

## ARSENIC DETERMINATION IN BISMUTH AND BARIUM SALTS.\*

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The Gutzeit test is employed by the U. S. P. X in the detection and determination of minute amounts of arsenic in most of the materials tested. It employs the Bettendorf test, however, in the case of barium sulphate and salts of bismuth.

Our experience has indicated that the Gutzeit test is sensitive and accurate to one part per million of arsenic ( $As_2O_3$ ), especially if a gram sample is used instead of two-tenths of a gram, as specified in the U. S. P. X, whereas, the Bettendorf test is sensitive to only ten or twenty parts per million and is not even roughly quantitative. In view of this superiority of the Gutzeit method, it would seem desirable to also use the Gutzeit test for barium and bismuth salts. These products are widely used for internal administration and should be carefully tested.

For the purpose of determining the usefulness of the more accurate Gutzeit test for this purpose, we applied the test to samples of barium sulphate, bismuth subcarbonate and bismuth subnitrate. At the same time, a series of tests was made on the same samples to which two parts per million of arsenic ( $As_2O_3$ ) had been added. In all cases, satisfactory stains were secured. The various bismuth and barium salts gave stains, which corresponded to less than one part per million of arsenic. The salts to which two parts per million of arsenic had been added gave characteristic arsenic stains, which indicated slightly more than two parts per million. In the case of the bismuth salts, the reaction is apt to be rather violent, but this is no serious objection, since it may be controlled, by placing the apparatus in a bath of ice water.

Bettendorf tests on the barium and the bismuth salts to which two parts per million of arsenic were added gave negative results in both cases.

Our experience indicates that the Gutzeit test is preferable to the Bettendorf test for bismuth and barium salts, since it seems distinctly more sensitive and it is at least approximately quantitative, while the Bettendorf is not.

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## GERMAN PROPRIETARY MEDICINE TRADE.

According to German foreign trade statistics exports of prepared medicines valued at about 28,000,000 marks in 1924 have about tripled to a value of 78,500,000 marks in 1929 and to 51,000,000 marks in the first eight months of 1930, or at the rate of 75,000,000 marks in the calendar year 1930. Germany's production of medicinal and pharmaceutical preparations amounts to approximately 700,000,000 marks retail value annually. (Trade Commissioner William T. Daugherty, Berlin.)

## DISTRIBUTION OF MEDICINALS IN CANADA.

It is stated that two well-known drug firms now operate in Canada with dealer organizations covering rural districts. One of these firms is reported to have 600 travelers disposing of products direct to the consumer. Canadian representatives for drug lines state that in practically all cases where sizable sales volumes are attained, the goods sold are frequently packaged, or even partly manufactured and packaged in Canada. (Trade Commissioner Harvey A. Sweetser, Toronto.)

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