ACTION OF CHOLINE, VITAMINS, AMINO ACIDS AND THEIR COMBINATIONS IN TWO-MONTH-OLD RATS. *Ibid.* 117-27. In rats 2 to 3 months old maintained on an exptl. diet, the supplementation after 7 days with choline, either alone or in combination with various substances (vitamins B, E, K, amino acids and other nitrogenous compds.), did not reverse the changes in liver phospholipids induced by the unsupplemented diet. On the other hand, when choline supplementation was initiated immediately, values for liver lecithins were found which were significantly higher than in the corresponding controls, although lower than normal.

PATENTS

VEGETABLE OIL REFINING. P. D. Boone. *U. S. 2,351,184.* In a continuous process for refining a vegetable oil contg. gums in which a sufficiently high temp. of the aq. oil mixt. is employed to coagulate the gums, there are the steps of mixing an aq. liquid with the oil to secure a mixt. having a degree of acidity substantially of the pH numerical values 3-5, cooling the advancing stream and decreasing the agitation of the liquid and then submitting the mixt. to a centrifugal sepn. in order to continuously sep. purified oil from the aq. medium.

DEODORIZED OIL. R. H. Neal (Best Foods, Inc.). *U. S. 2,351,832.* A method for deodorizing an alkali refined fatty oil comprises passing dry steam through the oil while maintained at a temp. within the range of about 250 to 350° under an abs. pressure of less than 20 mm. of Hg to remove about 30 to 60% of the unsaponifiable matter in the oil.

TREATING FATTY ACIDS. A. H. Zeigler, D. V. Stingley and J. M. Kiefer (Armour and Co.). *U. S. 2,351,249.* This is a system of fractionating fat acids by crystn. followed by distn.

COMPOSITION CONTAINING ANTIOXIDANT. S. Shappirio. *U. S. 2,352,229.* Compds. formed by chemically combining fat acids and betaine are used as antioxidants.

RECOVERY OF FATTY SUBSTANCES BY FROTH FLOTATION. R. B. Booth and A. M. Webb (Chemical Construction Corp.). *U. S. 2,352,365.* Wool washing liquors are treated with acid to liberate the grease and then the liquors are treated with a petr. distillate to concentrate the grease by froth formation.

METHOD OF TREATING CASTOR AND SIMILAR OILS. H. S. Miller (Air Reduction Co., Inc.). *U. S. 2,351,444.* The method of increasing the I value of non-drying vegetable oils having at least 1 OH group and at least 1 unsatd. C linkage comprises heating the oil with a catalyst consisting of a gel composed of silica and an oxide of 1 of a group of elements consisting of Al and Th.

COATING COMPOSITION AND AZO PIGMENT DYESTUFF. G. M. O'Neal (Sherwin-Williams Co.). *U. S. 2,350,520-6.* The azo pigments for printing inks, paints, enamels, etc. are incorporated into the coating material with water insol. soaps of rosin and fat acids.

EMULSION. A. L. Wilson (Carbide and Carbon Chemicals Corp.). *U. S. 2,349,326.* A self-lustering aq. wax compn. which forms a substantially soap-free coating comprises a wax-in-water emulsion having therein the loose-bond reaction product of morpholine and a high mol. wt. fat acid as the emulsifying agent.

PROCESS FOR THE SEPARATION OF THE CONSTITUENTS OF TALL OIL. F. H. Gayer and C. E. Fawkes (Continental Research Corp.). *U. S. 2,348,971.* The process of sepg. tall oil fatty acid esters and resin acid soaps comprises adding thereto a neutral water sol. salt of an alkali metal, adjusting the aq. content to provide a resin acid concn. of from about 30 to about 5% and a salt concn. of from about 0.1 to about 0.4 *N*, satg. the mixt. with a hydrocarbon solvent, and solvent extg. the fatty acid esters from the resin acid soaps.

POLYMERIZATION PROCESS. J. H. Percy and J. Ross (Colgate-Palmolive-Peet Co.). *U. S. 2,341,239.* This invention relates to the prepn. of polycarboxylic acids and their derivs. and more particularly it relates to the prepn. of relatively pure polycarboxylic acids and relatively pure, more stable monocarboxylic acids from soaps of unsatd. aliphatic monocarboxylic acids.

