

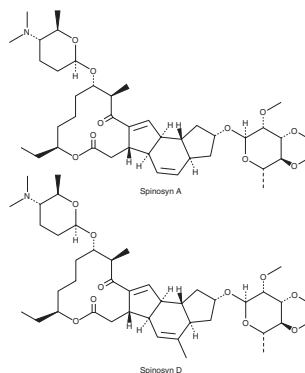
PRODUCT INFORMATION



Spinosad

Item No. 25649

CAS Registry No.: 168316-95-8
Formal Name: spinosyn A and D (mixture)
Synonyms: LY232105, XDE-105
MF: C₈₃H₁₃₂N₂O₂₀
FW: 1,478.0
Purity: ≥95%
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

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

Description

Spinosad is a naturally-occurring insecticide found in the soil bacterium *S. spinosa*.¹ It is a mixture of the macrocyclic lactones spinosyn A (Item No. 16528) and spinosyn D (Item No. 19158), which act as agonists of insect nicotinic acetylcholinesterase receptors (nAChRs). Oral administration of spinosad induces toxicity in fruit flies including *C. capitata*, *B. curcurbitae*, and *B. dorsalis* (LC₅₀s = 2.8-4.2, 4.3-5.5, and 3.1-3.3 µg/ml, respectively) but has low toxicity in vertebrates.²⁻⁴ It also inhibits canine P-glycoprotein (P-gp; IC₅₀ = 0.2 µg/ml).⁵ Formulations containing spinosad have been used in the agricultural and veterinary control of insects.

References

1. Vo, D.T., Hsu, W.H., Abu-Basha, E.A., *et al.* Insect nicotinic acetylcholine receptor agonists as flea adulticides in small animals. *J. Vet. Pharmacol. Ther.* **33(4)**, 315-322 (2010).
2. Stark, J.D., Vargas, R., and Miller, N. Toxicity of spinosad in protein bait to three economically important tephritid fruit fly species (Diptera: Tephritidae) and their parasitoids (Hymenoptera: Braconidae). *J. Econ. Entomol.* **97(3)**, 911-915 (2004).
3. Sánchez-Bayo, F. Insecticides mode of action in relation to their toxicity to non-target organisms. *J. Environ. Anal. Toxicol.* **54:002**, (2012).
4. Amaral, T.S., Carvalho, T.F., Silva, M.C., *et al.* Short-term effects of a spinosyn's family insecticide on energy metabolism and liver morphology in frugivorous bats *Artibeus lituratus* (Olfers, 1818). *Braz. J. Biol.* **72(2)**, 299-304 (2012).
5. Schrickx, J.A. Spinosad is a potent inhibitor of canine P-glycoprotein. *Vet. J.* **200(1)**, 195-196 (2014).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/26/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM