dicamba-dimethylammonium
Acute oral LD_{50} for rats 2629 mg/kg.

dicamba-sodium
Acute oral LD_{50} for rats 6764 mg/kg.

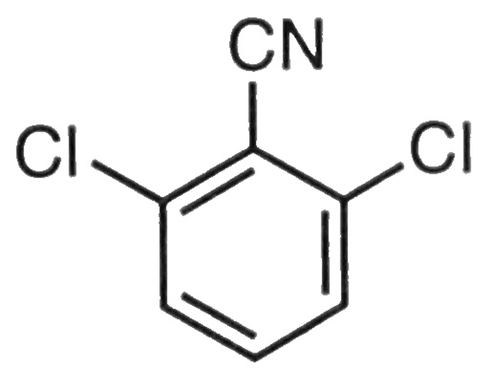
ECOTOXICOLOGY

dicamba
Birds Acute oral LD_{50} for mallard ducks 2000 mg/kg. Eight-day dietary LC_{50} for mallard ducks and bobwhite quail > 10000 mg/kg diet. **Fish** LC_{50} (96 h) for rainbow trout and bluegill sunfish 135 mg/l. **Bees** Not toxic to bees. **Daphnia** EC_{50} (48 h) 110 mg/l.

ENVIRONMENTAL FATE

Animals In mammals, following oral administration, dicamba is rapidly eliminated in the urine, partly as a glycine conjugate. **Plants** The degradation rate in plants varies greatly with species. In wheat, the major metabolite is 5-hydroxy-2-methoxy-3,6-dichlorobenzoic acid, whilst 3,6-dichlorosalicylic acid is also a metabolite. **Soil and water** In soil, microbial degradation occurs, the principal metabolite being 3,6-dichlorosalicylic acid. Under conditions amenable to rapid metabolism, DT_{50} < 14 d. K_{oc} = 2.

203 dichlobenil *Herbicide*



NOMENCLATURE

Common name dichlobenil (BSI, E-ISO, (*m*) F-ISO, ANSI, WSSA), DBN (JMAF).
IUPAC name 2,6-dichlorobenzonitrile.
C.A. name 2,6-dichlorobenzonitrile. **CAS RN** *[1194-65-6]* **Development code** H 133.

PHYSICO-CHEMICAL PROPERTIES

Composition Tech. grade dichlobenil is ≥98% pure.
Mol. wt. 172.0 **Mol. formula** $C_7H_3Cl_2N$
Form Colourless crystals with an aromatic odour (tech.: off-white crystals). **M.p.** 145-146 °C (tech.: 139-145 °C). **B.p.** 270 °C/760 mmHg **V.p.** 0.088 Pa (20 °C) (gas saturation method) K_{ow} logP = 2.70 **Solubility** In water 18 mg/l (20 °C). In acetone, dioxane, xylene 50 (all in g/l, 8 °C). In dichloromethane 100 g/l (20 °C). Very slightly soluble in non-polar solvents (< 10 g/l). **Stability** Stable to heat, < 270 °C. Stable to acids, but rapidly hydrolysed by strong alkalis to 2,6-dichlorobenzamide. Photolytic DT_{50} in water 15 d.