

# PRODUCT INFORMATION



## Spinetoram

Item No. 26623

CAS Registry No.: 935545-74-7

Formal Name: (2R,3aR,5aR,5bS,9S,13S,14R,16aS,16bR)-2-[(6-deoxy-3-O-ethyl-2,4-di-O-methyl- $\alpha$ -L-mannopyranosyl)oxy]-13-[[[(2R,5S,6R)-5-(dimethylamino)tetrahydro-6-methyl-2H-pyran-2-yl]oxy]-9-ethyl-2,3,3a,4,5,5a,5b,6,9,10,11,12,13,14,16a,16b-hexadecahydro-14-methyl-1H-as-indaceno[3,2-d]oxacyclododecin-7,15-dione and (2S,3aR,5aS,5bS,9S,13S,14R,16aS,16bS)-2-[(6-deoxy-3-O-ethyl-2,4-di-O-methyl- $\alpha$ -L-mannopyranosyl)oxy]-13-[[[(2R,5S,6R)-5-(dimethylamino)tetrahydro-6-methyl-2H-pyran-2-yl]oxy]-9-ethyl-2,3,3a,5a,5b,6,9,10,11,12,13,14,16a,16b-tetradecahydro-4,14-dimethyl-1H-as-indaceno[3,2-d]oxacyclododecin-7,15-dione (mixture) XDE-175-J/XDE-175-L

Synonyms:

MF:  $C_{42}H_{69}NO_{10} \cdot C_{43}H_{69}NO_{10}$

FW: 1,508.0

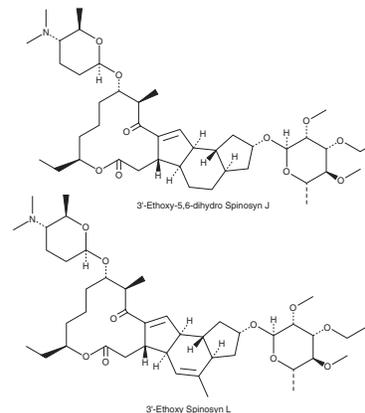
Purity:  $\geq 95\%$  (mixture)

UV/Vis.:  $\lambda_{max}$ : 245 nm

Supplied as: A crystalline solid

Storage:  $-20^{\circ}C$

Stability:  $\geq 4$  years



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

## Laboratory Procedures

Spinetoram is supplied as a crystalline solid. A stock solution may be made by dissolving the spinetoram in the solvent of choice. Spinetoram is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of spinetoram in ethanol and DMF is approximately 30 mg/ml and approximately 5 mg/ml in DMSO.

Spinetoram is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, Spinetoram should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Spinetoram has a solubility of approximately 0.25 mg/ml in a 1:3 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

## Description

Spinetoram is an insecticide and a semisynthetic derivative of the insecticide spinosad (Item No. 25649).<sup>1</sup> Spinetoram is a mixture of 3'-ethyl-5,6-dihydrospinosyn J and 3'-ethoxy-spinosyn L (Item No. 26664). It induces mortality in *H. armigera* third, fourth, and fifth instar larvae when administered in the diet at 0.19 and 0.36 mg/kg and decreases pupal survival and adult emergence in surviving larvae.<sup>2</sup> It also induces mortality of wild-type *D. melanogaster* but not *D. melanogaster* containing a genetic mutation in the Da6 subunit of the nicotinic acetylcholine receptor (nAChR;  $LC_{50S} = 0.025$  and  $4.4 \mu\text{g}/\text{cm}^2$ , respectively, administered in the diet).<sup>3</sup> Formulations containing spinetoram have been used as insecticides in agriculture.

## References

1. Kirst, H.A. *J. Antibiot. (Tokyo)* **63**(3), 101-111 (2010).
2. Wei, J., Zhang, L., Yang, S., et al. *PLoS One* **13**(9), e0204154 (2018).
3. Watson, G.B., Chouinard, S.W., Cook, K.R., et al. *Insect Biochem. Mol. Biol.* **40**(5), 376-384 (2010).

### 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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