with peracetic acid has been shown to result in four distinct diastereoisomeric 9, 10, 12-trihydroxystearic acids formed in 2 inter-related pairs, as expected from theoretical considerations but contrary to statements in the recent literature.

PATENTS

PROCESS FOR REFINING ANIMAL AND VEGETABLE OILS. F. J. Ewing. *U. S. 2,288,441.* The process of removing gummy materials from crude fatty material comprises the steps of mixing said crude fatty material with liquefiied normally gaseous hydrocarbon to dissolve the fatty material and ppt, gummy material, and sepg. said pptd. gummy material from said fatty material, said steps being carried on in the presence of hydrocarbon and under sufficient pressure to maintain said hydrocarbon in liquid form.

CONVERSION AND SEPARATION OF THE CONSTITUENTS OF ORGANIC MIXTURES CONTAINING BOTH FATTY AND RESIN ACIDS, PARTICULARLY TALL OIL. F. H. Gayer and C. E. Fawkes (Continental Research Corp.). *U. S. 2,288,947.* The process of sepg. fatty acids from resin acids contd. in tall oil comprises converting the fatty acids into their alkyl esters, converting the resin acids into their Al salts and sepg. the alkyl esters of the fatty acids from the Al resinates.

CONVERSION AND SEPARATION OF THE CONSTITUENTS OF ORGANIC MIXTURES CONTAINING BOTH FATTY AND RESIN ACIDS, PARTICULARLY TALL OIL. F. H. Gayer and C. E. Fawkes (Continental Research Corp.). *U. S. 2,288,946.* In the process of sepg. tall oil into fatty acids and resin acids the step comprises converting the tall oil into a mixt. of alkyl esters of fatty acids with Zn resinates by esterifying first the fatty acids with a monohydric aliphatic alc. and subsequently converting the resin acids into Zn resinates.

SPREAD COMPRISING ANIMAL BODY FAT. S. L. Komarik (Griffith Laboratories, Inc.). *U. S. 2,288,244.* The method of making an edible plastic spread comprises mixing animal body fat with an edible flavoring material selected from the group consisting of cheese and peanut butter, whereby the fat absorbs material therefrom, and emulsifying the resulting mass with an emulsifier and a wt. of water approx. equal to the wt. of fat to form a plastic emulsion.

COOKING OLEAGINOUS MATERIAL. F. W. Weigle. *U. S. 2,288,662.* A method of prepg. oil seeds for the sepn. of oil comprises transferring heat to said material from a heating surface at a rate of at least 5 B.T.U. per lb. of material per minute through a substantial portion of the period for which heat is transferred to the material, subjecting the material adjacent to the heating surface to agitation such that the movement of substantially all of said material is in the order of at least 200 ft. per minute and maintaining the material in direct contact with steam when the material is at temps. above the temp. for condensation of steam on the material.

BACTERICIDAL, GERMICIDAL, AND ANTISEPTIC MATERIALS. A. K. Epstein and B. R. Harris. *U. S. 2,290,-173-4.* The compds. are esters of fat alcs. and aminocarboxylic acid.

PROCESS OF SEPARATING CHALCOPYRITE ORES. A. W. Ralston and E. W. Segebrecht (Armour and Co.). *U. S. 2,289,996.* Fat acid amines are used as flotation agents.

NITROGENOUS WAXY TO RESINOUS COND. PRODUCTS AND PROCESS OF PRODUCING SAME. H. G. Hummel and M. Jahrstorfer (General Aniline & Film Corp.). *U. S. 2,294,878.* The process of producing waxy to resinous nitrogenous condensation products comprises heating a unilaterally amidated oxalic acid ester which is free from aliphatic radicles contg. more than 4 C atoms, only with a monoamine contg. a H atom attached to the amino N and a fat acid radicle having more than 12 C atoms.

METALLIC SOAP SOLUTION. R. J. Myers (Resinous Products & Chemical Co.). *U. S. 2,289,316.* A nongelatinous soln. comprises aluminum stearate in an amt. normally producing highly viscous solns., aluminum caprylphenoxyacetate and a liquid, water-immiscible org. solvent for said stearate and caprylphenoxyacetate.

