Abstracts

Soaps

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INDUSTRIAL HAND CLEANERS. Milton A. Lesser. *Soap 21*, No. 3, 33-5, 139-141 (1945). Hand cleaners for industrial workers fall into two categories. The first type includes the established abrasive cleaners, liquid soaps, powdered soaps and solvent soaps. The abrasive used in these soaps may be pumice, sand, marble dust, volcanic ash, sawdust, wood flour, cornmeal or borax. Production directions and formulas are given for cake grit soaps, paste products, powdered abrasive soaps and liquid soaps. The solvents used in the special solvent soaps include carbon tetrachloride, naphtha, dioxane or other hydrocarbons.

The second phase of hand cleaner development is that which concerns new cleaners produced to combat industrial dermatitis. The requirements of such a product are as follows: it should be soluble in any type of water, it should remove fats, oil, and other soil without harming the skin, it should not extract the natural oils and fats from the skin, it should not contain harsh abrasives, it should be handy to use in any form, and it should not deteriorate. A typical formula might contain a superfatted neutral toilet soap, plus a wetting agent or synthetic detergent. Special formulas have also been devised avoiding the use of soap, and substituting sulfonated oils and other soapless detergents. However, there is still need for further work in both types of cleaners to solve all industrial problems.

DEVELOPMENT OF A GERMICIDAL SOAP. William S. Gump. *Soap 21*, No. 3, 36-9 (1945). The need of finding effective germicidal soaps has long been recognized in the medical profession. Soap, by itself, has two properties: it removes water insoluble liquids by emulsifying them and solid particles of dirt and bacteria by forming a suspension. The mechanical action of rubbing or brushing also contributes to the removal of particles from the skin. However, the real problem of removing dangerous organisms from the skin is not solved by the use of soap. Germicides have been added to soap to combat this problem. Such germicides should not react with the soap, nor be influenced by the alkalinity of the soap; they should not be volatile and should not have a disagreeable odor; they should be relatively non-toxic, non-irritating; and should not stain the skin. Organic mercurials and phenols have been the main additives up to this time. A new compound, "G-11" made by condensation of two molecules of 2,4,5-trichlorophenol with one molecule of formaldehyde is discussed and its use as a germicide for soap described.

LIGNIN AS A DETERGENT INGREDIENT. J. J. Keilen. *Soap 21*, No. 3, 40-41, 146 (1945). The various sources and methods of manufacture of lignin are described. Lignin is a complex chemical structure containing hydroxyl groups which may account for many of its reactions, such as etherification, esterification, nitration and halogenation. It reacts with phenols, amines, aldehydes and sulfur compounds. Many uses have been proposed such as in adhesives, in cements, as emulsion stabilizer, as a flotation aid, in lubricants, plastics and resins and varnishes. In soap, lignin prevents the formation of lime soaps when using hard water. This may be due to the protective colloid action of the lignin, to the formation of calcium salts of the lignin itself or to the adsorptive power of the lignin for the calcium.

EFFECT OF SODIUM HYDROXIDE ON DISSOLVED SOAP. C. A. Snell, B. P. Caldwell, F. D. Snell and L. C. Cartwright. *Soap 21*, No. 3, 42-3, 78 (1945). When sodium hydroxide is added to 0.1 per cent sodium oleate solution the dissociation is repressed as shown by a decrease in the apparent conductance of the soap, and further micelle formation takes place. The solution becomes increasingly opaque as the sodium hydroxide concentration increases until a "salting out" effect gives a flocculent suspension. All soap builders hydrolyze in aqueous solution to give sodium and hydroxyl ions. Each of these will have its effect on the dissolved soap and the effects of builders can be qualitatively predicted in terms of the effects so produced.

APPLICATION OF ALKALINE SILICATES. THE CLEANING OF SOLID SURFACE. P. D. Liddiard. *Chem. Age* (London) *51*, 317-20, 341-5 (1944). A review concerning (1) structure, manuf., nature of solns., action of hard water, alky. and surface activity, etc., and (2) rinsing, sterilization, cond., chem. effects and advantages. The improved appearance of glass washed with silicate solns. is probably due to base exchange. The protective effect on metals is usually an advantage. (*Chem. Abs.*)

PERFECTED METHODS FOR WASHING WITHOUT SOAP. Jaroslave Hojka. *Casophis Mydlar Vonavkar 21*, 28-9 (1943). H. reviews recent theories of washing, presents 5 recipes contg. fat-dissolving soap substitutes in combination with infusorial earths, kaolin, chalk, magnesia with or without soda, and formulates 4 other recipes with substances [$Al_2(SO_4)_3$, $CaCl_2$ Glauber's salts, alums, $MgSO_4$] which in the presence of soda form adsorption surfaces upon which colloids ppt. (*Chem. Abs.*)

PATENTS

MANUFACTURE OF SOAP. Robert W. Ward (National Oil Products Co.). *U. S. 2,362,734.* A process for the continuous manufacture of soap comprising moving a fatty material and a saponifying agent in predetermined quantities from separate sources of supply, mixing said fatty material and saponifying agent, moving said mix through a reaction conduit, holding chamber and into a reduced pressure chamber in the aforesaid sequence and supplying heat to said reaction conduit by moving thereover a heat transfer medium comprising approximately 40% $NaNO_2$, 7% $NaNO_3$ and 53% KNO_3 and maintaining said heat transfer medium at a temperature above 290° F. and below 1000° F.

DETERGENT AND METHOD OF PRODUCTION. William F. Carson, Jr. (Hercules Powder Co.). *U. S. 2,362,882.* A salt selected from the group consisting of alkali metal, ammonium, and amine salts of a sulfation product of a pentaerythritol ester of a hydrogenated rosin, said ester having at least one free hydroxyl group in the molecule.