

## Product Data Sheet

Product Name: Chlorpyrifos-d10

Cat. No.: GC47083

### Chemical Properties

Cas. No. 285138-81-0

SMILES ClC1=NC(OC(OC([2H])([2H])C([2H])([2H])[2H])(OC([2H])([2H])C([2H])([2H])[2H])=S)=C(Cl)C=C1Cl

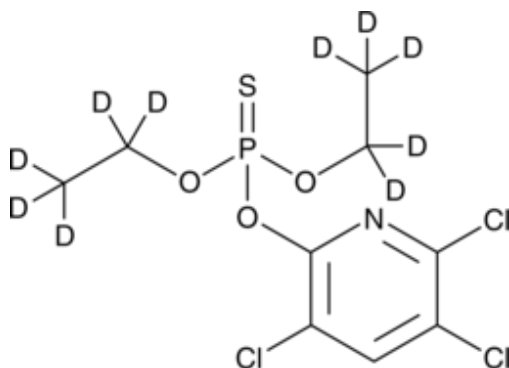
Formula C<sub>9</sub>HCl<sub>3</sub>D<sub>10</sub>NO<sub>3</sub>PS M.Wt 360.6

Solubility H<sub>2</sub>O : 100 mg/mL (277.28 mM; Need ultrasonic); DMSO : 50 mg/mL (138.64 mM; Need ultrasonic) Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



### Background

Chlorpyrifos-d<sub>10</sub> is intended for use as internal standard for the quantification of chlorpyrifos by GC- or LC-MS. Chlorpyrifos is an organophosphate insecticide.<sup>1,2</sup> It is lethal to *A. melinus*, *G. ashmeadi*, *E. eremicus*, and *E. formosa* adults (LC<sub>50</sub>s = 0.8, 6, 12, and 17 ng/ml, respectively).<sup>1</sup> Chlorpyrifos induces mortality in *O. insidiosus* adults when applied to corn, sorghum, and alfalfa plants.<sup>2</sup> It is toxic to mice (LD<sub>50</sub> = 155 mg/kg).<sup>3</sup> Postnatal day 11 to 14 exposure to chlorpyrifos (3 mg/kg) decreases

**Caution: Product has not been fully validated for medical applications. For research use only.**

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nest building and defense behaviors in adult female mice.<sup>4</sup> Formulations containing chlorpyrifos have been used in the control of insects in agriculture.

1.Prabhaker, N., Morse, J.G., Castle, S.J., et al.Toxicity of seven foliar insecticides to four insect parasitoids attacking citrus and cotton pestsJ. 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 studyChem. 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 adulthoodNeurotoxicol. Teratol.30(6)468-474(2008)

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