ABSTRACTS

Soaps

Edited by M. L. SHEELY

Bentonite. W. B. Hirschmann and Paul Bechtner. *Soap 14,* No. 10, 24-6, 105 (1938). The use of clays and bentonite as a detergent is historically reviewed. Bentonite's efficiency as a detergent is attributed to its sorption capacity and polarity. Fifteen references.

Potash soaps for wood floors. W. M. Kelso. *Soap 14,* No. 10, 31, 103 (1938). The splintering, slivering, checking, and decay of wood floors is attributed to the Na of Na soaps replacing the combined K of the wood, thus causing the breakdown of the inner structure of the wood. This undesirable feature is not met if potash base soap is used for general cleaning and scrubbing. This was observed during the author's experience and is suggested by the records that piles driven in the bed of lakes whose water contains K salts in excess of Na salts outlast those of lakes in which the Na Salts predominate.

Reviews: Properties of the keto groups of fat acids. H. Fiedler. *Fette u. Seifen 45,* 521 (1938). Hydrogenation of phenol-aldehyde waxes. H. Katz. *Ibid.* 522. Starch in the manufacture of soap. W. Schutze. *Ibid.* 522-3. Shaving agents. G. v. Kreuger. *Ibid.* 523-5. Waxes as emulsifiers. W. Schutze. *Ibid.* 525-6.

Animal glue in soap. Hans Dorner. *Seifensieder-Ztg. 65,* 800-4 (1938). The patents and literature on the use of proteins in soap are reviewed. The effect of decomposed (with alkali) and undecomposed glue on foam no. showed that the optimum at a soap to glue ratio equals 40:60 or 50:50. The undecomposed (non-alkali treated) glue gave the better results. Thirty references.

Hydrogenated phenols in soap manufacture. J. M. Vallance. *Soap, Perfumery & Cosmetics 11,* 998-9 (1938).

Salts of triethanolamine. Geo. W. Fiero. *J. Am. Pharm. Assoc. 27,* 658-60 (1938). A study of salts of triethanolamine indicated that the surface tension decreases and the relative foam production increases with the no. of C atoms of the satd. fatty acid up to 12, and then decreases. The pH increases with the no. of C atoms. The stearate, oleate and laurate exhibit the best emulsifying powers. (*Chem. Abs.*)

A possible cause of error in testing glycerol. Virgilo Lucas. *Rev. assoc. brasil. farm. 19,* 252-4 (1938). In the pharmacopea test for carbonizable impurities in glycerol 5 cc. concd. H_2SO_4 is added to 5 cc. glycerol. The test tube should be cooled while mixing since pure glycerol may develop a brown color if the temp. of the mixt. rises too high. (*Chem. Abs.*)

Normal and abnormal impurities in glycerin lyes. J. P. Lehalleur. *Compt. rend. 17 Cong. Chim. Ind.* 44-46 (1937). Owing to the modern employment of hydrosulphites for bleaching fats and soaps, dynamite and pharamaceutical glycerins may be contaminated with S_2O_3 and it is proposed that limits for this impurity should be included in the International Specification for glycerin. (*J. Soc. Chem. Ind.*)

Noncrystallizing rosin developed by D. of A. *Oil, Paint and Drug Reporter 134,* 19, 4 (1938); OPD Washington Bureau. A new, noncrystallizing gum rosin has been developed by the Bureau of Chemistry and Soils of the Department of Agriculture. It is a natural rosin from Southern pine gum, which is said not to crystallize in ordinary usage.

Crystallization of rosin is a serious problem in some industries, particularly in adhesives, core oils, soaps, and paper sizes. Crystallized rosin reacts slowly with alkali and other materials and forms a granulated product instead of the smooth, soapy emulsion desired. Also, some rosins which are apparently noncrystalline, may later cause trouble by depositing crystals or "sugaring out" in storage after being incorporated in such liquid mixtures as core oils, printing ink varnishes, and adhesives.

The new rosin is made only from the liquid part of the oleoresinous exudate of the living tree. Its preparation is based on a recent finding by S. Palkin and W. C. Smith, bureau chemists, that the semisolid mass which forms when the gum is allowed to stand contains most rosin acids which later contribute to the crystallizing tendency of the rosin.

This mass is removed from the liquid part by simple straining or filtration through a light-weight muslin cloth. The straining must be entirely by gravity; mechanical filter pressures cannot be used, as the higher pressure causes some of the semisolid crystalline mass to liquefy and mix again with the liquid. The straining removes the crystalline part of the oleoresin, and by removing chips, bark, and finely suspended particles, permits the production of clean gum rosin.

Semiplant scale tests are reported to have shown that production of the new rosin is commercially feasible. A public service patent covering the new product, making it available to anyone, has been applied for.

PATENTS

Preparation of metallic soaps. W. W. Plechner (to Natl. Lead Co.). U. S. 2,132,997. The fat acid is reacted with a metallic halide at moderately high temps. sufficient to form a soap and eliminate hydrogen halide by volatilization.

Apparatus for and method of sulfonating fatty compounds. D. S. Whiteman. U. S. 2,129,896. This method of sulfonating a fatty compd. comprises continuously progressing the fatty compds. as a film between relatively moving adjacent surfaces and introducing a sulfonating agent into the continuously moving film of fatty compds.

Apparatus for finishing soap. R. V. Burt and R. A. Duncan and R. J. Short (to Procter & Gamble Co.). Milling and plodding of soap is performed in one operating by equipment which comprises a pair of milling cylinders and a plodder communicating with each other and arranged in a straight line on a common axid and screening means at the outlet of each cylinder.

