

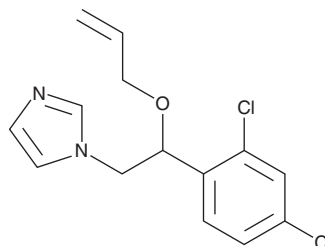
PRODUCT INFORMATION



Imazalil

Item No. 25815

CAS Registry No.: 35554-44-0
Formal Name: 1-[2-(2,4-dichlorophenyl)-2-(2-propen-1-yloxy)ethyl]-1H-imidazole
Synonyms: Enilconazole, (±)-Imazalil
MF: C₁₄H₁₄Cl₂N₂O
FW: 297.2
Purity: ≥98%
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

Imazalil is supplied as a solid. A stock solution may be made by dissolving the imazalil in the solvent of choice, which should be purged with an inert gas. Imazalil is slightly soluble in chloroform and methanol.

Description

Imazalil is an imidazole fungicide that inhibits ergosterol biosynthesis.¹ Imazalil inhibits the growth of various fungi *in vitro* including *P. italicum*, *A. niger*, *U. maydis*, *B. alii*, and *C. cucumerinum* in a pH-dependent manner (MICs = 0.005-2 µg/ml at pH 7).² It inhibits *S. cerevisiae*, but not rat liver microsomal, cytochrome P450 enzymes (CYPs; IC₅₀s = 0.088 and 80 µM, respectively), as well as aromatase CYP19 from human placental microsomes (IC₅₀ = 0.34 µM).^{1,3} Imazalil activates the murine pregnane X receptor (PXR) in a concentration-dependent manner in a cell-based reporter assay.⁴ It increases hepatic CYP3A11 and CYP2B10 mRNA levels in mice when administered at a dose of 100 mg/kg. Imazalil also increases Ki-67-positive nuclei in liver sections and hepatic MCM2 mRNA levels, markers of cell proliferation, in mice when co-administered with the murine constitutive androstane receptor (mCAR) agonist TCPOBOP (Item No. 14140). Formulations containing imazalil have been used to control fungal infection in agriculture.

References

1. Vanden Bossche, H., Lauwers, W., Willemsens, G., *et al.* Molecular basis for the antimycotic and antibacterial activity of N-substituted imidazoles and triazoles: The inhibition of isoprenoid biosynthesis. *Pestic. Sci.* **15**(2), 188-198 (1984).
2. Siegel, M.R., Kerkenaar, A., and Kaars Sijpesteijn, A. Antifungal activity of the systemic fungicide imazalil. *Neth. J. Pl. Path.* **83**(Suppl. 1), 121-133 (1977).
3. Vinggaard, A.M., Hnida, C., Breinholt, V., *et al.* Screening of selected pesticides for inhibition of CYP19 aromatase activity *in vitro*. *Toxicol. In Vitro* **14**(3), 227-234 (2000).
4. Yoshimaru, S., Shizu, R., Tsuruta, S., *et al.* Acceleration of murine hepatocyte proliferation by imazalil through the activation of nuclear receptor PXR. *J. Toxicol. Sci.* **43**(7), 443-450 (2018).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/20/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM