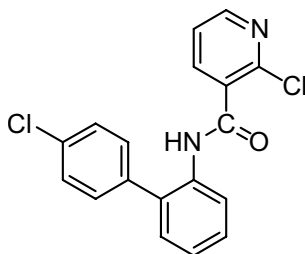


FRAC 7, C2; carboxamide

**NOMENCLATURE:** Common name boscalid (BSI, pa ISO)IUPAC name 2-chloro-*N*-(4'-chlorobiphenyl-2-yl)nicotinamideChemical Abstracts name 2-chloro-*N*-(4'-chloro[1,1'-biphenyl]-2-yl)-3-pyridinecarboxamide

Other names nicobifen (former provisional ISO name) CAS RN [188425-85-6]

Development codes BAS 510 F (BASF)

**PHYSICAL CHEMISTRY:** Mol. wt. 343.2 M.f. C<sub>18</sub>H<sub>12</sub>Cl<sub>2</sub>N<sub>2</sub>O Form White odourless crystals.M.p. 142.8–143.8°C V.p. 7.2 × 10<sup>-4</sup> mPa K<sub>ow</sub> logP = 2.96 Henry 5.178 × 10<sup>-5</sup> Pa m<sup>3</sup> mol<sup>-1</sup>S.g./density 1.381 (20°C) Solubility In water 4.6 mg/l (20°C). In *n*-heptane <10, methanol 40–50, acetone 160–200 (all in g/l, 20°C). Stability Stable to hydrolysis at pH 4, 5, 7 and 9; stable to aqueous photolysis.**COMMERCIALISATION:** Manufacturers BASF.**APPLICATIONS:** Biochemistry Inhibits succinate ubiquinone reductase, (also known as complex II), in the mitochondrial electron transport chain. Mode of action Foliar fungicide. Uses For control of powdery mildew, *Alternaria* spp., *Botrytis* spp., *Sclerotinia* spp. and *Monilia* spp. on a range of fruit and vegetables. Formulation types SC; SE; WG. Selected products 'Cantus' (BASF); 'Endura' (BASF); mixtures 'Signum' (+ pyraclostrobin) (BASF).**MAMMALIAN TOXICOLOGY:** Oral Acute oral LD<sub>50</sub> >5000 mg/kg. Skin and eye Acute dermal LD<sub>50</sub> >2000 mg/kg. Not a skin or eye irritant. Inhalation LC<sub>50</sub> (4 h) >6.7 mg/l. NOEL for rats c. 5 mg/kg b.w. ADI 0.04 mg/kg b.w.**ECOTOXICOLOGY:** Birds LD<sub>50</sub> for bobwhite quail >2000 mg/kg b.w. Fish LC<sub>50</sub> (96 h) for rainbow trout 2.7 mg/l. Daphnia EC<sub>50</sub> (48 h) 5.33 mg/l. Algae E<sub>r</sub>C<sub>50</sub> (96 h) for *Pseudokirchneriella subcapitata* 3.75 mg/l. Other aquatic spp. NOEC for *Chironomus riparius* 2.0 mg/l. Bees NOEC (oral) 166 µg/bee; (contact) 200 µg/bee. Worms LC<sub>50</sub> for *Eisenia foetida* >1000 mg/kg dry soil.**ENVIRONMENTAL FATE:** Animals Hydroxylation of the biphenyl ring, subsequent glucuronidation and sulfatation reactions. The systemically available portion of a.i. is rapidly and extensively metabolised, with rapid excretion, mainly via faeces. Plants Hydroxylation in the biphenyl and pyridine rings, and cleavage reactions in both rings, were observed. However, unchanged parent formed the major part of the residue. Soil/Environment Moderate degradation behaviour in soil; soil DT<sub>50</sub> 108 d to >1 y (lab., aerobic conditions, 20°C); field DT<sub>50</sub> 28 d to c. 200 d. Good degradation in natural water/sediment systems.