Abstracts

Soaps

Edited by
M. L. SHEELY

Application of activated gelatinous alumina in soap manufacture. *Perfumery and Essential Oil Record 32,* 1-13 (1941). In the ordinary manufacture of hard soap very considerable time is occupied in boiling the oils and/or fats together with the caustic alkali to bring about the desired saponification of the said oils and/or fats. In the case of the ordinary manufacture of soft soap, the time occupied is still considerable though much less. In order to accelerate manufacture of soft soap, it has already been proposed to emulsify the oils and/or fats before saponification. In the application of the present invention to this mode of manufacture which oils and/or fats are emulsified with water before saponification an emulsion of the oils and/or fats with aqueous activated gelatinous alumina as the emulsifying agent is produced. The particle size is preferably in the neighborhood of 1 to 2 microns approximately. If starting materials other than oils or fats are present, such as resin or oleic acid for example, such other starting materials are also preferably emulsified by means of aqueous activated gelatinous alumina. The starting materials may be separately emulsified and their emulsions be subsequently mixed, or mixtures of the starting materials may be emulsified.

It has been found that if the said oils and/or fats are in the first place emulsified in the above manner into a fine state of emulsification, the action between the alkali and the extremely fine particles of the emulsions is particularly rapid, so that the time of saponification is very considerably diminished and the cost of manufacture reduced. Moreover the products produced are of a very superior quality.

The change with time of the surface tension of sodium laurate solutions. G. C. Nutting and F. A. Long. *J. Am. Chem. Soc. 63,* 84 (1941). The fall with time of the surface tension of aqueous solutions of sodium laurate has been measured by the method of sessile bubbles at 25°. The range of coap concentration was from 0.001 N to 0.07 N, and of pH from 7 to 11. At pH 11 and concentrations less than the critical concentrations for micelle formation the surface tension falls gradually for several hours. The equilibrium surface tension depends upon the concentration. The time effect largely disappears in micellar solutions. With decreasing pH the equilibrium surface tension and the time required to attain it diminish markedly. This result is thought due to the possibility of closer packing of fatty acid molecules than ions in the surface film and the more rapid diffusion of non-ionized molecules into the surface region.

Unsaponifiable lanolin compounds. *The American Perfumer & Essential Oil Review 41,* 6, 52 (1940). The unsaponifiable compounds separated from lanolin now are being recommended for inclusion in special high grade soaps because of their unusual hydrophylic properties. Various mixtures have been suggested which consist of cholesterol and cholesterol esters, particularly cholesteryl laurate and stearate and also cholesterol and white wax. Cetyl alcohol also may be employed advantageously in conjunction with cholesterol or its esters. Apparently, these compounds mix well with soap, provided, of course, that they first are emulsified thoroughly in an appropriate vehicle. A method which gives good results is to stir the additive into ten times its bulk of petroleum jelly and then to make of this an emulsion by adding water and passing through a homogenizer. It is advisable to add an emulsion to the soap rather than to add the cholesterolmix directly to the soap base. The filled soap may be colored or perfumed in the usual way without fear of any deleterious effects. There is as yet no evidence that cholesterol esters, which are the real hydrophylic agents, have any accelerating effect on rancidity, but data may be available later. The writer is of the opinion that cholesterol esters may be particularly useful in the production of special germicidal soaps as they would tend to increase the absorption of the curative agents by the skin and also their penetration.

The detergent value of soap. *Perfumery and Essential Oil Record 21,* 383 (1940). For this purpose, the Society of Dyers and Colourists have devised a special Wash Wheel (Society of Dyers and Colourists: Report of Fastness Committee), but W. Garner (Analyst 1940, page 564) has now suggested a simpler laboratory apparatus which gives equally consistent results. In his method the soiled material is placed in a flask and the soap solution is made to circulate around it by means of a reciprocating pump, a swirling motion being set up which agitates the material being scoured.

PATENTS

Soap product. C. S. Rowe (du Pont Co. *U. S. 2,226,075.* A flexible self-sustaining water-sol. sheet having detergent properties comprises soap as a major constituent and a hydrophilic polymerized vinyl compd.

Recovering surface active compounds containing polyglycol ether radicles. B. V. Reibnitz (Genl. Aniline & Film Corp.). *U. S. 2,228,929.* Wetting agents are prepd. by esterifying polyglycol with aliphatic or cycloaliphatic alcs. or acids. A solvent method of removing the esters from reaction mixts., such as occur in their prepn. from mineral oils, is described.

Treatment of fatty compositions and product. George Martin to Monsanto Chemical Co. *U. S. 2,225,124.* A soap stabilized against the development of color and rancidity by having incorporated therein a small amount of N-phenyl thiourethane.

Soap product. Charles Rowe (du Pont de Nemours and Co.). *U. S. 2,226,075.* A flexible self-sustaining water-soluble sheet having detergent properties comprising about 50% to 80% soap, 10-50% of a partial acetate of polyvinyl alcohol having a saponification number from about 50 to about 250, and about 2-10% of glycerol.

Artificial dispersions of rubber. Roswell Ewart (Dispersions Process, Inc.). *U. S. 2,228,657.* The process of preparing an artificial dispersion of rubber which comprises adding water in an internal mixer to a plasticized rubber mass containing the saponaceous reaction product of a soap-forming acid and an amount of alkali silicate equivalent to not more than 2 parts by weight of sodium hydroxide per 100 parts of rubber until an inversion of phase takes place, and the rubber becomes dispersed in the aqueous medium.