Abstracts

Soaps

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SOAP FACTORY EQUIPMENT. PART 2. IN THE PAN ROOM. N. C. Weir. *Soap, Perfumery and Cosmetics 15,* 422-4 (1942). Except for space requirements, round pans seem more desirable than the square. Glass wool, while dear, is probably the best lagging. Two tons water capacity should be allowed per ton of soap. A pet-cock should be fixed in the steam pipe below each valve. The skimmer-pipe should be put outside the pan. Caustic and brine are better sprayed on to the top of the soap mixt. Spent lye storage tanks holding a week's output and easily skimmed for soap are desirable.

BLEACHING POOR QUALITY FATS. Anon. *Am. Perfumer and Essential Oil Rev. 44,* No. 9, 44 (1942). Use of hydrogen peroxide and of benzoyl peroxide is described.

USE OF BONE FAT IN SOAP MAKING. Paul I. Smith. *Am. Perfumer and Essential Oil Rev. 44,* No. 9, 43-4 (1942). Because of the shortage of fats, soapers are considering bone fat as raw material. A resumé of the boiling and the solvent extraction processes is given. The fat obtained is difficult to bleach, and the unpleasant smell may revert in a short time.

SOYBEAN-OIL SOAP. Th. Ruemele. *Allgem. Oel- u. Fett.-Ztg. 38,* 161-2 (1941). The soap requires some coconut-oil components to give good lathering properties with hard water. Other means of improving the properties of the soap and methods for sapon. are suggested. The oil is especially suitable for the manuf. of K soft soap. *(Chem. Abs.)*

TYLOSE, ITS PROPERTIES AND APPLICATION IN THE SOAP INDUSTRY. Hermada. *Seifensied-Ztg. 68,* 343-4, 353-4

(1941) Cellulose derivs. applied in modern soap industry to an increasing extent are designated as Tylose, and their advantages toward other filling materials are mentioned. The results of physicochem. measurements on aq. soln. (viscosity, surface, and oil interface tension) and the stability toward addn. of salts are given. Finally a large no, of recipes for prepg. the solns. and manufg. the Tylose soaps are given. *(Chem. Abs.)*

WAR PACKAGES FOR SOAPS. Marie G. Heuer. *Soap 18*, No. 9, 22-4 (1942). For scouring powder, one manuf. uses pasteboard ends fastened with a metal ring; another is developing a folding carton. For industrial soap, customers are billed for the steel drums, the bill being cancelled when container is returned. Paste soaps and metal polishes are using opal glass bottles; wood and paper caps are being developed. Bottles are made lighter. Packing fancy bars unwrapped in set-up boxes is preferred by many to using cellophane substitutes. Inner wrappers for bar soaps have been retained. Standardizing shapes and sizes is preferable to discarding wrappers entirely, for conservation.

SUBSTITUTION OF SOAP BY SAPONIN. Th. Ruemele. *Seifensieder-Ztg. 68*, 278-9 (1941). Soap cannot be displaced entirely by saponin, which in neutral soln. is a mild washing agent, suitable for washing the more easily damaged fabrics. Dirt particles are negatively peptized by saponin. A mixt. of saponin, alc., and ammonia soln. can be used in hair washes. Addn. of saponin to soap causes a lowering of the ability of the latter to form suds. Saponin cannot be used to replace toilet and shaving soaps because of its possible irritating action on the mucous membranes of the eyes and respiratory organs. *(Chem. Abs.)*

SOAPLESS WASHING PROCESS. H. J. de Wijs. *Chem. Weekblad 37*, 482-3 (1941). At definite pH and temp. washing can be accomplished with soda and water glass without fatty acid soaps. *(Chem. Abs.)*

WASHING WITHOUT SOAP. R. Smit and A. C. van Vreeswijk. *Chem. Weekblad 37*, 511-13 (1940). The conception of de Wijs (preced. abst.) that the washing process is only a question of pH is not correct, since other factors play a part. Soil must not only be removed, it must also be held in the soln. through an anion active substance. Since de Wijs used water glass, an anion active substance is present from the silicic acid group. *(Chem. Abs.)*

CLEANERS FOR PAINTED AND VARNISHED SURFACES. C. T. Small. *Chem. Industries 51*, 384-86 (1942). Compositions are reviewed. A compn. for cleaning flat paint consists of: trisodium phosphate, 32%; soda ash, 60%; sodium corn-oil soap, 8%. Abrasives and other special ingredients are sometimes added. For gloss paint, potash soap is good; builders may be added. For varnish, similar, but milder treatment than for gloss paint is used. There are described also a cleaner for waxed floors and two polishes for furniture. Products suitable for gloss paint can be used for linoleum and similar alkali-sensitive surfaces.

