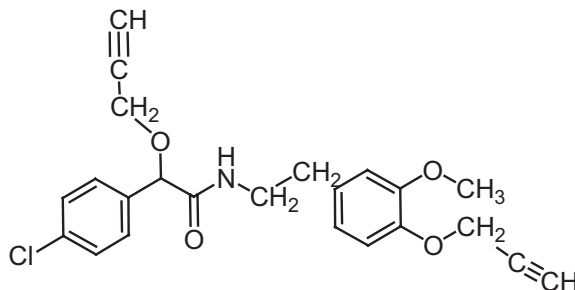


514 mandipropamid

Fungicide

FRAC 40, F5; mandelamide



NOMENCLATURE: **Common name** mandipropamid (BSI, pa ISO)

IUPAC name 2-(4-chlorophenyl)-N-[3-methoxy-4-(prop-2-ynyloxy)phenethyl]-2-(prop-2-ynyloxy)acetamide

Chemical Abstracts name 4-chloro-N-[2-[3-methoxy-4-(2-propynyloxy)phenyl]ethyl]- α -(2-propynyloxy)-benzeneacetamide

CAS RN [374726-62-2] **Development codes** NOA 446510

PHYSICAL CHEMISTRY: **Mol. wt.** 411.9 **M.f.** C₂₃H₂₂ClNO₄ **Form** Light beige powder.

M.p. 96.4–97.3 °C **V.p.** <9.4 × 10⁻⁴ mPa (25 °C) **K_{ow}** logP = 3.2 **Solubility** In water 4.2 mg/l (25 °C). **Stability** Stable to hydrolysis at pH 4–9.

COMMERCIALISATION: **History** Discovered in 1999 by Syngenta AG. Reported by F. Huggenberger *et al.* (*Proc. BCPC Int. Congr.*, Glasgow, 2005, 1, 87).

APPLICATIONS: **Mode of action** Preventive foliar fungicide, with some curative activity, effective against spore germination and also inhibits mycelial growth and sporulation. Adsorbed to the plant wax layer, providing resistance to rainwater wash-off. Once mandipropamid is taken up by the plant tissue, translaminar mobility provides protection of the opposite leaf surface. **Uses** Under development for control of Oomycete diseases, such as *Plasmopara viticola* in grapes, *Phytophthora infestans* in potatoes and tomatoes, and *Pseudoperonospora cubensis* in cucurbits, at 100–150 g/ha.

MAMMALIAN TOXICOLOGY: **Oral** Acute oral LD₅₀ for rats >5000 mg/kg.

Skin and eye Acute percutaneous LD₅₀ for rats >2000 mg/kg. Slight skin and eye irritant (rabbits). Not a skin sensitiser (guinea pigs). **Inhalation** for rats >5000 mg/m³. **Other** Not mutagenic, teratogenic or carcinogenic.

ECOTOXICOLOGY: **Birds** Acute oral LD₅₀ for bobwhite quail >2250 mg/kg. **Fish** LC₅₀ for rainbow trout >2.9 mg/l. **Bees** LD₅₀ (contact and oral) >200 µg/bee. **Worms** LC₅₀ >1000 mg/kg. **Other beneficial spp.** LR₅₀ for *Aphidius* sp. 830, *Typhlodromus* sp. >900 g/ha.

ENVIRONMENTAL FATE: **Animals** In rats, rapidly absorbed and eliminated.

Soil/Environment Aqueous photolysis DT₅₀ 1.7 d (pH 7, 25 °C). Mean soil DT₅₀ (field) 17 d (range 2–29). Mean K_{oc} 847 ml/g (range 405–1294).