o-PHENYLPHENOL

Prepared at the 8th JECFA (1964), published in NMRS 38A (1965) and in FNP 52 (1992). Metals and arsenic specifications revised at the 63rd JECFA (2004). An ADI of 0-0.2 mg/kg bw was established at the 8th JECFA (1964)

SYNONYMS Orthoxenol; INS No. 231

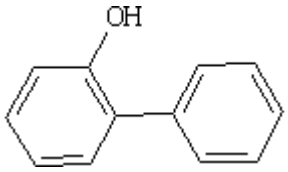
DEFINITION

Chemical names (1,1'-Biphenyl)-2-ol, 2-hydroxydiphenyl, *o*-hydroxydiphenyl

C.A.S. number 90-43-7

Chemical formula $C_{12}H_{10}O$

Structural formula



Formula weight 170.20

Assay Not less than 98%

DESCRIPTION White, slightly yellow or pink flaky crystals or solid, having a mild characteristic odour

FUNCTIONAL USES For the post-harvest treatment of fruits and vegetables to protect against microbial damage

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4) Practically insoluble in water, very soluble in ethanol

Melting point (Vol. 4) About 57°

Test for phenol An ethanolic solution (1 g in 10 ml) produces a green colour upon addition of 10% ferric chloride solution

PURITY

Total ash (Vol. 4) Not more than 0.05%

Lead (Vol. 4) Not more than 2 mg/kg
Determine using an atomic absorption technique appropriate to the specified level. The selection of sample size and method of sample preparation may be based on the principles of the method described in Volume 4, “Instrumental Methods.”

METHOD OF ASSAY

Weigh 2.000 g of o-phenylphenol, dissolve in 10 ml of 10% sodium hydroxide solution by warming and dilute to 500.0 ml. Pipette 25.0 ml into a 250-ml iodine flask and add 30.0 ml of 0.1 N bromide-bromate TS and 50 ml of anhydrous methanol. Place the stopper in the flask and add 10 ml of dilute (1 to 1) hydrochloric acid to the well. Raise the stopper slightly to allow the acid to flow down the sides inside the flask, but retain a small amount of the acid in the well to act as a seal. Mix the contents by swirling and allow it to react for exactly 30 sec at 25±5°. Immediately add 10 ml of 20% potassium iodide solution to the well and allow it to drain into the assay flask as for the acid. Mix well, allow the solution to stand for 5 min, shaking occasionally. Wash the stopper and the sides of the flask with water. Titrate the liberated iodine with 0.1 N sodium thiosulfate adding starch TS as the endpoint is approached. Each ml of 0.1 N bromide-bromate TS consumed is equivalent to 4.255 mg of $C_{12}H_{10}O$.