

9. Select whole drug, bought 1920, dried, brushed with hand brush, powdered in this laboratory.....	2.89	0.76
	2.94	0.98
10. Select whole drug, bought 1920, dried, brushed with hand brush, powdered in this laboratory.....	3.03	0.87
	3.05	0.64
11. Select whole drug, bought 1920, dried, brushed with hand brush, powdered in this laboratory.....	2.34	0.61
	2.43	0.79
12. Brushings from No. 9, above.....	24.03	20.67
13. Brushings from No. 10, above.....	16.53	13.05
14. Brushings from No. 11, above.....	19.52	16.15
15. Leaf and stem remains and young leaves separated by grabbling, powdered in this laboratory.....	5.658	1.264
	5.802	1.538

These results show that the normal ash, *i. e.*, the ash of the thoroughly cleaned drug, is between 2 and 2.5 percent. Commercial samples usually contain between one-half and three percent of foreign inorganic matter, insoluble in 5% hydrochloric acid.

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DETERMINATION OF SODIUM BENZOATE IN OLEOMARGARINE.

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After trying the methods recommended for the determination of Benzoate in fatty products without concordant results, the writer devised the following method by which one may check results within one one-hundredth percent. The method is also applicable to other fatty substances than oleomargarine.

Take 100 grammes of sample, treat with 50 mls of saturated salt solution containing approximately 0.5% of sodium hydroxide. Add phenolphthalein indicator and heat to boiling, adding a solution of sodium hydroxide if necessary to maintain alkalinity. Stir vigorously and transfer to a separatory funnel while hot and separate the aqueous layer. Repeat this operation five times. (Test has shown this to be sufficient.)

Filter the combined liquids with suction and to the filtrate add 4 grammes of sodium hydroxide and an excess of calcium chloride, an excess over that necessary to combine with the fatty acids. Calcium hydroxide is also precipitated which forms a very efficient filter bed. Again filter by suction.

Acidify the filtrate with hydrochloric acid and shake out five times with ether, using 15 mls each time. Wash the combined ether extractions with water and evaporate spontaneously. Dissolve the benzoic acid in neutral 50% alcohol and titrate with $\frac{N}{10}$ alkali, phenolphthalein indicator. Some albuminous matter is extracted by the ether but this in no way interferes with the titration.

The number of mls required for titration multiplied by 0.0072 gives the weight of Sodium Benzoate in 100 grammes of sample.