



NOMENCLATURE

Common name dichlone (BSI, E-ISO, (*m*) F-ISO, JMAF).

IUPAC name 2,3-dichloro-1,4-naphthoquinone.

C.A. name 2,3-dichloro-1,4-naphthalenedione. **CAS RN** [117-80-6]

Development code USR 604 (to Uniroyal) **Official code** ENT 3776.

PHYSICO-CHEMICAL PROPERTIES

Composition Tech. grade is *c.* 95% pure.

Mol. wt. 227.0 **Mol. formula** C₁₀H₄Cl₂O₂

Form Yellow crystals. **M.p.** 193 °C (subliming > 32 °C); tech., ≥ 188 °C **B.p.** 275 °C/2 mmHg **Solubility** In water 0.1 mg/l (25 °C). In xylene and 1,2-dichlorobenzene, *c.* 4%.

Moderately soluble in acetone, diethyl ether, benzene, ethyl acetate, acetic acid, dimethylformamide, and dioxane. Sparingly soluble in alcohols. **Stability** In the dry state, stable to light and heat. In solution, slowly decomposed by light. Stable in acidic media, but hydrolysed by alkalis.

COMMERCIALISATION

History Fungicidal properties of this established chemical reported by W. P. ter Horst & E. L. Felix (*Ind. Eng. Chem.*, 1943, **35**, 1255). Introduced by Uniroyal Inc. and by FMC Corp. **Patents** US 2302384; US 2349772 to Uniroyal.

APPLICATIONS

Mode of action Foliar fungicide with protective action. Also has algicidal activity.

Uses Fungicidal control in fruit, vegetables, ornamentals, and field crops. Particular uses include control of blossom blights, scab on apples and pears, and brown rot of stone fruit. Also used to control blue-green algae in ponds, lakes, and swimming pools.

Phytotoxicity Non-phytotoxic when used as recommended. **Formulation type** WP.

Compatibility Compatible with many common fungicides and wettable-powder insecticides. Incompatible with petroleum oils, dinitro compounds, organomercury compounds, calcium arsenate, lime sulfur, Bordeaux mixture, nicotine, and emulsifiable concentrate formulations. **Principal tradename** 'Kolo' (FMC). **Mixtures** [dichlone +] sulfur.

ANALYSIS

Product analysis by colorimetry after alkaline hydrolysis to the sodium salt of 2-chloro-3-hydroxy-1,4-naphthoquinone (D. K. Gullstrom & H. P. Burchfield, *Anal. Chem.*, 1948, **20**, 1174; J. R. Lane, *Anal. Methods Pestic., Plant Growth Regulat. Food Addit.*, 1964, **3**,