Process for sulphonating and sulphating olefines. C. M. Suter (to Procter & Gamble Co.). U. S. 2,135,358. Wetting, sudsing and detergent agents are prepd. by treating an olefine of 10 to 22 C atoms with the reaction product of SO_3 with dioxane.

Buoyant soap cakes. Ruel Jones. British Pat. 492,171, Sept. 12, 1938. According to the present inven-

ABSTRACTS

Soaps

Edited by M. L. SHEELY

tion a buoyant cake of soap is provided comprising a shell, produced from a tubular bar section with opposite ends closed by compression and having increased wall thickness over that of the normal wall thickness of the shell.

The shell may in many cases advantageously be provided with ribs, preferably longitudinal ribs on its interior wall surface. The said ribs serve for reinforcing the walls and if suitably arranged in one or more opposing aligned pairs they may also serve to abut against one another during the operation of forming the cake from the tubular bar. The tubular bar is preferably formed by extrusion through a die and in that case longitudinal ribs may be formed on the inner wall surfaces of the tubular bar during the process of extrusion. (Perf. and Essential Oil Rec.)

Superfatting agent. Swiss Pat. 193,628; Friedrich Schmocker. A superfatting agent for making toilet soap is prepared by mixing a hydrogenated fatty acid with an unsaponifiable emulgator and stabilizing and preserving agents. Buffer salts may also be present. Thus hydrogenated castor oil fatty acids are mixed with an emulgator such as cetyl alcohol, cholesterol, etc., a preserving or antirancidity agent such as triethanolamine, diphenylguanidine, etc., a reducing agent such as sodium sulfite, and optionally, a disinfectant or perfume. (*Chem. Abs.*)

Distilling and cracking oils and fats. E. G. M. R. Lage. Brit. 485,123. Fatty, oleaginous matter of vegetable or animal origin, such as earth nut oil, palm oil, lard, fish oil, etc., is transformed into products similar to mineral oils by distilling between 250° and 600° C. in the presence of alkali salts of weak acids or amphoteric oxides, such as alkali silicates, aluminates, carbonates, titanates, vanadates, uranates, zincates, plumbates and the like. The products are blackish-green fluorescent oils smelling of petroleum. Non-condensable gases formed may be returned to assist the distillation. Catalysts may be recovered from the residues by carbonization, followed if necessary by treatment with steam. In an alternative form of the process, hydrocarbon "wetting oils" are added to the fatty matter to assist the distillation in a preliminary stage. Examples are given of (1) the distillation of old palm oil with potassium silicate; (2) the distillation of old palm oil with alumina and potassium carbonate; and (3) the distillation of karite kernels with light fuel oil and clay, the distillate then being treated according to (1) or (2). (*Oil and Colour Trades J.*)

Atomization of solid substances. Etablissements Niro Atomizer A/S. French 820,601. It is known that atomization lowers the temperature of fine particles in suspension in a current of air, to the point of solidification. The dimensions of the chamber and the amount of air may be reduced by cooling the melted substances before atomization. To effect this, the melted substances, such as soap, are passed into a condenser fitted with an endless screw with a cooling jacket. A high speed of rotation divides the product into particles of dimensions less than those obtained by atomization. (*Recherches.*)

Product for the improvement of soaps. F. Schmocker. Switz. 193,628, a. Hydrogenated fatty acids, particularly those obtained from castor oil, are mixed with an unsaponifiable emulsifier, such as cetyl alcohol or cholesterol, and stabilizing or reducing substances, such as phenols, alkyl benzoates, alkylenediarylamines, or sodium sulphite or thiosulphate. Buffer salts, such as borax or sodium bicarbonate, are also added. The mixture thus obtained prevents the formation of a deposit in liquid soaps. When incorporated in hard soaps, clean and glossy moulding can be obtained. Finally, it obviates the irritant action of potash soaps. (*Recherches.*)

Soap. Can. Pat. 374,248. The Shell Development Co. (E. N. Klemgard). A rubberized soap, having a water content below 3%, contains less than 5% of natural, non-coagulated rubber latex, uniformly distributed in the soap. (*Recherches.*)

Detersives. Colgate-Palmolive-Peet Company. French 827,544, Apr. 28, 1938; U. S. 2,130,361-2, Sept. 20. A fatty oil or fat acid, e.g., coconut oil fat acid is caused to react with β-methylglycerol or β-methylglycidel and fuming H_2SO_4, the proportions of the reagents being chosen to obtain a monoglyceride, a substance of the monosulfate type and an excess of H_2SO_4. (*Chem. Abs.*)

Wetting agents, etc. Friedrich Steinfels A.-G. Brit. 486,850, June 7, 1938. Products that have wetting, foaming, washing and emulsifying properties are prepd. by treating aliphatic oxide sulfonic acids having not more than 6 C atoms with fatty, resin or naphthenic acids having a C chain of at least 8 C atoms. In an example, dry Na 2,3-oxidopropane-1-sulfonate, dild. with NaCl, is heated with molten tech. stearin. The aliphatic oxide sulfonic acids may be prepd. by treating aliphatic α-chloro-β-hydroxysulfonic acids with alkalies, e.g., caustic alkali or K_2CO_3. Cf. C. A. 32, 683. In Brit. 486,909, June 7, 1938, divided on an addn. to 486,850, products having similar properties are prepd. by condensing glycydyl cetyl ether (I) with an alkali bisulfite or an alkali metal salt of an amine- or hydroxybenzenesulfonic acid. (*Chem. Abs.*)