Maclean. *Biochem. J. 32,* 1974-81 (1938). Linseed oil was investigated by the alkaline permanganate method of Rollett. The yields of tetrahydroxy-acids from the linoleic acid present in the mixed linseed oil acids were only 28-32%; yields of 52-54% were obtained when pure linoleic acid was similarly oxidized. The yields of hexahydroxy-acids calcd. on the linolenic acid present in the mixed acids were 40-52%. Evidence of the existence of the γ-lactone of dihydroxy-(3:4)-decanedicarboxylic acid has been obtained.

Destruction of vitamin A by rancid fats. E. J. Lease, J. G. Lease, J. Weber and H. Steenbock. *J. Nutr. 16,* 571-83 (1938). Rancid fats were found to destroy pure carotene and vitamin A or precursors thereof as contained in halibut liver oil, egg yolk, or alfalfa. Ozonized fats and palmitic peroxide also destroyed vitamin A. Heating of rancid fats lowered both their capacity to destroy vitamin A and their peroxide value. The addition of ascorbic acid, hydroquinone, gallic acid and ethyl gallate to rancid fats as antioxidants did not prevent the destruction of vitamin A. Vitamin A was not destroyed when given to rats on an empty stomach even though they were being maintained on a ration rich in rancid fat.

The influence of hydrogenation and oxidation of fats upon their rate of absorption. M. H. Irwin, J. Weber, H. Steenbock and T. M. Godfrey. *Amer. J. Physiol. 124,* 300-803 (1938). The rate of absorption of fat was found to decrease as the melting point increased above body temp. Variations in m.p. below body temp. had no effect upon the rate of absorption. The rate of absorption of a hydrogenated fat was found to vary inversely with the degree of oxidation.

Tocopherols, vitamin E constituents and inhibitols of fat, their preparation and detection. H. Fiedler. *Fette u. Seifen 45,* 638-40 (1938). A review.

PATENTS

Process of obtaining vitamin-containing oils. F. H. Young and H. D. Robinson (to Abbott Labs.). U. S. 2,136,481. Fish livers are treated with alkali in amt. sufficient to liberate oil but insufficient to cause saponification; and the vitamin contg. oil is separated.

Modifying natural fats, oils and waxes. W. R. Eipper (to Indus. Chemical Res. Co. U. S. 2,137,667. A synthetic non-blooming chocolate contains an ester comprising hexa-hydric alc. derived from one of the saccharides completely esterified in mol. proportions with the fatty acid constituents of natural chocolate.

Hydrolysis of fats and oils. M. H. Ittner (Colgate-Palmolive-Peet Co.). U. S. 2,139,589. Fat is countercurrently flowed with water at 200° C. and 200 to 250 lbs. pressure. The amt. of water used is sufficient to that required for hydrolysis, that dissolved in fatty material and that required to wash out and remove the glycerine from the fatty material as aq. glycerin.

Method of reclaiming catalytic material. M. Raney. U. S. 2,139,602. Spent catalyst is ignited to destroy oil and oxidize the Ni; this is then mixed with borax, glass flux and Al powder in a crucible; a little Mg powder is added to serve as a fuse and the mixt. is ignited. Ni-Al alloy settles to the bottom while silica and borax glass can be removed from the top as the slag. The Ni-Al alloy yields active Ni catalyst on treatment with caustic.

Distilling and cracking of oils and fats. E. G. M. R. Lege. Brit. 485,123. Distn. is at 250 to 600° C. in presence of alkali salts. The distillate is similar to petroleum oil.

Compositions of matter. C. E. Linebarger and C. E. Linebarger, