

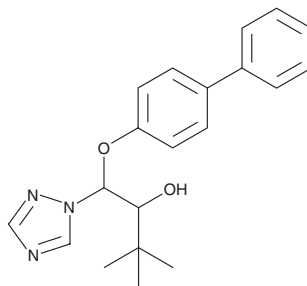
# PRODUCT INFORMATION



## Bitertanol

Item No. 24054

**CAS Registry No.:** 55179-31-2  
**Formal Name:**  $\beta$ -([1,1'-biphenyl]-4-yloxy)- $\alpha$ -(1,1-dimethylethyl)-1H-1,2,4-triazole-1-ethanol  
**Synonym:** Biloxazol  
**MF:**  $C_{20}H_{23}N_3O_2$   
**FW:** 337.4  
**Purity:**  $\geq 98\%$   
**Supplied as:** A solid  
**Storage:**  $-20^{\circ}\text{C}$   
**Stability:**  $\geq 4$  years



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

### Laboratory Procedures

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

### Description

Bitertanol is a broad-spectrum triazole fungicide that is active against a variety of fungi, including *V. inaequalis* and *V. pirina*, which are responsible for apple and pear scab, respectively, as well as *S. mors-uvae* and *P. ribis*, which are responsible for American gooseberry mildew and leaf spot in black currants, respectively.<sup>1</sup> It is active against isolates of *V. inaequalis* (MICs = 0.6 and 1  $\mu\text{g/ml}$ ) but repeated use leads to resistance and cross-resistance (MICs = 9.8-13  $\mu\text{g/ml}$  for bitertanol-resistant isolates).<sup>2</sup> Bitertanol inhibits the cytochrome P450 (CYP450) isoform CYP3A4 ( $\text{IC}_{50}$  = 2.74  $\mu\text{M}$ ) and inhibits androgenic activity induced by the androgen receptor agonist DHT (Item No. 15874) in a yeast two-hybrid assay ( $\text{IC}_{50}$  = 79.85  $\mu\text{M}$ ).<sup>3</sup> In rats, bitertanol (10-300 mg/kg, i.p.) increases operant responding on one- and five-minute fixed interval schedules with no effect on motor activity.<sup>4</sup>

### References

1. Birch, P.A., Rose, P.W., and Wainwright, A. A broad spectrum fungicide of the triazole group for use in pome and bush fruit. *Brit. Crop Prot. Conf. - Pests and Dis., Proc.* **11(2)**, 545-554 (1981).
2. Hildebrand, P.D., Lockhart, C.L., Newberry, R.J., *et al.* Resistance of *Venturia inaequalis* to bitertanol and other demethylation-inhibiting fungicides. *Can. J. Plant Path.* **10(4)**, 311-316 (1988).
3. Lv, X., Pan, L., Wang, J., *et al.* Effects of triazole fungicides on androgenic disruption and CYP3A4 enzyme activity. *Environ. Pollut.* **222(2016)**, 504-512 (2017).
4. Allen, A.R. and MacPhail, R.C. Bitertanol, a triazole fungicide, increases operant responding but not motor activity. *Neurotoxicol. Teratol.* **15(4)**, 237-242 (1993).

#### 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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