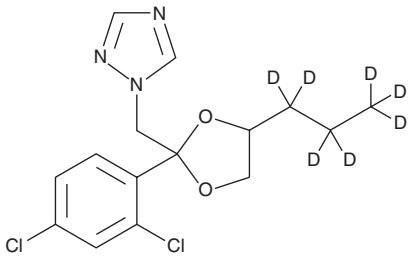
PRODUCT INFORMATION

Propiconazole-d_7

Item No. 31177

CAS Registry No.:	1246818-14-3
Formal Name:	1-((2-(2,4-dichlorophenyl)-4-(propyl-d_7)-1,3-dioxolan-2-yl)methyl)-1H-1,2,4-triazole
MF:	$C_{15}H_{10}Cl_2D_7N_3O_2$
FW:	349.3
Chemical Purity:	≥98% (Propiconazole)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_7); ≤1% d_0
Supplied as:	An oil
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Propiconazole-d_7 is intended for use as an internal standard for the quantification of propiconazole (Item No. 18853) 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).

Propiconazole-d_7 is supplied as an oil. A stock solution may be made by dissolving the propiconazole-d_7 in the solvent of choice, which should be purged with an inert gas. Propiconazole-d_7 is slightly soluble in chloroform and methanol.

Description

Propiconazole is a broad-spectrum triazole fungicide that inhibits the conversion of lanosterol to ergosterol, leading to fungal cell membrane disruption.[1] It inhibits *S. cerevisiae*, but not rat liver, microsomal cytochrome P450 (IC_{50}s = 0.04 and >200 µM, respectively).[2] Propiconazole inhibits the growth of *T. deformans* and *R. stolonifer* (EC_{50}s = 0.073 and 4.6 µg/ml, respectively), as well as *A. niger*, *M. fructigena*, *S. nodorum*, *T. harzanium*, *R. solani*, and *S. rolfsii* at concentrations ranging from 0.1 to 5 ppm.[3] It increases the weight of seminal vesicles and vas deferens, as well as the percentage of sperm with abnormal tail morphology, and decreases the plasma concentration of estradiol in male rats when administered at a dose of 4 mg/kg.[4] Propiconazole increases production of reactive oxygen species (ROS), the number of DNA mutations, and the incidence of tumor formation in mouse liver.[5] Formulations containing propiconazole have been used in the control of fungi in agriculture.

References

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2. Vanden Bossche, H., Lauwers, W., Willemsens, G., *et al. Pestic. Sci.* **15(2)**, 188-198 (1984).
3. Sancholle, M., Weete, J.D., and Montani, C. *Pest. Biochem. Phys.* **21(1)**, 31-44 (1984).
4. Costa, N.O., Vieira, M.L., Sgarioni, V., *et al. Toxicology* **335**, 55-61 (2015).
5. Nesnow, S. *Cancer Lett.* **334(1)**, 20-27 (2013).

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