

BIBLIOGRAPHY OF PHARMACEUTICAL RESEARCH

Compiled by A. G. DuMez, Reporter on the Progress of Pharmacy.

All articles in these lists will be presented in abstract form in the bound volumes of the Year Book, which is issued annually. Those desiring abstracts immediately can obtain them for a fee of one dollar each by communicating with A. G. DuMez, University of Maryland, School of Pharmacy, N. W. cor. Lombard and Greene Sts., Baltimore, Maryland.

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THE DETECTION OF ACETONE IN CHLOROFORM.*

BY GEORGE D. BEAL¹ AND CHESTER R. SZALKOWSKI.²

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U. S. P. XI.

INTRODUCTION.

The U. S. P. X in its monograph on chloroform does not include a test for acetone. It has been suggested that such a test should be included since, as much chloroform is produced from acetone, acetone may be found as an impurity in chloroform; as a result the investigation has been carried out.

Middleton and Hymas (1) employed Nessler's reagent to detect acetone in ether and found it to be satisfactory for small quantities. We have applied it to acetone in chloroform and found it to be equally satisfactory for small quantities of acetone in chloroform. (Since this article was written the British Pharmacopœia, 1932, has appeared, containing a limit test for aldehyde in chloroform with Nessler's reagent.)

Gros (2) found that acetone in dilute aqueous solutions reacts with Nessler's reagent in the cold to give a yellowish precipitate, which on analysis showed the following to be present: mercury, 61.73%; iodine, 27.14%; chlorine, 3.42%, and acetone, 3.94%. We have obtained a canary-yellow precipitate by adding Nessler's reagent to an aqueous solution of acetone and chloroform. The dried precipitate had the following composition: mercury, 72.16%; iodine, 14.85%; chlorine, 3.06%. This precipitate is soluble in an excess of acetone. A dilute aqueous solution of trichlorotertiary butyl alcohol (Chloretone), upon reaction with Nessler's reagent, produced a precipitate similar to that with acetone in chloroform. Both precipitates melted at 235° C. with decomposition, and the two, when mixed intimately, melted at the same temperature.

Kolthoff (3) has used both salicyl aldehyde and vanillin in the presence of solid potassium hydroxide as reagents for acetone. He found that salicyl aldehyde can be applied to ketones other than acetone, while vanillin was specific for acetone.

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