

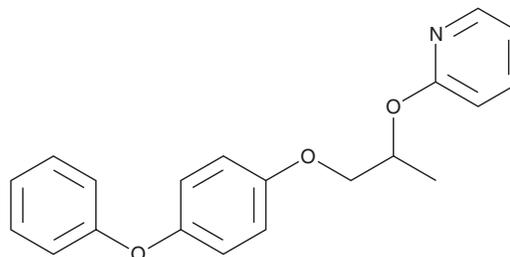
PRODUCT INFORMATION



Pyriproxyfen

Item No. 21872

CAS Registry No.:	95737-68-1
Formal Name:	2-[1-methyl-2-(4-phenoxyphenoxy)ethoxy]-pyridine
Synonyms:	OMS-3019, S-31183
MF:	C ₂₀ H ₁₉ NO ₃
FW:	321.4
Purity:	≥98%
UV/Vis.:	λ _{max} : 271 nm
Supplied as:	A crystalline 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

Pyriproxyfen is supplied as a crystalline solid. A stock solution may be made by dissolving the pyriproxyfen in the solvent of choice. Pyriproxyfen is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of pyriproxyfen in these solvents is approximately 15, 25, and 30 mg/ml, respectively.

Pyriproxyfen is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, pyriproxyfen should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Pyriproxyfen has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Pyriproxyfen is a pyridine insecticide that mimics juvenile growth hormone, which prevents larvae from developing into reproduction-capable adults. The LD₅₀ of pyriproxyfen in rats is >5,000 mg/kg, >1,300 mg/cubic meter/4 hours, and >2,000 mg/kg through oral, inhalation, or percutaneous dosing, respectively.¹ It is used as a larvicide in the drinking water of 11 municipalities in Brazil and rumors suggested it may be correlated with the increase in cases of microcephaly in Brazil.² The acceptable daily intake determined by the World Health Organization is 0.3 mg/L.³ The prevalence of microcephaly in Brazil is not higher in municipalities that use pyriproxyfen in the water supply, compared with municipalities that use the larvicide Bti.² In addition, in zebrafish, even very high doses (0.1 µg/ml, compared with 0.01 µg/ml used in practice for pest control) of pyriproxyfen does not induce microcephaly or other brain malformations.⁴ Formulations containing pyriproxyfen are used for flea control in dogs and as an insecticide for ants.^{5,6}

References

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3. Pyriproxyfen in drinking-water: Background document for development of WHO guidelines for drinking-water quality. World Health Organization, **WHO/SDE/WSH/07.01/10** (2007).
4. Dzieciolowska, S., Larroque, A.-L., Kranjec, E.-A., et al. *Sci. Rep.* **7**, 40067 (2017).
5. Ross, D.H., Arther, R.G., von Simson, C., et al. *Parasit. Vectors.* **5**, 192 (2012).
6. Vail, K.M. and Williams, D.F. *J. Econ. Entomol.* **88**(6), 1695-1702 (1995).

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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