

Abstracts

Soaps

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CONTINUOUS SOAPMAKING PROCESS. J. H. Wigner. *Soap, Perfumery, Cosmetics* 14, 169 (1941). The continuous process for making soap is compared with batch methods. "It is hardly likely that firms of standing would go to the expense of installing a new plant of a revolutionary character without having good reason to believe that the new processes were practical and economical. It is therefore useful to try to form a clear idea of what this threat to the conventional methods may really mean."

The continuous method is practicable for quantities more than about three tons of fat per hour. "It seems very unlikely that the large variety of soaps made in relatively small amounts can be made by any but batch methods."

The initial installation for the continuous method is costly, but labor requirements are less, consumption of steam is less, wastes are reduced, the saving in time is enormous, and expansion is simple. Continuous processes claim a purity of soap equal to batch methods. "If the claims made for the removal of colour by the high temperatures employed are justified, these processes cut out any preliminary bleaching of the fat, but it is not clear what grades of fat are looked upon as normal. . . . There does not seem, apart from these specifications, to have been any reference to this possibility of bleaching either fats or soap, and the matter might be worth investigating."

The Mills patents to Procter and Gamble are discussed in detail (U. S. 2,156,863, U. S. 2,159,397 and U. S. 2,133,666).

TOILET SOAPS, SOAP SUBSTITUTES AND HARD WATER. Howard Parkhurst. *Arch. Dermatol. Syphilol.* 43, 299-310 (1940). A study of various combinations by patch tests was made. Ca or Mg soaps or their mixtures formed by toilet soaps in hard water do not irritate the normal skin. Sulfonated oil leaves an oily residue in hard water and sulfonated alcohol a slight residue. Patch tests with these residues gave negative results. A proper technique of washing the skin is outlined which makes soap substitutes unnecessary. (*Chem. Abs.*)

THE HYDRATION OF CURD FIBERS OF SODIUM PALMITATE AND SODIUM OLEATE. J. McBain, M. Vold and S. Johnston. *J. Am. Chem. Soc.* 63, 1000 (1941). The activity of water in soap curd has been determined by two independent methods: namely, measurement of the vapor pressure at constant temperature, and of the amount of ice formed at various temperatures, both as functions of total composition.

Sodium palmitate and sodium oleate can contain up to nearly one mole of combined water per mole of soap. Fibers crystallizing from more dilute systems contain more water than this (30-40% for NaP, 16-60% for NaO) depending on the criterion for "bound" water.

Water in excess of 40% for sodium palmitate or 60% for sodium oleate is not chemically combined or sorbed, although its activity is slightly and progressively lowered by confinement in capillary spaces of the order of magnitude of 10^{-4} cm. in diameter.

DETECTION AND DETERMINATION OF TERGINE IN SOAPS. Francesco Di. Stefano and Francesco Muntoni.

Ann. chim. applicata 30, 467-72 (1940). Tergine (obtained by hydrolyzing the residues of the manuf. of citric acid from the lemons; contains H_2O 85-87.5 nitrogenous matter 9-12 cellulose 2-2.2, ash 9.85-1.0%) is frequently added to soaps. The content of tergina can be calcd. by detg. cellulose. (*Chem. Abs.*)

LABORATORY STUDIES OF METHOD FOR CLEANSING OF EATING UTENSILS AND EVALUATING DETERGENTS. F. Gilcreas and J. O'Brien. *Am. J. Pub. Health* 31, 143-50 (1941). Based on the data accumulated in these studies, the definition of an efficient detergent for cleansing of eating, drinking and cooking utensils is: a substance or compound soluble in water, which at a temperature of approximately $120^\circ F.$ will provide complete removal of all types of characteristic soiling material in a short period of time, will produce a free-rinsing surface, will reduce to a min. the formation of a film of pptd. mineral salts and similar substances on the washed surface, will function effectively in waters of varying hardness. In the application of the test outlined to a group of 36 detergents using Soil Formula I and water with a uniform hardness of 100 ppm. as $CaCO_3$, the medium value for the "cleansing index" was 0.39, and the interquartile range was 0.27 to 0.52. Detergents showing a "cleansing index" greater than 0.5 might be classified as efficient in removing this type of soil; those with an index of less than 0.25 as unsatisfactory. There is need for the adoption of a standard technique. To this end, a critical investigation of the entire problem is essential. (*Chem. Abs.*)

PATENTS

PROCESS OF MAKING SOAP. Benjamin Clayton (Refining, Inc.). U. S. 2,235,628. A process of making soap which comprises the steps of: preheating saponifiable material to a temperature above $250^\circ F.$, continuously admixing a stream of said material with a stream of saponifying reagent in a zone substantially closed from the atmosphere whereby rapid and substantially complete saponification occurs while the mixture passes through said zone, continuously advancing, under super-atmospheric pressure, a stream of said saponified mixture to a vapor separating zone, in reducing the mixture to said zone while at a temperature sufficient to remove at least part of the vaporizable material as vapor from the soap, withdrawing the vapors and removing the soap from said vapor separating zone.

FATTY ACID-FURFURAL DERIVATIVE. Kenneth Russell and Adam Carr Bell (Colgate-Palmolive-Peat Co.). U. S. 2,235,534. According to the present invention, it has been discovered that highly desirable washing, emulsifying and wetting agents can be prepared from tetrahydrofurfuryl alcohol and the related compounds containing a saturated 1,4 butylene oxide ring. It has been found that sulphonated long chain lipophilic derivatives of these compounds possess properties which make them particularly suitable for use in laundering and other textile operations, in the preparation of cosmetic creams, and in like processes. There is claimed the process of preparing novel organic compounds which comprises reacting tetrahydrofurfuryl alcohol with coconut oil fatty acids and with concentrated sulfuric acid.