ASSAY OF GLYCERITE OF BISMUTH.*

BY JOSEPH L. MAYER.

The National Formulary on page 109 gives the following method for the assay of Glycerite of Bismuth:

"Dilute 5 cc. of Glycerite of Bismuth, accurately measured, with 100 cc. of distilled water, in a flask, add two drops of hydrochloric acid and pass a current of hydrogen sulphide through the solution until it is saturated. Allow the precipitate to settle and decant the supernatant liquid (which should be clear and colorless) through a Gooch crucible or filter, retaining the precipitate in the flask. Wash the precipitate a few times by decantation, then transfer it completely to the filter and wash with water until the washings give no test for chloride. Now wash twice with alcohol, then with warm carbon tetrachloride and again with alcohol. Dry at 100° C. and weigh. The weight of bismuth sulphide multiplied by 0.903 represents its equivalent in Bi_2O_3."

To avoid the use of hydrogen sulphide and the involved manipulation of this assay I have for a considerable number of years employed the following method for the quantitative determination of bismuth in glycerite of bismuth:

Accurately measure 5 cc. of Glycerite of Bismuth into a 400-cc. beaker, add about 100 cc. of water, heat to boiling, then add concentrated HCl until the precipitate which at first forms redissolves and then add ammonia water until a turbidity is produced, after which sufficient concentrated HCl is added to clear up the turbidity, to this boiling solution add an excess (about 50 cc. should be sufficient) of ten per cent ammonium phosphate solution, drop by drop from a 50-cc. pipette. Allow to settle and filter the precipitate on a Gooch crucible and wash with hot water until free from chlorides and after drying crucible and contents, place in a nickel crucible and heat until the weight is constant.

Multiply the weight of the precipitate by 0.7663 and then by 20, the result will be the grams of Bi_2O_3 in 100 cc. of sample.

The method is accurate, rapid, easily carried out and has everything to commend it.

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DETERMINATION OF SPECIFIC GRAVITY OF PARAFFIN.†

BY BERL S. ALSTODT.

The U. S. P. under *Paraffinum* says the specific gravity is about 0.900 at 25° C., but specifies no method for its determination.

Under *Cera Flava* the U. S. P. not only states the range of specific gravity, but also provides a definite method for its determination. Under Cetaceum the Pharmacopœia states the range of specific gravity as 0.938 to 0.944 at 25° C. when determined by the method given under *Cera Flava* using alcohol warmed to from 38° to 40° C.

In view of the foregoing, I determined the specific gravity of paraffin by the procedure recommended under *Cera Flava*, modifying the method by using alcohol warmed to from 42° to 45° C. For comparison I made several experiments to

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† New York State Pharmaceutical Association, 1933.

determine how this method and the commonly referred to "sinker method" agreed. The results checked very closely:

Sp. Gr. by the method under wax [using alcohol warmed to from 42° to 45° C.]	0.889
Sp. Gr. by the "sinker method"	0.888

Acting upon the suggestion of Dr. Joseph L. Mayer, I prepared mixtures of alcohol and water with their specific gravities accurately determined at 25° C. by means of a Geissler pycnometer. The range of specific gravities of these mixtures varies from the specific gravity of paraffin to that of wax.

With the samples of alcohol and water ready it is only necessary to place them in small test-tubes, adjust to a temperature of 25° C., add a globule to the contents of the tube and when the one is found in which the globule floats indifferently, read the specific gravity of the liquid from the label on the bottle and this represents the specific gravity of the substance examined.

SUMMARY.

1. The U. S. P. should describe a method for determining the specific gravity of paraffin.

2. The method for determining the specific gravity of wax modified, however, to have the alcohol warmed to from 42° to 45° C. is an excellent one for paraffin.

3. The results by the U. S. P. method for wax and the "sinker method" agree very well when applied to paraffin.

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Reference has been made in a preceding issue of the JOURNAL to the Congress of Military Medicine and Pharmacy. The illustration above is from *The Pharmaceutical Journal and Pharmacist* of June 17th, and data are also taken from the same publication. Dr. A. Madinaveitia y Taburo demonstrated the "Utilization of the Spectrograph for the Determination of the Structure of Organic Substances." Pharmacist-Major Dr. R. Fraguas Fernández demonstrated the preparation of granules, tablets, capsules, medicinal wines, liquors and syrups; automatic filling machines and liquids. Other contributions related to sterilization, making of ampuls, preparation of ointments, by Dr. Miguel Campoy, Dr. Pedro Calvo y Muñoz Torrero and others. A motor pharmacy was demonstrated by Pharmacist-Major Dr. Miguel Campoy Irigoyen.