

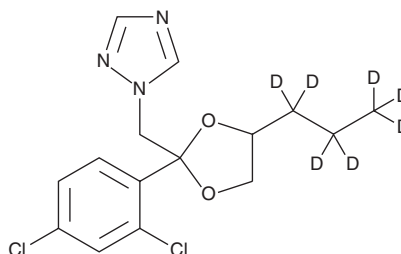
# PRODUCT INFORMATION



## Propiconazole-d<sub>7</sub>

Item No. 31177

**CAS Registry No.:** 1246818-14-3  
**Formal Name:** 1-((2-(2,4-dichlorophenyl)-4-(propyl-d<sub>7</sub>)-1,3-dioxolan-2-yl)methyl)-1H-1,2,4-triazole  
**MF:** C<sub>15</sub>H<sub>10</sub>Cl<sub>2</sub>D<sub>7</sub>N<sub>3</sub>O<sub>2</sub>  
**FW:** 349.3  
**Chemical Purity:** ≥98% (Propiconazole)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>7</sub>); ≤1% d<sub>0</sub>  
**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<sub>7</sub> 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<sub>7</sub> is supplied as an oil. A stock solution may be made by dissolving the propiconazole-d<sub>7</sub> in the solvent of choice, which should be purged with an inert gas. Propiconazole-d<sub>7</sub> 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.<sup>1</sup> It inhibits *S. cerevisiae*, but not rat liver, microsomal cytochrome P450 (IC<sub>50</sub>s = 0.04 and >200 μM, respectively).<sup>2</sup> Propiconazole inhibits the growth of *T. deformans* and *R. stolonifer* (EC<sub>50</sub>s = 0.073 and 4.6 μg/ml, respectively), as well as *A. niger*, *M. fructigena*, *S. nodorum*, *T. harzanium*, *R. solani*, and *S. rolfii* at concentrations ranging from 0.1 to 5 ppm.<sup>3</sup> 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.<sup>4</sup> Propiconazole increases production of reactive oxygen species (ROS), the number of DNA mutations, and the incidence of tumor formation in mouse liver.<sup>5</sup> Formulations containing propiconazole have been used in the control of fungi in agriculture.

### References

1. Zarn, J.A., Brüsweiler, B.J., and Schlatter, J.R. *Environ. Health Perspect.* **111**(3), 255-261 (2003).
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).

#### 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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