas. No. 210880-92-5

SMILES C1C1=NC=C(CN/C(NC)=N/[N+](O)=O)S1

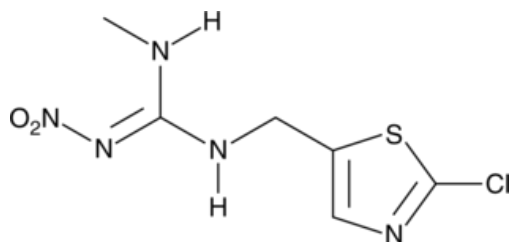
Formula $C_6H_8ClN_5O_2S$ M.Wt 249.7

Solubility DMF: 30 mg/ml, DMSO: 30 mg/ml, DMSO:PBS (pH 7.2) (1:1): 0.50 mg/ml
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

Clothianidin is a neonicotinoid insecticide.¹ It binds to nicotinic acetylcholine receptors (nAChRs; IC₅₀ = 0.6 nM for housefly head membranes) and activates non-desensitizing nAChRs in cockroach neurons in vitro (IC₅₀ = 1,520 nM). Clothianidin induces mortality in adult *M. persicae* (LC₉₅ = 1.28 mg/L), as well as *H. virescens* and *S. frugiperda* second instar larvae when used at a concentration of 8 mg/L in a leaf-dip bioassay. In vivo, clothianidin (>25 mg/kg) increases the number of premature births in rabbits and reduces the length and weight of fathead minnows (*P. promelas*) when administered in tank water at a concentration of 20 mg/L.²

[1. Nauen, R., Ebbinghaus-Kintscher, U., Salgado, V.L., et al. Thiamethoxam is a neonicotinoid precursor converted to clothianidin in insects and plants. *Pest. Biochem. Phys.* 76(2), 55-69

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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(2003).|2. Gibbons, D., Morrissey, C., and Mineau, P. A review of the direct and indirect effects of neonicotinoids and fipronil on vertebrate wildlife. Environ. Sci. Pollut. Res. Int. 22(1), 103-118 (2015).

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