

## SODIUM o-PHENYLPHENOL

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

### SYNONYMS

INS No. 232

### DEFINITION

Chemical names

Sodium (1,1'-biphenyl)-2-olate, sodium o-phenylphenate, sodium o-phenylphenolate

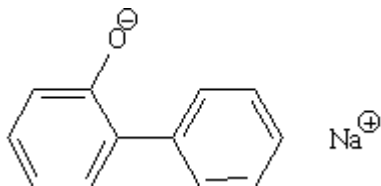
C.A.S. number

132-27-4

Chemical formula

$C_{12}H_9NaO \cdot 4H_2O$

Structural formula



Formula weight

264.26

Assay

Not less than 97.0%

### DESCRIPTION

White powder of flakes; absorbs carbon dioxide and releases free o-phenylphenol which slowly sublimates when exposed to air

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

### CHARACTERISTICS

#### IDENTIFICATION

Solubility (Vol. 4)

122 g dissolve in 100 ml water, 138 g dissolve in 100 ml methanol, and very soluble in ethanol

pH (Vol. 4)

About 12.7 (aqueous soln)

Test for phenylphenolate

When neutralized, a precipitate of o-phenylphenol forms and, when filtered and dried, this material melts at about 57° and its ethanolic solution (1 g in 10 ml) produces a green colour upon addition of 10% ferric chloride solution.

#### PURITY

Excess alkalinity

Not more than 1% as sodium hydroxide  
Weigh 5.0 g into a 250-ml beaker, dissolve in 50 ml of water and titrate with 1 N hydrochloric acid to a pH of 11.0 using a suitable pH meter. Each ml of

1 N hydrochloric acid is equivalent to 40 mg of sodium hydroxide.

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 3.100 g of sodium o-phenylphenol, dissolve in water, adding a few drops of 10% sodium hydroxide solution if necessary to clear any turbidity, and dilute to 500.0 ml with water. 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 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 of 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  $25 \pm 5^\circ$ . Immediately add 10 ml of 20% potassium iodide solution to the well and allow it to drain into the flask. Mix well and allow the solution to stand for 5 min, shaking occasionally. Wash the stopper and the sides of the flask with water and 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 6.608 mg of  $C_{12}H_9ONa \cdot 4H_2O$ .