Abstracts

Soaps

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EMULSION POLYMERIZATION. Charles F. Fryling and Edwin W. Harrington, *Ind. & Eng. Chem. 36,* 114-117 (1944). The addition of monomers to aqueous soap solutions is accompanied by two changes in pH, an initial decrease which is attributed to solubilization, with the formation of micelles in the aqueous phase, is followed by an increase which is the result of solution of fatty acids in the monomer phase. This phenomenon lends support to the theory that the emulsion polymerization of synthetic rubber is initiated in the aqueous phase, and not at the interface or in the monomer phase. Other experimental facts in support of this theory are presented. It is suggested that the formation of micelles in aqueous solution is an important factor in the initiation of the reaction.

PHYSICAL STATES OF ANHYDROUS NA SOAPS. Wilfred Gallay and Ira E. Puddington. *Can. J. Res. 21B,* 202-10 (1943). Density measurements and differential cooling curves have been carried out on Na stearate and Na oleate over a range of temps. The genotypical or unidimensional m.p. at 70° for Na stearate found by Thiessen, *et al.* (*C. A. 26,* 2980; *30,* 1292) has been corroborated. A large transition was noted at 100° and it is suggested that this phase transition is due to a melting in a 2nd dimension at right angles to the mol. axis. A large transition has been found at 125 to 130°, leading to a plastic state in the soap and this transition point may denote the essential completion of bidimensional melting of the lattice. No further considerable phase change was found up to about 200°, when disruption of the polar bonds probably occurs to effect complete disruption of the lattice to the liquid crystn. state. The latter transition point was found for Na oleate at 135°. (*Chem. Abs.*)

SYNTHETIC DETERGENTS. E. Joag. *Schweiz.-Brau. Bundschau 53,* 43-5 (1942); *Chem. Zentr. 1942, 11,* 606. Expts. on a large no. of synthetic detergents, whose fat content (sulfonated fat alcs. or fat protein products) did not exceed 1%, showed that none of the products equaled soap as a washing agent. Most of the materials had the detergent action of soda. The cleansing action of prepns. made from saponins, soap-wort and bark ext. was less than that of lye from ashes (30 g/1). A prepn. contg. synthetic org. addns. by means of which detergency was improved showed better cleansing action (*Chem. Abs.*)

SOME PHYSICAL CHEMICAL ASPECTS OF WAX EMULSION POLISHES. Charles S. Glickman. *Chem. Industries 54,* 60-4 (1944). There are three basic components in the colloidal wax suspension system: the vehicle of continuous water phase, the disperse phase (waxes and/or wax-resin mixtures), and the emulsifier or protective colloid (soap). The emulsifying agent controls the degree and stability of the dispersed gloss-producing compounds. The theory of the critical emulsification ratio is explained and method of determination is shown. Color, gloss, refractive index, and water resistance are also discussed. An amine soap is used as an example of an emulsifier.

A NOTE ON GLYCEROL SUBSTITUTES. Frank Aitkins. *Pharm. J. 151,* 122 (1943). The aq. holding powers of a com. glycerol substitute, of the British Pharmacopoeal Codex substitutes, of glycerol itself, liquid glucose and 70% Na lactate were studied. Only the Na lactate resembled glycerol in this capacity and the mucilage type of substitute has none of the water-holding powers of glycerol. (*Chem. Abs.*)

PATENTS

HIGH MOLECULAR WEIGHT SURFACE ACTIVE AMINES. N. B. Tucker (Procter and Gamble). *U. S. 2,334,517.* A new class of surface active high molecular amino compounds useful in the textile and related industries may be considered to be derivatives of hydroxy amines having at least two hydroxyl groups and not more than 4 carbon atoms, such as for example glycerylamine, in which derivatives one hydroxyl group is etherified with an alcohol having from eight to twenty-two carbon atoms and in which at least one amino hydrogen is replaced by an alkylol group having not more than four carbon atoms.

MANUFACTURE OF SOAP. Leopold Sender (The Sharples Corp.). *U. S. 2,335,457.* A process comprising mixing a saponifying reagent with a source of fat, passing this mixture continuously to a zone of centrifugation, maintaining the mixture at a saponifying temperature, and adding a further quantity of a more reactive source of fat to react with remaining saponifying reagent.

DERIVATIVES OF UNSATURATED COMPOUNDS. Leland James Beckham (The Solvay Process Co.). *U. S. 2,336,387.* A process describing the preparation of organic sulfonates which have characteristic surface active properties and are valuable as dispersing agents, wetting agents, and emulsifying agents. They are sulfitation products of nitrosyl chloride or bromide addition compounds of substituted unsaturated hydrocarbons containing at least one carboxylic substituent.

SOAP. The Sharples Corporation. *Brit. 549,386.* A method of making soap is described which provides means for recovering glycerol and removing impurities from the soap. *Brit. 549,387* relates to a continuous process for the manufacture of soap by which the time required for the soap-making operating is reduced to a period of approx. 20 min. (*Chem. Abs.*)

NEARLY NEUTRAL LIQUID SOAP. Theodor Gollasch (P. Beiersdorf & Co.). *Ger. 731,241.* Quaternary triethanolamino salt of ethylenediamino-tetraacetic acid or a mixt. of triethanolamine and (or) alkali salts of the acid, a M. soln. of which has a pH 7-8, is added to liquid soap. (*Chem. Abs.*)

SURFACE-ACTIVE MATERIALS. Clyde O. Henke and Wm. H. Lockwood (E. I. du Pont). *Brit. 549,512.* Surface-active agents, having wetting and detergent properties, are prepd. by treating satd. aliphatic hydrocarbons with admixed SO_2 and Cl until the increase in wt. is from 10-30% of the wt. of hydrocarbons. The resulting mixt. is treated with a hot alkali soln. to hydrolyze the sulfonyl chloride present to the corresponding sulfonates, and the unreacted hydrocarbon is then sepd. by diluting the hydrolyzed mass with an aq. medium and removing the upper layer. The reaction is carried out in the absence of catalysts and in the presence of actinic light, at a temp. of from —20 to 20°. (*Chem. Abs.*)