

Product Data Sheet

Product Name: Thiamethoxam-d3

Cat. No.: GC91373

Chemical Properties

Cas. No. 1294048-82-0

Formula $C_8H_7ClD_3N_5O_3S$

M.Wt 294.7

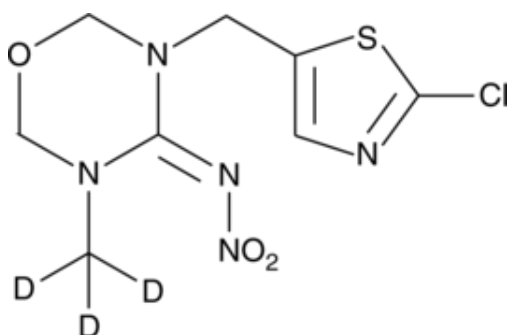
Solubility Chloroform: Slightly soluble, Methanol: Slightly soluble

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

Thiamethoxam-d3 is intended for use as an internal standard for the quantification of thiamethoxam by GC- or LC-MS. Thiamethoxam is a neonicotinoid insecticide and a prodrug form of the neonicotinoid insecticide clothianidin.^{1,2} It binds to nicotinic acetylcholine receptors (nAChRs) with low affinity (IC₅₀ = 5,000 nM for housefly head membranes) and does not activate non-desensitizing nAChRs in cockroach neurons in vitro (IC₅₀ = >3,000 nM).² Thiamethoxam induces mortality in a variety of insects, including *A. craccivora*, *M. persicae*, and *S. littoralis* when administered in contact/feeding assays (LC₈₀s = 12, 3, and 3 mg AI/L, respectively) and via systemic administration (LC₈₀s = 0.8, 0.2, and 0.8 mg AI/L, respectively), as well as *N. lugens* and *D. balteata* in contact/feeding assays (LC₈₀s = 0.8 mg AI/L for both).¹ Thiamethoxam also induces 100% mortality of second instar larvae of the fall armyworm *S. frugiperda* and the tobacco budworm *H. virescens* in leaf-dip bioassays when used at a concentration of 200 mg/L.² Formulations containing

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

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thiamethoxam have been used in the control of insects in agriculture.

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