(1943). There was no significant depression in the absorption of tricaproin, sodium caproate, and tricaprylin in adrenalectomized animals as compared with normals. The first indication of any inhibitory effect resulting from adrenalectomy occurs with caprylic acid and is also evident with capric acid. This indicates that the adrenal glands play an active role in the absorption of the longer chain fatty acids. However, the absorption of lower acids is not dependent on adrenal function. Differences in the absorption rates of the longer chain fatty acids by normal and adrenalectomized animals are probably due to the capacity of normal animals to remove fatty acids from intestines at a much faster rate.

METABOLIC STUDIES IN PATIENTS WITH GASTROINTESTINAL CANCER. IV. FAT METABOLISM, A METHOD OF STUDY. P. E. Rekers, J. C. Abels, and C. P. Rhoads. *J. Clin. Invest. 22,* 243 (1943). Normal persons absorbed 96-97% of the ingested fat; the fat load didn't significantly affect this absorption ability. In the patient with gastric carcinoma 93% of the ingested fat was absorbed; fat load didn't affect this significantly. With the gastrectomy case, only 27% of the fat ingested was absorbed; and, with the fat load only 10% could be absorbed. This shows that on a comparatively low fat diet, there is considerable steatorrhea with a significant increase in loss on fat load. The gastritis individual was between normal values and those for the gastrectomy case, 86% being absorbed and 73% absorbed after the fat load. There was no significant impairment in cirrhosis of the liver. With an atrophic or absent stomach, fat absorption is impaired and accentuated loss is seen after ingestion of the fat load. *(Am. J. Digestive Dis.)*

PREPARATION OF EMULSIONS. B. De H. Miller, P. Phelps, and H. W. Bevarly (The Girdler Corporation). *U. S. 2,330,986.* The process of prepg. margarine comprises forming an oil and moisture emulsion having substantially less moisture than that desired in the final product, subjecting said emulsion to concurrent supercooling and agitation, adding moisture to the supercooled emulsion, subjecting the mixt. of supercooled emulsion and added moisture to further chilling and agitation, and thereafter permitting said mixt. to solidify.

VULCANIZED, FATTY OIL MODIFIED, CRACKED DISTILLATE POLYMER. M. B. Chittick and A. F. Schlandt (The Pure Oil Company). *U. S. 2,330,798.* This invention relates to the preparation of mastics from petroleum polymers by reaction thereof with sulfur in the presence of fatty oils.

MODIFYING CASTOR OIL. A. Schwarcman (Spencer Kellogg and Sons, Inc.). *U. S. 2,330,180.* A method of dehydrating castor oil comprises dissolving in the oil a small proportion of a catalyst comprising a neutral phosphorus chloride and heating the mixt. at such temp. and for such time as to effect a substantial degree of dehydration of the oil and at least until the product has attained miscibility with mineral oil.

STABILIZED VINYL POLYMER. L. J. Stage and M. T. Harvey (Harvel Research Corp.). U. S. *2,330,087.* A thermoplastic compn. of matter comprises a polyvinyl chloride, a plasticizer therefor and a color stabilizer comprising a reaction product of a tertiary alkyl urea and a satd. fatty acid having 12 to 18 C. atoms in the mol.

Abstracts

Soaps

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PROPERTIES OF DETERGENT SOLUTIONS. COMPARISON OF DETERGENT ACTION AND WHITENESS RETENTION OF LAUNDRY SOAP BUILDERS. T. H. Vaughn and A. Vittone, Jr. *Ind. Eng. Chem. 35,* 1094-8 (1943). In washing tests made at 60° C. with artificially soiled muslin the effect of 0.05% of various alkaline builders on the detergency of 0.1% soap solns. is investigated. The results of a previous paper are studied, and it is shown that high detergent action can be obtained with some builders having a low detergent rating by using the proper ratio of soap to builder. In tests of soil at 60° C. the whiteness retention property of the builders is investigated at a soap concn. of 0.1% and a soap builder ratio of 1 to 1. It is shown that the silicates and phosphates differ from other builders in their action on soap with respect to whiteness retention.

