

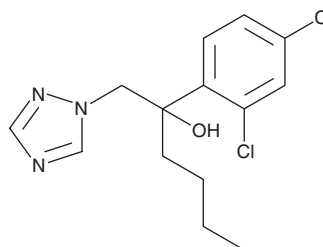
PRODUCT INFORMATION



Hexaconazole

Item No. 24118

CAS Registry No.: 79983-71-4
Formal Name: α -butyl- α -(2,4-dichlorophenyl)-1H-1,2,4-triazole-1-ethanol
Synonym: (\pm)-Hexaconazole
MF: C₁₄H₁₇Cl₂N₃O
FW: 314.2
Purity: $\geq 95\%$
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

Hexaconazole is supplied as a solid. A stock solution may be made by dissolving the hexaconazole in the solvent of choice, which should be purged with an inert gas. Hexaconazole is soluble in organic solvents such as methanol and DMSO.

Description

Hexaconazole 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 It is fungicidal against the powdery mildews *B. graminis* and *S. cucurbitae* on cucumber plants in a concentration-dependent manner and is curative against powdery mildew on barley plants when used at a concentration of 6.7 mg/L.² It also inhibits growth of *R. bataticola* and *S. rolfii* (ED₅₀s = 6.35 and 1.27 mg/L, respectively).³ Exogenous application of hexaconazole (15 mg/L) to *M. chamomilla* plants improves water, proline, and protein contents as well as increases non-enzymatic and enzymatic antioxidant and apigenin-7-glucoside content during a water deficit stress tolerance test.⁴ Hexaconazole inhibits the differentiation of mouse embryonic stem cells into cardiomyocytes (EC₅₀ = 16.6 μ M).⁵ It also induces bone morphological defects in mouse fetuses when administered to pregnant adult females during gestation.

References

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2. Tsuda, M., Itoh, H., and Kato, S. Evaluation of the systemic activity of simeconazole in comparison with that of other DMI fungicides. *Pest Manag. Sci.* **60**(9), 875-880 (2004).
3. Shakil, N.A., Kumar, J., Pandey, A., et al. Synthesis and pesticidal activity of new N-alkyl-N-[1-(2-hydroxyphenyl) ethyl]amines. *J. Environ. Sci. Health B.* **44**(4), 344-349 (2009).
4. Hojati, M., Modarres-Sanavy, S.A.M., Ghanati, F., et al. Hexaconazole induces antioxidant protection and apigenin-7-glucoside accumulation in *Matricaria chamomilla* plants subjected to drought stress. *J. Plant Physiol.* **168**(8), 782-791 (2011).
5. de Jong, E.G., Barenys, M., Hermesen, S.A.B., et al. Comparison of the mouse embryonic stem cell test, the rat whole embryo culture and the zebrafish embryotoxicity test as alternative methods for developmental toxicity testing of six 1,2,4-triazoles. *Toxicol. Appl. Pharmacol.* **253**(2), 103-111 (2011).

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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