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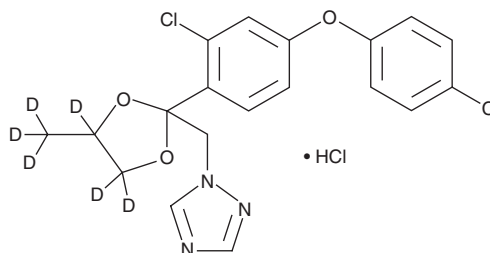
PRODUCT INFORMATION



Difenoconazole-d₆ (hydrochloride)

Item No. 27834

Formal Name: 1-((2-(2-chloro-4-(4-chlorophenoxy)phenyl)-4-(methyl-d₃)-1,3-dioxolan-2-yl-4,5,5-d₃)methyl)-1H-1,2,4-triazole, monohydrochloride
MF: C₁₉H₁₁D₆Cl₂N₃O₃ • HCl
FW: 448.8
Chemical Purity: ≥98% ((mixture of diastereomers) Difenoconazole)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₆); ≤1% d₀
Supplied as: A 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

Difenoconazole-d₆ (hydrochloride) is intended for use as an internal standard for the quantification of difenoconazole (Item No. 24053) 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).

Difenoconazole-d₆ (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the difenoconazole-d₆ (hydrochloride) in the solvent of choice. Difenoconazole-d₆ (hydrochloride) is slightly soluble in the organic solvent methanol, which should be purged with an inert gas.

Description

Difenoconazole is a broad-spectrum triazole fungicide that inhibits ergosterol biosynthesis *via* inhibition of the cytochrome P450-dependent 14 α -demethylation of lanosterol, which results in disruption of the fungal cell membrane and cell death.^{1,2} It inhibits the growth of *F. graminearum* isolates *in vitro* (EC₅₀s = 1.69-19.6 mg/L for mycelial growth).² It also inhibits growth of *A. sonali*, *F. fulva*, *B. cinerea*, and *R. solani* (EC₅₀s = 0.131, 0.069, 0.297, and 0.252 mg/L, respectively).³ Difenoconazole reduces germ tube growth of *A. caricae*, the mold responsible for black spot in papaya plants (EC₅₀ = 2 ppm).⁴ It exhibits acute aquatic toxicity, reducing growth of *S. obliquus* algae (EC₅₀ = 1.338 μ g/ml) and decreasing survival of *D. magna* (LD₅₀ = 0.298 μ g/ml).³ Difenoconazole is also lethal to zebrafish (*D. rerio*) embryos, larvae, and adults (LC₅₀s = 2.34, 1.17, and 1.45 mg/L, respectively).⁵ At sub-LC₅₀ concentrations, difenoconazole induces pericardial and yolk sac edema in zebrafish embryos, body blackening and slowed heart rate in larvae, and decreased body weight and length in adults.

References

1. Zarn, J.A., Brüscheweiler, B.J., and Schlatter, J.R. *Environ. Health Perspect.* **111**(3), 255-261 (2003).
2. Rekanović, E., Mihajlović, M., and Potočnik, I. *Pestic. Phytomed.* **25**(4), 325-333 (2010).
3. Dong, F., Li, J., Chankvetadze, B., et al. *Environ. Sci. Technol.* **47**(7), 3386-3394 (2013).
4. Vawdrey, L.L., Grice, K.R.E., and Westerhuis, D. *Aus. Plant Path.* **37**(6), 552-558 (2008).
5. Mu, X., Pang, S., Sun, X., et al. *Environ. Pollut.* **175**(2013), 147-157 (2013).

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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