GREASE. E. W. Adams, L. C. Brunstrum and G. W. Flint (Standard Oil Co.). *U. S. 2,341,134.* A stable, substantially anhyd. stabilizer-free Ca soap grease characterized by its resistance to sepn. and breakdown, contg. petroleum oil, soda soap and a Ca soap of hydrogenated fish oil fatty acid pitch.

COMPOSITION FOR LUBRICATING AND SOFTENING TEXTILE FIBERS. M. J. Kelley and E. A. Robinson (National Oil Products Co.). *U. S. 2,340,881.* The compn. of matter comprises an amide which is the condensation product of a hydroxy-alkylated polyamine with a glyceride contg. only substantially satd. non-hydroxylated fatty radicals.

LUBRICATING OIL. S. Musher (Musher Foundation, Inc.). *U. S. 2,339,796-8.* Soybean oil or lecithin and certain aromatic org. compds. are added to lubricating oils to decrease sludge formation and protect metals from corrosion.

Abstracts

Soaps

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PROS AND CONS OF TALL OIL IN SOAP. Andreas Treffler. *Soap 20,* No. 6, 29-30, 63, (1944). The refined tall oils on the market today contain about 50 per cent fatty acids, oleic and linoleic, 40 per cent rosin acids, abietic acids and other acids with a molecule above C_{18}, 10 per cent sterols such as phytosterol (about 30 carbon atoms), higher alcohols and other oxidized substances. The water solubility of soaps made from fatty acid molecules above C_{18} decreases with the increase in carbon atoms in the chain, and the affinity for water-insoluble mineral oils, metallic soaps and hydrocarbons increase correspondingly. The addition of rosin to soap increases its affinity toward oil and unsaponifiable matter. The determination of the detergent value of rosin acid soaps by the water hardness titration tests and actual wash testing have proven that at least two-thirds of the fatty acid content should be a high grade fat of the C_{18} series, and only one-third should consist of rosin acids. The detergent value of such formulas

does not come up to the detergent value of straight oleic acid soaps, but as such soaps have a high oil affinity, they are more efficient in emulsifying oil, grease, carbon, dyestuffs and other high molecular chemical compounds. The disagreeable odor of tall oil can be overcome by proper blending and perfuming. Tall oil can be used to advantage in the making of liquid soaps, but it also can be used in hard soaps, and has possibilities in the manufacture of soluble oils and degreasing compounds.

THE PREVENTION OF RANCIDITY IN SOAP. Dr. Sadgopal. *Soap, Perfumery & Cosmetics 17,* 324-7, 350 (1944). The causes of rancidity in soaps can be summarized as follows: Primary factor is the autoxidation brought about by air and greatly accelerated by the presence of moisture, light and catalysts. Other factors may include unrefined quality of the raw materials, unsaturated content of the soap stock, presence of unsaponified and unsaponifiable matter, unsuitable perfumes, inferior colours, micro-organisms and free fatty acids. The fats and oils most likely to yield rancid soaps are fats giving soft soaps such as drying and semi-drying oils, coconut oil group containing fatty acids of low molecular weights and rosins. To prevent rancidity, soaps should be protected from exposure to air. Inhibitors are frequently used. The following are requisites of a good inhibitor: it must not change the colour or odour of the soap, it must not react with iron oxide, always present in soaps, it must not make the soap hard and brittle, it must not impair the lather, it must be neither volatile nor poisonous, it must not react wtih the fatty acids or alkalis, it must be soluble in fats or lye, it should be sufficiently effective and not costlier than the soap.

