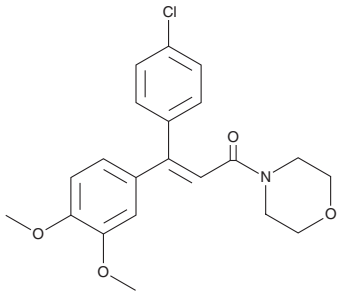
PRODUCT INFORMATION

Dimethomorph

Item No. 24247



CAS Registry No.:	110488-70-5
Formal Name:	3-(4-chlorophenyl)-3-(3,4-dimethoxyphenyl)-1-(4-morpholinyl)-2-propen-1-one
MF:	$C_{21}H_{22}ClNO_4$
FW:	387.9
Purity:	≥95% (mixture of *cis* and *trans* isomers)
UV/Vis.:	λ_{max}: 244 nm
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

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

Description

Dimethomorph is a morpholine fungicide that inhibits fungal cell wall formation.[1] It inhibits mycelial growth of the oomycete fungi *P. citrophthora*, *P. parasitica*, *P. capsici*, and *P. infestans* (EC_{50}s = 0.14, 0.38, <0.1, and 0.16-0.3 µg/ml, respectively) but is less active against the green algae species *C. vulgaris* or *S. obliquus in vitro* (EC_{50}s = 47.46 and 44.87 µg/ml, respectively).[2-4] It inhibits androgen receptor (AR) activity in a reporter assay in MDA-kb2 human breast cancer cells but not in a yeast antiandrogen screen (IC_{20}s = 0.263 and 38.5 µM, respectively).[5] It is not toxic to rats (LD_{50} = 3,900 mg/kg) or goldfish (*C. auratus*; LC_{50} = >32 µg/ml).[1,4] Formulations containing dimethomorph have been used in the control of fungi in agriculture.

References

1. European Food Safety Authority. Conclusion regarding the peer review of the pesticide risk assessment of the active substance dimethoate. *EFSA J.* **4(7)**, (2006).
2. Matheron, M.E. and Porchas, M. Impact of azoxystrobin, dimethomorph, fluazinam, fosetyl-al, and metalaxyl on growth, sporulation, and zoospore cyst germination of *Three phytophthora* spp. *Plant Dis.* **84(4)**, 454-458 (2000).
3. Rekanović, E., Potočnik, I., Milijašević-Marčić, S., *et al.* Toxicity of metalaxyl, azoxystrobin, dimethomorph, cymoxanil, zoxamide and mancozeb to *Phytophthora infestans* isolates from Serbia. *J. Environ. Sci. Health B.* **47(5)**, 403-409 (2012).
4. Yu, X.-B., Hao, K., Ling, F., *et al.* Aquatic environmental safety assessment and inhibition mechanism of chemicals for targeting *Microcystis aeruginosa*. *Ecotoxicology* **23(9)**, 1638-1647 (2014).
5. Orton, F., Rosivatz, E., Scholze, M., *et al.* Widely used pesticides with previously unknown endocrine activity revealed as *in vitro* antiandrogens. *Environ. Health Perspect.* **119(6)**, 794-800 (2011).

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