ABSTRACTS

Soaps

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Rancidity of Toilet Soaps. Paul I. Smith. *American Perfumer and Essential Oil Review,* 29, 1, 50 (1934).—The sodium salts of amino-benzene-sulfonic acids, or the acids themselves, have proved very effective, and according to U. S. Patent Number 1,869,469, about 0.2% is sufficient The derivatives of polyhydric phenols which contain hydroxyl groups, together with ethyl groups are strong anti-oxidants.

Methylhydroxybenzoate and hexamethylenetetramine are both endowed with good anti-oxidant properties. According to Josef Augustin (Seifensieder Zeitung, 1933, 130-131), if lecithin is combined with above two chemicals rancidity is very appreciably retarded. In his experiments he milled the soap with 5% oil containing lecithin, first taking the precaution to preserve the soap by the addition of 0.2% methylhydroxybenzoate and 0.1% hexamethylenetetramine. The treated soap kept well for 1½ years. As lecithin is now being used to improve toilet soap, it is useful to bear the above facts in mind.

Sodium lauryl-sulfonate and sodium cholate are valuable stabilizers for toilet soaps, and they exercise a very beneficial action on the detergent and general properties of the soap.

The higher esters of para-oxy-benzoic acid are recommended as effective stabilizers.

The unsaturated dibasic acids, fumaric and maleic acids, and their derivatives are said to be able to inhibit oxidation.

Well known antiseptic bodies prevent rancidity and mention may be made of thyme oil, phenol, cassia oil, clove oil, eucalyptus oil, rosemary oil, lavender oil, salicylic acid and salicylate, boric acid and borate, cresylic acid and cresylate. Lesser known antiseptic bodies are also useful in retarding rancidity, and mention may be made of phenyl, salicyl-salicylate and B-naphthyl salicylate, etc.

The Value of Silicate of Soda as a Detergent. III. Siliceous Silicate in Water Containing Calcium Bicarbonate or Carbon Dioxide. John D. Carter and Wm. Stericker. *Industrial and Engineering Chemistry,* 26, 277-81 (1934); cf. C. A. 26, 866.—Unsoiled cloths and cloths soiled with C black, burnt umber, raw umber or Fe_2O_3 were washed simultaneously with 0.2% detergent solutions (detergent = Na oleate or $Na_2O:3.25SiO_2$ or a mixture of the two) at 60° in the launderometer; the detergent solutions were made up in (1) distilled water, (2) water containing $Ca(HCO_3)_2$, equivalent to 85.7 parts $CaCO_3$ per million or (3) water containing enough CO_2 to give a pH between 4 and 5; after rinsing and drying of the washed cloths, their reflecting was determined with a photometer. The $Ca(HCO_3)_2$ caused a greater loss in efficiency of the detergents than the CO_2, both in washing the soiled cloths and in preventing deposition on the unsoiled cloths; the silicate and silicated soaps were less affected in this respect than the soap. In general, for the 4 pigments, the mixtures of silicate and soap tested were superior to silicate under all conditions tried; these mixtures were equal or superior to the soap in the presence of the $Ca(HCO_3)_2$, but the mixtures rich in silicate were inferior to soap in distilled water. (C. A. 28, 8, 2258, 1934.)

Effect of Sulfated Fatty Alcohols in the Colorimetric Determination of pH. J. Edward Smith and Harold L. Jones. *Journal Physical Chemistry,* 38, 243-4 (1934).—Neville and Jeanson (C. A. 27, 5986) have used indicators to determine the pH values of solutions containing gardinol. Gardinol C. A. is the Na salt of sulfated oleyl alcohol and gardinol W. A. is the corresponding derivative of lauryl alcohol. Experiments with buffer solutions show that the pH determined colorimetrically may be as much as one whole unit wrong when a salt of a sulfated aliphatic alcohol is present. This error is on the acid side and is not caused by the pH of the sulfated fatty acid itself. (C. A. 28, 8, 2294, 1934.)

Bleaching of Glycerine. *Oil and Colour Trades Journal,* Vol. LXXXV, No. 1851, 948 (1934).—Vigovskii and Yurkov ("M. Z. D.," 1933, No. 7, 19-20). Experiments made with iron sulphate solution as a coagulant in glycerol refining gave satisfactory results and enabled considerable economies to be made in the quantities of activated charcoal consumed. Thus, by the use of 2% $FeSO_4$ the amount of activated charcoal required was reduced from 4½% to 2%. The resulting glycerol contained 0.5% of moisture and 0.7% of non-volatile organic matter; the color was pale yellow.