NAPHTHENIC ACIDS AND (NAPHTHENIC ACID) SOAPS. Widaly. *Seifensieder-Ztg. 69,* 211-12 (1942). Naphthenic acids (I) produced in the refining of particularly Russian and Rumanian petroleum are finding increased importance in the production of soaps and other derivs. for the textile industry, in combating pests, wood preservation, lacquer formulation, etc. In the impure state, I form an almost black, viscous liquid with a pungent odor. I with an acid no. of 200-275, b.p. 240-300°, I no. 0-12 and an unsaponifiable content of approx. 10% are most appropriate for soap production. The lower the I no. the better are the acids. One means of obtaining I is by extn. with dil 5% NaOH of the tar acids resulting from the H_2SO_4 refining of petroleum. The unpleasant odor of I should be easily masked with lavender and similar materials. The esters may find use in perfumes. Analysis of I is limited mainly to the detn. of water content, acid no., I no., and unsaponifiables. Recipes for several soaps are given (*Chem. Abs.*)

USE OF CATIONIC SOAPS. A. I. Matetskii and F. I. Raikhlin. *Tekstil. Prom. 1941,* No. 5, 35-6. Cationic soaps were prepd. from cetyl and octodecyl alcs. and mixts. of high-mol. alcs. produced from cottonseed oil and seal oil. The following compds. were used as bases: pyridine, pyridine bases (b. p. 142-53°), trimethylamine, diethylaniline. Expts. in the washing of wool and dyeing of cotton- and half-wool material showed cationic soaps are valuable products, and their use in the dyeing and finishing of fiber is desirable. (*Chem. Abs.*)

THE DETERMINATION OF FAT ACIDS IN SOAPS. A. Amoretti. *Riv. ital. essenze, profumi piante offic. 23,* 127 (1941). Ext. 10 g. of the dried, finely-powd. soap for 30 min. with alc. in a Soxhlet app., concentrate the alc. soln., dil. with 50 cc. of water, acidity, and det. the fat acids in the usual way. An extn. app. is described. (*Chem. Abs.*)

CLEANSING AND PHYSICOCHEMICAL PROPERTIES OF TERGIN IN COMPARISON WITH SOAP. G. A. Bosurgi. *Riv. ital. essenze. profumi, piante offic. 24,* 167-9 (1942). Tergin consists, for the most part, of pectin and cellulose, is of a hydrophile and colloidal nature, and has a high capillary activity. Just like soap, it penetrates into fabric fibers and skin pores, emulsifies impurities and fat, and removes them adsorptively. It is a good soap-stretching agent and an effective soap substitute. (*Chem. Abs.*)

PATENTS

MANUFACTURE OF DETERGENTS AND RELATED COMPOSITIONS. Lawrence H. Flett (Allied Chemical & Dye Corporation). *U. S. 2,340,654.* Detergent mixture of high benzene sulfonates formed by distilling the benzene hydrocarbon condensation product, collecting a fraction of the distillate containing higher monoalkyl benzene compounds, and sulfonating the resulting higher monoalkyl benzene compounds.

BAR SOAP COMPOSITION. Ferdinand Bornemann and Hans Huber (Alien Property Custodian). *U. S. 2,342,786.* A bar soap consisting of a sodium soap of a fatty acid normally precipitable by calcium salts in water, and from one to fifteen per cent by weight of sodium tripolyphosphate rendering the soap non-precipitable by calcium salts in normally hard water, the soap containing sufficient water to maintain the soap in bar form, the bar being stable against frosting.

PROCESS FOR MAKING SOAP AND PRODUCT THEREOF. Benjamin Clayton (Refining Inc.). *U. S. 2,343,829.* Production of soap pellets of uniform size by extruding under pressure a plastic soap containing water and lowering the pressure upon the extruded soap to vaporize a sufficient amount of the water to produce a porous structure in the soap pellet.

WASHING AID. Winfrid Hentrich and Franz Giloy (Deutsche Hydrierwerke A. G.). *Ger. 736,671.* Sol. surface active salts obtained from acids of the type $(R.O.)_xR'.COOH$, where R is an org. radical with at least 4 C atoms, R' is an alkylene radical, which may be substituted and x is 1 or 2, and H_2O-sol. high polymers of vinyl compds., of polymerization products of ethylene oxide, or condensation products of aldehydes with cyclic amidines, urea or urea derivs. are worked by themselves or together with other substances used in soap making into bars, cakes, flakes, etc. (*Chem. Abs.*)