

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
WASHINGTON 25, D. C.

National Bureau of Standards
Certificate

Standard Sample 350

Benzoic Acid

Acidimetric Standard

This lot of benzoic acid was prepared to insure material of high purity and uniformity. However, it should not be considered as entirely free from traces of impurities. On the basis of titration, a purity of 99.98 percent is indicated when compared to specially purified benzoic acid. It has been found that benzoic acid will not absorb moisture from the atmosphere if the relative humidity does not exceed 90 percent.

Directions for use in Acidimetry. Prepare a solution of sodium hydroxide that is approximately 0.1 *N* and free from carbon dioxide. Accurately weigh about 1.0000 g of benzoic acid, transfer to a 300-ml flask that has been swept free from carbon dioxide, and add 20 ml of alcohol (95 percent). Stopper the flask, and allow to stand until the sample has dissolved. Add 3 drops of a 1-percent solution of phenolphthalein, and titrate as a current of air, that is free from carbon dioxide, is passed through or over the solution in the flask.

Determine the volume of standard alkali required to obtain the same endpoint in a solution containing the same quantities of alcohol, water, and indicator as were used in the titration of the benzoic acid. Subtract the volume required from that used in the first titration, and calculate the normality of the sodium hydroxide solution on the basis of the equation, $C_6H_5COOH + NaOH = C_6H_5COONa + H_2O$.

A. V. ASTIN, *Director*.

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