EVALUATION OF A SURFACE ACTIVE AGENT FOR METAL CLEANING. O. M. Morgan and J. G. Lankler. *Ind. & Eng. Chem. 34*, 1158-61 (1942). A surface active agent, in this case an alkyl aryl Na sulfonate with a long alkyl chain possessing wetting and detergent properties, has been shown to exert a definite improvement in the metal cleaning efficiencies of alkalies and mixts. of alkalies. Thru the use of this product cleaning time, operating temps., and operating concns. can be reduced. Cleaning activity is not affected by the hardness of the water. Nacconol NR was the com. product tested.

VAPOR PRESSURES AND OSMOTIC COEFFICIENTS OF SOLUTIONS OF THE SODIUM SALTS OF A SERIES OF FATTY ACIDS AT 25°. Elizabeth R. B. Smith and R. A. Robinson. *Trans. Faraday Soc. 38*, 70-8 (1942). Isopiestic vapor pressures were detd. on solns. of Na salts of formic, acetic, propionic, butyric, valeric, caproic, heptylic, caprylic, pelargonic, and capric acids. The osmotic and activity coeffs. are given, also a graph of the molal vapor pressure-lowering of each soln. The data are consistent with micelle formation in the butyrate and the heavier salts (polymerization of the anion), together with ionic assocn. between the Na and the polymerized anions. Quant. evaluation of the degree of polymerization and the amt. of ionic assocn. is difficult, but, by an analogy with the thermodynamic properties of multivalent salts, it is found that at higher concns. Na caproate resembles $Ca(NO_3)_2$ and Na pelargonate resembles $K_4Fe(CN)_6$. It is suggested that salts between the butyrate and the caproate tend to form double polymers and salts between the caprylate and the caprate quadruple polymers. *(Chem. Abs.)*

PATENTS

STABILIZATION OF FATTY ACID DERIVATIVES. George D. Martin (to the Monsanto Chemical Company). *U. S. 2,293,350.* Soap is stabilized by thiocyanates (Na, K, NH_4 thiocyanates or aryl mustard oils).

CAKE OF SOAP HAVING DESIRED INSIGNIA. Leslie A. Block. *U. S. 2,292,359.* The distinctively colored insignia are inserted so that their surface is parallel to the surface of the cake.

PROCESS FOR PREPARING ACYLAMINOMETHYL QUATERNARY AMMONIUM COMPOUNDS. W. V. Wirth and R. F. Deese, Jr. (E. I. du Pont de Nemours & Co.). *U. S. 2,291,519.*

PINE OIL COMPOSITION. Joseph N. Borglin (Hercules Powder Co.). *U. S. 2,291,205.* A pine oil emulsion comprising pine oil dispersed throughout an aq. phase, and an emulsifying agent comprising an alk. soap of polymerized rosin.

HALOGENO-CARBOXYLIC AMIDES. Morris B. Katzman (Emulsol Corp.). *U. S. 2,290,881.*

ETHERS OF ALCOHOL AMINES. Morris Katzman and A. K. Epstein (The Emulsol Corp.). *U. S. 2,290,880.* Triethanolamine in which the hydrogen of only one hydroxy group is replaced by a fat acid radical.

DRY CLEANING COMPOSITION. Lawrence H. Flett (Allied Chemical & Dye Corp.). *U. S. 2,290,870.* A dry cleaning composition comprises a volatile org. dry cleaning solvent and a salt of a sulfonated fatty acid diester of a glycol as a dry cleaning assistant.

QUATERNARY AMMONIUM BASES. J. R. Geigy, A-G. *Brit. 538,718.* Mono or polyamines contg. at least 1 fat acid radical is reacted with a fat or cycloaliphatic acid and the salt is treated an alkylating agent.