X-RAY DIFFACTION OF SODIUM LAURATE, PALMITATE, AND STEARATE AT ROOM TEMPERATURE. J. M. McBain, O. E. A. Bolduan, and S. Ross. *J. Am. Chem. Soc. 65,* 1873-76 (1943). Fiber as well as powder photographs of sodium laurate, palmitate, and stearate have been made. They confirm the unit cell of the beta form of monoclinic soap and give the unit cell for a "hydrated gamma form" of monoclinic soap at room temp. Alpha, beta, and gamma forms differ primarily in long spacings, but likewise to a lesser extent in the lines corresponding to side spacings.

SOAP FORMULA CHANGES. *Soap 19,* No. 11, 25-7, 30 (1943). New soap fat-stretching order FDO-86, issued by WFA . . . requires increased use of rosin and builders, heavy use of edible lard in soaps reported, soapers exempted from new restrictions on container use . . . 10% sales tax on toilet soaps proposed by house.

UNIFORMITY OF pH OF SOAP ADDITIVES. *Am. Perfumer & Essential Oil Rev. 45,* No. 10, 63 (1943). Substitutions of alkalies in soaps may have disastrous effects if the pH is not closely watched. The pH changes sharply with changes in concentration and this must be checked also. A product with too wide a pH range should not be used as this might cause too great a variation in the pH of the final product.

SPECIAL ROSINS FOR SOAP. *Soap, Perfumery, and Cosmetics 16,* 517-9 (1943). Rosin can be used in bar, flake, powder, and liquid soaps. Pale grades of rosin will make light colored soaps. Rosin in soap actually promotes detergency and lathering, and is not to be regarded as a mere filler or extender. Post-war improvements in rosin chemistry—notably hydrogenated rosin—will permit even higher quality soaps, with particular regard to color properties, and rosin

is not to be considered as a war-time substitute. The advantages of rosin include low price, quick and lasting suds, improved solubility, no skin irritation, dependable availability in large volume, and the property of inhibiting dusting of spray-dried soaps.

COOPERATIVE STUDIES ON A LABORATORY METHOD FOR EVALUATING SYNTHETIC DETERGENTS. J. B. Crowe. *Am. Dyestuff Reptr. 32*, 237-41 (1943). Soiled wool and cotton fabrics were used for evaluating synthetic detergents by members of A.S.T.M. Sect. E on sulfonated detergents, Subcommittee II on Specifications. These test fabrics were washed in launderometers and graded on photometers. Details of a typical procedure used for soiling, washing, and grading cotton and wool are appended. *(Chem. Abs.)*

SYNTHETIC DETERGENTS. Foster D. Snell. *Soap 19*, No. 10, 27-30 (1943). A study of water-soluble detergents has been made covering wetting power, emulsifying power, and dispersing power. A detergent must increase the wetting power of water by being surface-active, and having the ability to lower surface tension. Emulsification removes oily matter and prevents it from coalescing and redepositing on the cleaned surface. Dispersing or deflocculating power is the ability to keep solid particles in suspension in the detergent solution. Wetting power indicates a mild degree of surface activity, emulsifying power a greater degree, and detergency an even greater degree which includes both wetting and emulsifying powers.

Surface-active compounds contain two opposing groups in the molecule, one water-repelled, the other water-attracted. The group repelled by water consists of a hydrocarbon chain, the group attracted by water contains oxygen, sulfur, nitrogen, or halogen, or consists of an unsaturated linkage. A table of the relative powers of the solubilizing groups is given and each group is discussed. Also included are various laboratory tests for evaluating the powers.

