Abstracts

Soaps

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PROPERTIES OF DETERGENT SOLUTIONS. THERMAL pH COEFFICIENTS OF ALKALINE SOLUTIONS. Lester E. Kuentzel, James W. Hensley, and Leslie R. Bacon. *Ind. & Eng. Chem. 35,* 1286-9 (1943). This paper, concerned with the properties of detergent solutions presents detailed pH data at 25°, 40°, and 60°C. on distilled water solutions of nine commercial alkalies sometimes used alone or in combination as laundry soap builders over concentration ranges of interest in laundry practise. Thermal pH coefficients for these builder solutions have been presented which permit the calculation of pH values at elevated temperatures from experimental data obtained at room temperature. The alkalies examined in the present work are: sodium hydroxide, sodium carbonate, sodium bicarbonate, trisodium phosphate, tetrasodium pyrophosphate, sodium tetraphosphate, sodium metsilicate, sodium sesquisilicate, and sodium orthosilicate. The mutual effects on pH of soap and builder in combination at higher temperatures have been shown to be considerable for the modified soda-soap system. Much similar work for other soaps and other builders, correlated directly with detergency studies, appears to be prerequisite to further broad generalizations on pH-detergency relations.

MIXED CALCIUM SALTS OF SOAP AND ANIONIC DETERGENTS. Gilbert D. Miles and John Ross. *Ind. & Eng. Chem. 35,* 1298-1301 (1943). Evidence is presented for the formation of mixed salts of calcium with fatty acids and synthetic anionic detergents. The pH limits necessary for the formations of these salts is discussed. Consideration of the formation of these mixed salts in mixtures containing sulfated detergents, soap, and calcium salts leads to a plausible explanation of the decrease in both the foaming and detersive properties of such mixtures. No corresponding behavior has been found for magnesium salts.

SOAP FOR SURGICAL DRESSINGS. *Bull. Assoc. Am. Soap & Glycerine Prod.*, Oct., 1943. The cloth is soaked for 24 hours in a saturated aluminum acetate solution, then treated in a steam chamber for three hours. After drying in air it is immersed for one hour in a very hot solution of soap (8 per cent) and glue or a watersoluble gum (2 per cent). The dressing is then rinsed with water, dried in a drying chamber, and finally calendared. Water-repellence is derived from the deposition of aluminum soaps, formed by chemical reaction between the aluminum salts and the soap. *(Soap.)*

SOAP CURE FOR HAY FEVER. *Med. Bull. Veterans' Admin. 14,* 216 (1943). Twelve hay-fever patients were cured of their symptoms by spraying nasally and dropping into the eyes a simple solution of sodium oleate dissolved in 10,000 parts of water. A momentary smarting was produced, but two treatments a day are said to have resulted in definite improvement within four days in even the most severe cases. *(Soap.)*

DETERMINING THE MECHANICAL STABILITY OF EMULSIONS: A RAPID QUANTITATIVE METHOD. Reynold C. Merrill, Jr. *Ind. & Eng. Chem. Anal. Ed. 15,* 743-6 (1943). A rapid quantitative method for determining the mechanical stability of emulsions involves measuring the rate of separation of internal phase under a constant centrifugal force. The reciprocal of the initial rate of separation at a constant centrifuge speed has been taken as a quantitative index of the mechanical stability of the emulsion. The method has been applied to both water-in-oil and oil-in-water emulsions stabilized by lecithin, soaps, and vegetable gums. It gives results in a few hours apparently comparable to those obtained by more tedious methods involving other factors and requiring measurements over many months. Definite effects of the age of the emulsion on its mechanical stability as determined by this method have been found in the case of soap and saponin-stabilized emulsions.

PATENTS

SOAP PROCESS. Erik J. Lindhardt and Floyd E. Joyce (National By-Products Inc.). *U. S. 2,332,272.* A soap product made by introducing uncrutched and undiluted fluid soap having a moisture content between 6% and 30% and a temp. between 150°F. and 260°F. into a vessel having mulling rotors carried on a revolving crosshead therein, and slowly revolving the crosshead together with said rotors while allowing the soap to cool, until the mass stiffens and is broken down into granules by the action of said rotors.

SOAP FREE FROM UNSAPONIFIABLE MATERIAL. Allen, Colgate, Brandt (Colgate-Palmolive-Peet). *U. S. 2,328,892.* Soap, free from unsaponifiable material, is produced by heating an aqueous solution of fatty acid soap to partially vaporize the water, admixing with super-heated steam, and rapidly reducing the pressure to volatilize the remaining water and unsaponified material.

TEXTILE TREATING CHEMICAL AND PROCESS OF MAKING IT. J. B. Rust (Montclair Research Corporation). *U. S. 2,333,623.* The reaction product of a mixt. comprises formaldehyde, methyleneaminoacetonitrile, fat acid chloride, and pyridine.

PROCESS OF TREATING TEXTILES AND COMPOSITION THEREFOR. C. O. Henke and W. H. Lockwood (E. I. du Pont de Nemours & Company). *U. S. 2,334,764.* A textile treating compn. comprises water, a stabilizer and a mixt. consisting of a major proportion of a paraffin wax and a minor proportion of a mixt. of paraffin wax sulfonic acid water sol., salts predominating in secondary sulfonates and contg. small amts. of combined C_1.

TEXTILE WETTING AND SOFTENING BATH. M. Weisberg and L. Corman (Alrose Chemical Company). *U. S. 2,334,852.* A textile wetting bath comprises an aq. soln. of a small amt. of an amide condensation product of satd. fatty acids, contg. at least 7 carbon atoms with tris (hydroxy-lower alkyl) amino methane.

PROCESS FOR RENDERING TEXTILE MATERIALS WATER REPELLENT. Doser, Bayer, Hintzman (General Aniline & Film Corporation). *U. S. 2,328,431.* Process for rendering textile material water repellent which comprises impregnating the material with an emulsion containing paraffin, wax, a small quantity of a fatty acid, zirconium oxychloride and a condensation product of oleyl alcohol and of several molecular quantities of ethylene oxide serving as emulsifying agent, thereupon rinsing the material with hot water, whereby the hydrophilic substances are removed therefrom as far as possible, and finally drying the material at elevated temperature. *(Chem. Abs.)*