



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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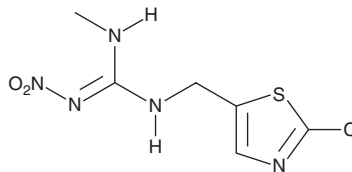
# PRODUCT INFORMATION



## Chlothianidin

Item No. 29605

**CAS Registry No.:** 210880-92-5  
**Formal Name:** [C(E)]-N-[(2-chloro-5-thiazolyl)methyl]-N'-methyl-N''-nitro-guanidine  
**MF:** C<sub>6</sub>H<sub>8</sub>ClN<sub>5</sub>O<sub>2</sub>S  
**FW:** 249.7  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 220, 269 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years



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

### Laboratory Procedures

Chlothianidin is supplied as a crystalline solid. A stock solution may be made by dissolving the chlothianidin in the solvent of choice, which should be purged with an inert gas. Chlothianidin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of chlothianidin in these solvents is approximately 30 mg/ml.

Chlothianidin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, chlothianidin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Chlothianidin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Clothianidin is a neonicotinoid insecticide.<sup>1</sup> It binds to nicotinic acetylcholine receptors (nAChRs; IC<sub>50</sub> = 0.6 nM for housefly head membranes) and activates non-desensitizing nAChRs in cockroach neurons *in vitro* (IC<sub>50</sub> = 1,520 nM). Clothianidin induces mortality in adult *M. persicae* (LC<sub>95</sub> = 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.<sup>2</sup>

### References

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 (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).

#### 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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