

mercury by adding solution containing 0.7 to 1 gram potassium sulfide. Add a few particles of granulated zinc, make alkaline and distill ammonia through 2 to 3 ft. of condenser tube of $\frac{5}{16}$ to $\frac{3}{8}$ in. inside diam. into a $\frac{1}{2}$ normal solution of sulfuric acid which has previously been standardized by precipitation with barium chloride. Use methyl red as indicator and titrate excess acid with $\frac{1}{4}$ normal sodium hydroxide."

In submitting the above summary Mr. Butt suggested that it might be of interest to note how closely the average or cross section method which he devised from the replies was followed by the leaders in the ammonia series. Not all of the leaders replied to the questionnaire, but Table No. 5 gives a summary of replies from the ten highest. It is interesting to note that the details used by these ten collaborators are in the main very close to the average method used by all, and it is believed that Table No. 5 will prove interesting in connection with Table No. 2 and the summary to the questionnaires.

Committee: H. C. MOORE (Armour Fert. Works, Chicago): C. A. BUTT; L. B. FORBES; JOHN MALOWAN; H. B. BATTLE.

DETERGENTS COMMITTEE REPORT FOR 1924-25

By ARCHIBALD CAMPBELL

The Detergents Committee of the American Oil Chemists' Society includes in its membership the members of the Soap and Soap Products Committee of the American Chemical Society, representatives of most of the large soap manufacturers, also of the Bureau of Standards, as well as several large soap consumers of the country. It is thus an interlocking committee organized with a view of correlating the work done by the Soap and Soap Products Committee on Methods of Sampling and Analysis with the work done by the Soap Committee of the Soap Section of the American Specialty Manufacturers' Association working in conjunction with the Federal Specifications Board on Soap Specifications. The Soap and Soap Products Committee is likewise an interlocking committee with the Glycerine and F. A. C. Committees of the American Chemical Society. By this interlocking system of committees it is hoped to avoid duplication of efforts and effect correlation of results.

As it was late in the season before the Detergents Committee was organized it confined its efforts this year to the following work:

1. Organization.
2. Discussion and criticism of the Standard Methods for the Sampling and Analysis of Commercial Soaps and Soap Products as adopted by the American Chemical Society.
3. Presentation of these Standard Methods to the Uniform Method

Committee for adoption as standard by the American Oil Chemists' Society.

4. Discussion and criticism of the Specifications for Soap as set forth in Bureau of Standards *Bulletins* 123 to 132, inclusive, and *Circulars* 65, 163, 194 and 195.

5. Discussion of Pharmacopoeia Standard for "Sapo."

6. Discussion of Development and Standardization of Methods of Testing of Detergents.

The organization and personnel of the Committee is as follows:

R. K. Brodie, Procter & Gamble Co., Ivorydale, Ohio.
C. P. Long, The Globe Soap Co., St. Bernard, Ohio.
Percy H. Walker, Bureau of Standards, Washington, D. C.
J. R. Powell, Armour Soap Works, Chicago, Illinois.
Robert E. Divine, Armour Soap Works, Babbitt, N. J.
H. P. Vermilya, Jewel Tea Co., Inc., Chicago, Illinois.
H. S. Mitchell, Swift & Co., Chicago, Ill.
W. J. Reese, Peet Bros. Mfg. Co., Kansas City, Kansas.
E. T. Marceau, Gold Dust Corporation, Guttenberg, N. J.
Martin H. Ittner, Colgate & Co., Jersey City, N. J.
Jacob S. Goldbaum, Fels & Co., Philadelphia, Pa.
Walter S. Rapelje, Kirkman & Son, Brooklyn, N. Y.
A. K. Church, Lever Bros. Co., Cambridge 39, Mass.
F. W. Smither, Bureau of Standards, Washington, D. C.
L. F. Hoyt, Larkin Co., Inc., Buffalo, N. Y.
H. C. Bennett, Los Angeles Soap Co., Los Angeles, California.
Archibald Campbell, The Globe Soap Co., St. Bernard, Ohio, *Chairman*.

The personnel of the committee is fairly complete and representative as regards soap manufacturers and federal bureaus, but should have additional members representing large consumers as well as the National Laundrymen's Association, Universities, Commercial Laboratories and State, County and City chemists.

The Methods of Sampling and Analysis seem to be fairly satisfactory for the commercial purpose for which they were intended.

The committee urges the adoption of the present specifications by State, County and City departments more generally than at present and drafting of additional specifications as demanded by trade conditions.

The Development and Standardization of Methods of Testing Detergents seemed to be the most important and pressing work of the committee as brought out by almost all the communications received by the Chairman from the members. Almost every member stressed the need of such a standard yet no one offered a constructive suggestion of how to proceed to determine such a standard. In view of the large number of variables, *viz.*, temperature, hardness of water, fatty composition of soap, alkalinity of soap, alkaline builders or fillers in soap, mechanical appliances used, nature of soiling agent, concentration of solutions, nature and composition

of fabric, as well as the limited knowledge which we have of just what the real chemical and mechanical actions of soaps are; it would appear to the Chairman that the best that could be hoped for would be a comparison of the cleansing action of soaps operating under a given set of conditions rather than a standard that would apply to all conditions. It also appears rather doubtful whether such work could be carried on, by a committee, successfully but rather should be handled by some Government Bureau, or better still, if the soap manufacturers could be persuaded to establish an institute similar to those established by the National Canners and the American Meat Packers and have the problem of detergents taken up by the research department of such an American Soap Manufacturers' Institute and worked out with the coöperation of all the interested parties.

In conclusion, the Chairman wishes to thank the members of the committee for the hearty coöperation shown in perfecting the organization and suggesting fields of endeavor for our committee. He feels that the committee by extending its organization can be of inestimable value in perfecting and extending the use of the present standard methods and specifications, as well as adopting new methods and specifications as occasion demands. He feels that the committee should continue to coöperate closely with the Bureau of Standards as well as all other Government Bureaus to accomplish these results. He feels that the committee should continue to attack the problem of detergents and endeavor to promote research work on this important subject in every way possible, both in private laboratories and by Federal Bureaus and if possible in a research laboratory supported by a Soap Manufacturers' Association.

GLOBE SOAP CO., CINCINNATI, OHIO

FULLER'S EARTH AND BLEACH TEST COMMITTEE REPORT FOR 1924-25

BY A. W. PUTLAND

In planning our work for this year your Committee studied the reports of previous committees and found that a few recommendations made to our membership had not been completed to a definite end.

We endeavored to complete the recommendation of the former committee on the use of more than 6% earth in the bleach test and the filtering of the oil before bleaching. Along with this work we endeavored to find the cause of bleached oil reverting in color, as was suggested to us by the Planning Committee. Since none of the oil bleached with standard earth reverted in color and on account of our time being limited this suggestion was not carried to a successful end.

Editor's Note.—Accompanying this report as distributed in mimeograph form at the convention were a large number of results which the