

5.1.39

AOAC Official Method 967.37
Phenothiazine in Feeds
Spectrophotometric Method
First Action 1967
Final Action 1970

A. Reagent

Phenothiazine standard solution.—Dissolve 10 mg recrystallized (from 10% solution in toluene) phenothiazine in 50 mL alcohol and dilute to 100 mL with alcohol. For working standards, dilute with equal volume of alcohol. (1 mL diluted solution = 50 g phenothiazine.) Use freshly prepared solution; alcoholic solutions gradually develop rose tint within few hours.

B. Determination

Place 1 g ground test portion in 100 mL volumetric flask, add 50 mL alcohol, and heat on steam bath 15 min. Cool, dilute to volume with alcohol, mix, and let settle (ca 15 min) until supernate is clear.

Place 2 mL aliquot in 25 mL volumetric flask and add 10 mL alcohol. To flask add, in order given, 1 mL 1% alcoholic *p*-aminobenzoic acid solution (w/v), 1 mL aqueous 2% NaNO₂ solution (w/v), and 1 mL HCl (1 + 3). Dilute to volume with alcohol. Read *A* of green solution at 600 nm in spectrophotometer against reagent blank. Determine amount of phenothiazine from standard curve.

$$\text{Phenothiazine, \%} = \frac{\text{g}}{200}$$

$$\text{Phenothiazine, mg/kg} = \frac{\text{g} \cdot 50}{\text{g test portion}}$$

Prepare standard curve, using 1, 2, and 3 mL dilute standard solution, as above.

References: *JAOAC* **41**, 338(1958); **42**, 254(1959).

CAS-92-84-2 (phenothiazine)