PROBLEMS IN INVESTIGATION OF WASHING AND CLEANSING AGENTS; IMPROVEMENT IN FLUORESCENCE METHOD FOR DETERMINATION OF WASHING ACTION; NEW CONCLUSIONS. Lothar Peukert and Walther Schultze. *Arch. Dermatol. Syphilis 182*, 581-97 (1941). Reference is made to the significance of preliminary evaluation of cleansing agents before release for general use. Systematic instruction is given for testing the power of cleansing agents. Results of measurements, especially with reference to the significance and influence of the condition of the skin and of the wash-water, are presented and explained. *(Chem. Abs.)*

GLYCERIN RECOVERY IN SOAP BOILING. J. L. Boyle. *Perfumer and Essential Oil Rev. 45*, No. 10, 64, 69 (1943). An important part of glycerin produced comes from the soap kettle, and its recovery from this source is an important problem. The distribution of glycerol between soap and lye can be expressed by the Freundlich equation for adsorption phenomena: $x—kC^n$, where x is the amount of glycerol per gram of curd soap and C is the concentration of glycerol in the solution, k and n are constants, the values for which depend on the composition of the kettle charge. Other problems include glycerol loss in the pan soap, control of the volume of the lye, condition of the lye and content of the soap lyes, and complete precipitation. This last is accomplished by controlling the effective acidity of the liquor, preferably by means of pH meter.

EMULSIONS FOR IMPREGNATION OF POROUS MATERIALS FOR WATER-REPELLENCY AND THEIR EVALUATION. A. Chwala and A. Martina. *Kolloid-Z 102*, 69-85 (1943). Development of processes for rendering fabrics water-repellent and patent literature thereon are reviewed. Emulsions for the one-bath process are based on waxes, protective colloids, dispersing agents, and sol. Al or Zr salts. Size of dispersed particles must be less than 20×10^{-5} cm. to penetrate properly. Extent of impregnation was found independent of the charge on the dispersed particles. Of tests for water-repellency such as angle of wetting, rain test, pressure of penetration, and water adsorption, the latter was found most significant and reproducible. *(Chem. Abs.)*

PATENTS

PRESERVATION OF SOAPS AND PERFUMES. Carl N. Anderson (Lever Brothers Co.). *U. S. 2,324,348.* In a process for manufacturing perfumed toilet and laundry soaps in solid form, the steps which comprise adding a small amount of pure crystalline ascorbic acid to perfume subject to deterioration by oxidation, and intimately admixing the ascorbic acid treated perfume with a solid soap to be perfumed, whereby the original character of the perfume in the soap is preserved for a long time and the development of undesirable odors in the soap and the perfume is inhibited.

PROCESS OF MAKING SOAP. Benjamin Clayton (Refining, Inc.). *U. S. 2,327,502.* The process of purifying soap stock containing excess alkali from the alkali refining of glyceride oils and making soap therefrom, which comprises adding saponifiable material to the soap stock to react with the excess alkali, heating the resulting mixture to a temperature sufficiently high to break down odoriferous substances contained therein and removing vaporizable materials from the soap stock in vapor form to produce an improved soap from the soap stock.

SOAP COMPOSITION. Harry Robert Dittmar (DuPont). *U. S. 2,327,302.* Hard water having incorporated therein a precipitate-inhibiting amount of an alkali metal salt of a halogen-substituted polyacrylic acid.

WATER SOFTENING COMPOUND. W. M. Bruner (Canadian Industries, Ltd.). *Can. 414,880.* To convert hard water to water having the inherent advantages of soft water for industrial purposes, sodium hydroxynitrilsulfonate is introduced into the water. *(Chem. Abs.)*

SOAP FILLER. K. Sponsel (Kalle & Co.). *Ger. 712,561.* A filler for soap and for similar washing agents is obtained in the form of water-soluble products by the condensation of urea with formaldehyde or glyoxal. The condensation is carried out in aqueous solution and in the presence of water-soluble ethers of high polymeric carbohydrates, particularly cellulose ethers. *(Chem. Abs.)*

CLEANING AGENTS. M. P. Schmidt and J. Voss (Kalle & Co.). *Ger. 721,719.* Water-soluble salts of aromatic aminosulfonic acids containing at least one aralkyl radical attached to the nitrogen atom are mixed with other washing aids and used as washing and cleaning agents. *(Chem. Abs.)*