

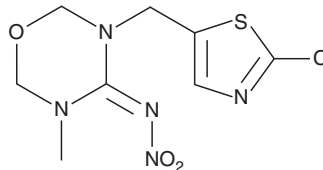
PRODUCT INFORMATION



Thiamethoxam

Item No. 25784

CAS Registry No.: 153719-23-4
Formal Name: 3-[(2-chloro-5-thiazolyl)methyl]tetrahydro-5-methyl-N-nitro-4H-1,3,5-oxadiazin-4-imine
MF: C₈H₁₀ClN₅O₃S
FW: 291.7
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Thiamethoxam is supplied as a solid. A stock solution may be made by dissolving the thiamethoxam in the solvent of choice, which should be purged with an inert gas. Thiamethoxam is slightly soluble in chloroform and methanol.

Description

Thiamethoxam is a neonicotinoid insecticide and a prodrug form of the neonicotinoid insecticide clothianidin (Item No. 29605).^{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 (LC_{80s} = 12, 3, and 3 mg AI/L, respectively) and *via* systemic administration (LC_{80s} = 0.8, 0.2, and 0.8 mg AI/L, respectively), as well as *N. lugens* and *D. balteata* in contact/feeding assays (LC_{80s} = 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 thiamethoxam have been used in the control of insects in agriculture.

References

1. Maienfisch, P., Huerlimann, H., Rindlisbacher, A., *et al.* The discovery of thiamethoxam: A second-generation neonicotinoid. *Pest. Manag. Sci.* **57**(2), 165-176 (2001).
2. 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 (2003).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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