IV. DISCUSSION.

Guaiacol has been purified by crystallization of the sodium salt, precipitation as the magnesium salt, repeated fractional crystallization and fractionation. The maximum observed crystallizing point was 28.2°. It seems certain that such varied methods of purification would remove an impurity present in an amount sufficient to lower the Cr. Pt. from 32° or 33° to 28.2°. It was thought possible that there might be another crystalline form with a higher Cr. Pt. However, during several years manufacturing experience at this plant, during which time guaiacol has been repeatedly crystallized, no such form has ever been observed. It must therefore be concluded that those authorities who give 32° or 33° are in error, and that the true Cr. Pt. of the usual form is 28.2°.

V. SUMMARY.

Guaiacol has been purified and the physical properties of the pure product determined. The usual prismatic crystals have Cr. Pt. 28.2°, and a needle-shaped form has Cr. Pt. —3.2°. The boiling point is 204.65° at 746.4 mm.

LABORATORIES: MONSANTO CHEMICAL WORKS,
ST. LOUIS, MISSOURI, August 8, 1929.

ASSIMILATION OF VITAMIN A WHEN DISSOLVED IN LIQUID PETROLATUM.*

BY E. MONESS AND W. G. CHRISTIANSEN.

Dutcher and his collaborators[1] claim that vitamin A in the form of butter fat is ineffective when fed to rats in mineral oil solution. The authors rather expected this result, since mineral oil is not absorbable in the gastro-intestinal tract, yet is a good solvent for vitamins A and D. However, according to their findings only vitamin A seemed to have been so affected; vitamin D, in the form of cod liver oil dissolved in liquid petrolatum, retained its full anti-rachitic properties.

The claim that vitamin A was made inactive by the presence of mineral oil caused an editorial expression of apprehension in the *J. A. M. A.*[2] lest the use of mineral oil should divert some of the vitamin A present in foods and prevent its alimentary absorption.

On account of the importance of this subject the effect of liquid petrolatum on vitamin absorption from the alimentary canal was carefully checked, using as a source of vitamin A a cod liver oil concentrate. This concentrate was dissolved in liquid petrolatum (Squibb) and in olive oil, the latter serving as a control. In both cases the proportion of oil and concentrate used was such as to yield a solution equal in volume to the original cod liver oil from which the concentrate was derived.

When white rats were fed a vitamin A deficient diet and carried to Xerothalmia and growth arrest as outlined in the U. S. P. test for vitamin A, the curative

* Scientific Section, A. PH. A., Rapid City meeting, 1929.

[1] R. A. Dutcher, J. O. Ely and H. E. Honeywell, vitamin studies: "XV. Assimilation of Vitamins A and D in Presence of Mineral Oil." *Proc. Soc. Exptl. Biol. Med.*, 24 (1927), 953.

[2] Editorial, *J. A. M. A.*, 89 (1927), 694.

properties of the liquid petrolatum solution of cod liver oil concentrate were found to be identical with those of the olive oil solution, and no evidence of any difference in activity between them could be found. Liquid petrolatum (Squibb) therefore seems to behave differently from the mineral oil used by Dutcher and his collaborators, and its presence appears to be unobjectionable from a vitamin nutrition standpoint, and even suitable as a vehicle for vitamin administration.

While the difference between our results and those of Dutcher and his collaborators is so far unexplained, the difference in source of vitamin or character of the liquid petrolatum used may furnish the answer. Whether these or other factors, yet unknown, are involved must be determined by further research.

RESEARCH DEPT. OF THE CHEMICAL & PHARMACEUTICAL LABORATORIES,
E. R. SQUIBB & SONS, BROOKLYN, N. Y.

WHAT THE FOOD, DRUG AND INSECTICIDE ADMINISTRATION IS DOING FOR PHARMACY.*[1]

Mr. Chairman and Members of the Section on Education and Legislation of the AMERICAN PHARMACEUTICAL ASSOCIATION:

Your secretary invited a representative of the Food, Drug and Insecticide Administration to address this section. When the invitation was referred to me the question arose as to which of the two chief lines of the Administration's activities would be of the greater interest to the members of the section. The one has to do with regulatory phases in connection with the administration of laws; the other with educational projects which the Administration has under way. These latter are designed to assist the pharmaceutical profession in improving manufacturing processes and laboratory control to the end that the public may be assured of meritorious articles which conform in all respects with the claims of potency made for them. I concluded that the members of this section would probably be more concerned in the last-named phase of the Administration's work than in a discussion of its regulatory features. It is my intention, therefore, to restrict my remarks to those research phases which are of practical interest to the laboratory control end of the pharmaceutical industry. As a matter of fact, I would not feel qualified to discuss the regulatory policies of the Administration since my own activities touch upon the law enforcing work of the organization only in very minor respects.

Possibly it should be mentioned at the beginning, in order to avoid confusion, that all of the law-enforcing powers which were formerly vested in the Bureau of Chemistry are now entrusted to the Food, Drug and Insecticide Administration. The laws which are of the most direct interest to Pharmacy and which are enforced by the Food, Drug and Insecticide Administration are the food and drugs act, the insecticide act and the caustic poison law. The tea act, the naval stores act and the import milk act are not of much greater importance to pharmacists than to other citizens.

The chief educational and research activities of the Administration which

* Section on Education and Legislation, A. PH. A., Rapid City meeting, 1929.

[1] An address by L. E. Warren of the Food, Drug and Insecticide Administration.