Abstracts

Soaps

Edited by
LENORE PETCHAFT

LIQUID SOAP EXTENSION. Anon. *Chem. Industries 59,* 682 (1946). Although any given formulation frequently must be adjusted slightly to accommodate the particular type of fatty acid base employed by the soap manufacturer, a basic formula containing .4 Me cellulose, 44.5 water, 0.1 Tanol NNO, 5 Triton X-300, and 50% liquid potash soap (18-20% soap) has been recommended. The formulation gives a clear solution with better viscosity than that of standard scrub soaps. It has been tested with 20% corn oil soaps, 20% coconut oil soap and standard trade name soaps made with tall and linseed oil fatty acids.

PROCESSES FOR THE CONTINUOUS HYDROLYSIS OF OILS AND FATS. John Seaman (Associated Technical Consultants, Lancaster, England). *Soap, Perfumery, Cosmetics 19,* 821-3 (1946). The theories involved in operating a continuous hydrolysis process for soap production are reviewed. Batch processes are also described. A composite process consisting of emulsifying oilstock, reacting with catalyst, hydrolyzing continuously, and then integrating fatty acid distillation, sweet-water evaporation and glycerin distillation is proposed.

PHASE RELATIONS IN THE SYSTEM: SODIUM STEARATE-CETANE. T. M. Doscher and R. D. Vold (Univ. Southern California, Los Angeles). *J. Colloid Sci. 1,* 299-312 (1946). The work has bearing on the stability and colloidal characteristics of lubricating grease systems. The system Na stearate-cetane has been investigated with a polarizing microscope in a specially designed hot stage, and a partial phase, diagram constructed from these data. The change from synerectic to non-synerectic systems, together with the accompanying change in rheological properties, has been shown to be related to the existence of a unique phase transition. An attempt is made to correlate these effects with the internal structure of the phases.

PRACTICAL USE OF EMULSIFIERS IN DETERGENTS AND DEGREASING AGENTS. Yngve Dalstrom. *Tek. Tid. 74,* 583-6 (1944). The mode of action of the capillary-active forces of soaps as emulsifiers in the cleansing of textile goods and that of aliphatic alcoholic-sulfonates for the removal of grease and oil in the metal industry are described, great emphasis being placed on strong circulation of the alkaline bath in the case of the latter. (*Chem. Abs. 40,* 6275.)

SOAP CONSUMPTION IN HARD WATER. Don Raymore (Wisconsin Advertising Service) *Soap 22,* No. 10, 48-9, 89 (1946). Tests to determine the actual amount of soap used in raising a lather in water of varying degrees of hardness were made as follows: Water mixes containing from 0 to 10 grains per gallon hardness were placed in jars. Small amounts of soap (measured in grams) were added to the jars. Jars were shaken and additional amounts of soap added until (1) a lather could be produced and (2) a permanent lather could be produced. Measurements were taken at 70 and 150° with a flake soap high in real soap content and a soap powder containing large amount of soap builders. In this way the following could be observed: the effect of each additional grain hardness of the water, the reaction of 2 different types of soap, the effect of temperature, and the proportion of soap required to hold a permanent lather, as compared with an initial lather. It was found that the amount of soap required rose sharply in the first few grains hardness but leveled off after that point. Flake soap was more efficient at 170° while the soap powder with builder was better at 70°. More grams of soap were used to produce a permanent lather with the soap powder than with the pure soap. In all cases increasing increments of water hardness increased amount of soap used. These figures were converted into money lost per year due to water hardness.

SOLUBILIZATION OF WATER-INSOLUBLE DYE IN SOAP SOLUTIONS: EFFECTS OF ADDED SALTS. J. W. McBain and Sister Agnes A. Green (Stanford Univ.). *J. Am. Chem. Soc. 68,* 1731-6 (1946). Whereas the amount of hydrocarbon chain in the molecule of soap or in the soap micelle increases from the caprylate to the myristate only in the proportion 1:1.25:1.50:1.75, the solubilization increases disproportionately as 1:2.14:6.48:11.61. In all concentrations of K laurate above N/1000 the addition of KOH or of K salts greatly increases the amount of solubilization. This solubilization occurs at dilutions of soap far below those in which soap alone can be solubilized, owing to the absence of colloidal micelles, but it increases rapidly and steadily with increasing concentration of soap showing that the kinds of micelles existing in higher concentrations are more effective than those formed in lower concentrations. Extremely dilute soap solutions, especially in the presence of salt, exhibit a powerful suspending action for any minute particles of dye, a phenomenon quite distinct from solubilization.

SYNTHETIC DETERGENTS AND SOAP SUBSTITUTES. J. M. Vallance. *Soap, Perfumery, Cosmetics 19,* 827-31(1946). Historical developments in the detergent field are described. Factors involved in compounding of soap-synthetic mixtures such as binders, effect of electrolytes used as builders on lather, surface and interfacial tension, and detergency, and ratio of components are discussed. The differences between the Lorol and Teepol types of detergents are emphasized. The Lorol types are sulphated primary fatty alcohols derived from fat bases. Teepols are sulphated secondary fatty alcohols derived as a by-product from petroleum refining.

PATENTS

STABILIZED ROSIN SOAP. Herbert K. McClain (The Procter and Gamble Co.). *U. S. 2,409,056.* Small amounts (0.005 to 1%) of a polyethylene polyamine added to flake and spray dried soap containing minor proportion of rosin during crutching or mixing prevent rancidity.

SYNTHETIC ORGANIC NONSOAP DETERGENT IN BAR FORM. John W. Bodman (Lever Brothers Co.). *U. S. 2,407,647.* Nonsoap detergents are prepared in bar form from Gardinols, Emco products or Igepon A products, with or without addition of inactive diluents, and aerated if desired.