PATENTS

Distilling Fats, Etc. Metallgesellschaft A.-G. and Wilhelm Gensecke. French 756,397, Dec. 8, 1933. In distilling fats, etc., of high boiling point, reflux of condensation products in the upper part of the distillation chamber is prevented by the use of 2 bell-shaped members mounted so as to form a space between them which remains filled with still gas, the upper member serving to collect the condensation products, while the still air between the 2 members insulates the upper member from the heat of the lower part of the chamber. A suitable opening is made for the upward passage of vapors. (C. A. 28, 8, 2258, 1934.)

Soap Compositions. Stanislaw Pilat (Jaroslaw Sereda, inventor). Austrian 135,828, Dec. 11, 1933 (Cl. 23b). Organic solvents are incorporated into soaps with the aid of mineral-oil sulfonic acids or their salts or derivatives. Thus, the solvent may be emulsified in water with the aid of the sulfonic acids, and the emulsion mixed with soap, or a solvent containing the sulfonic acids in solution may be mixed with soap. (C. A. 28, 8, 2260, 1934.)

Trisodium Phosphate Hydrate-Soap Crystals. The Grasselli Chemical Company. British 398,888, Sept. 25, 1933. See U. S. 1,885,905. (C. A. 27, 1108.)

Antifreeze Liquid. Norsk Spraengstofindustri A/S. Norwegian 52,559, May 22, 1933. Aqueous mixtures containing glycerol or glycol together with fat or oil with an admixture of suitable amounts of soap or similar emulsifying substances. (C. A. 28, 7, 2138, 1934.)

Apparatus for the Continuous Preparation of Soap and Glycerol. John B. E. Johnson. German 577,886, June 6, 1933. (C. A. 28, 669, 1934.)

Wetting, Etc., Agent. Chemische Fabrik vorm. Sandoz. Swiss 162,347, August 16, 1933. Addition to 151,958 (C. A. 26, 4926). An agent for wetting, washing, emulsifying, etc., is prepared by treating a mixture of coconut oil and the monoxylenyl ether of glycerol with $H_2SO_4.H_2O$ at 30-5°, the sulfonation and esterification proceeding simultaneously. The resulting sulfonic acid is isolated and neutralized with NH_4OH. (C. A. 28, 670, 1934.)

Method of Drying Soap Flakes. U. S. 1,942,418, January 9, 1934, Harry P. Forte, Newton Highlands, Mass., assignor to Lever Brothers Company, Cambridge, Mass. The process of treating soft curved soap flakes to indefinitely retain the curvature initially imparted in them to maintain the volume of packaged flakes, consisting of quickly conveying the soft curved soap flakes to a cooling chamber for precipitation therethrough, introducing the flakes centrally of the upper end of the cooling chamber individually separating the soap flakes at the point of entrance to the cooling chamber and dispersing them laterally of the entrance, and then retarding precipitation of the flakes in their travel through the chamber by a counter-current flow of cool air admitted to the chamber centrally and peripherally thereof, whereby the flakes when discharged at the lower end of the cooling chamber will be sufficiently solidified to retain the curvature initially imparted in them and the packaged flakes remain substantially unaltered in individual shape and aggregate volume over a period of time. (*Soap,* X, 3, 41, 1934.)

Distilling Fatty Acids, Glycerine, Etc. British 396,095. W. J. Tennant, 111, Hatton-garden, London, on behalf of N. H. S. van Reesema, 119, Rotterdamsche Weg, Delft, Holland.—In the distillation of fatty acids, glycerine, etc., by steam under vacuum, a high vacuum is maintained by freezing out the steam in solid form after first condensing the distilled vapor and then withdrawing the residual gases by means of a vacuum pump. The liquids are distilled in a still by steam introduced through a pipe and the vapors produced are liquefied in a condenser and removed from a catch. The steam passes on and is frozen out in one of two condensers used alternately, through the tubes of which liquid ammonia, etc., is circulated. The residual gases are extracted by the vacuum pump. When the condenser is filled with ice, the steam is directed to the condenser and the ice is thawed in the condenser by circulating therethrough the warmed refrigerant from condenser. The cooling fluid is circulated through the apparatus by a double acting pump which compresses the ammonia and drives it through cooling coils. The liquid ammonia is passed through a pipe to the condenser where it is vaporized in freezing the water. It then passes back through a pipe to the pump where it is again compressed and circulated through a pipe to a pre-cooler. It is then again returned to the pump through a pipe and after compression is fed through a pipe to a system of coils in the condenser where it is re-cooled in thawing the ice and finally returned to the cooling coils. (*Oil and Colour Trades Journal,* LXXXV, 691, 1934.)