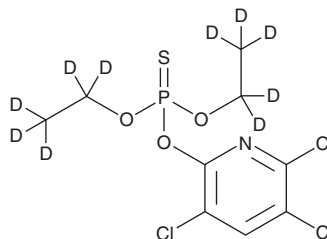


PRODUCT INFORMATION



Chlorpyrifos-d₁₀ Item No. 30953

CAS Registry No.: 285138-81-0
Formal Name: phosphorothioic acid, O,O-di(ethyl-d₅)
O-(3,5,6-trichloro-2-pyridinyl) ester
MF: C₉HCl₃D₁₀NO₃PS
FW: 360.6
Chemical Purity: ≥95% (Chlorpyrifos)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₁₀); ≤1% d₀
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

Chlorpyrifos-d₁₀ is intended for use as an internal standard for the quantification of chlorpyrifos (Item No. 21412) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Chlorpyrifos-d₁₀ is supplied as a solid. A stock solution may be made by dissolving the chlorpyrifos-d₁₀ in the solvent of choice, which should be purged with an inert gas. Chlorpyrifos-d₁₀ is slightly soluble in chloroform and methanol.

Description

Chlorpyrifos is an organophosphate insecticide.^{1,2} It is lethal to *A. melinus*, *G. ashmeadi*, *E. eremicus*, and *E. formosa* adults (LC₅₀s = 0.8, 6, 12, and 17 ng/ml, respectively).¹ Chlorpyrifos induces mortality in *O. insidiosus* adults when applied to corn, sorghum, and alfalfa plants.² It is toxic to mice (LD₅₀ = 155 mg/kg).³ Postnatal day 11 to 14 exposure to chlorpyrifos (3 mg/kg) decreases nest building and defense behaviors in adult female mice.⁴ Formulations containing chlorpyrifos have been used in the control of insects in agriculture.

References

1. Prabhaker, N., Morse, J.G., Castle, S.J., et al. Toxicity of seven foliar insecticides to four insect parasitoids attacking citrus and cotton pests. *J. Econ. Entomol.* **100(4)**, 1053-1061 (2007).
2. Al-Deeb, M.A., Wilde, G.E., and Zhu, K.Y. Effect of insecticides used in corn, sorghum, and alfalfa on the predator *Orius insidiosus* (Hemiptera: Anthocoridae). *J. Econ. Entomol.* **94(6)**, 1353-1360 (2001).
3. Guo, J.-X., Wu, J.J.-Q., Wight, J.B., et al. Mechanistic insight into acetylcholinesterase inhibition and acute toxicity of organophosphorus compounds: A molecular modeling study. *Chem. Res. Toxicol.* **19(2)**, 209-216 (2006).
4. Venerosi, A., Cutuli, D., Colonnello, V., et al. Neonatal exposure to chlorpyrifos affects maternal responses and maternal aggression of female mice in adulthood. *Neurotoxicol. Teratol.* **30(6)**, 468-474 (2008).

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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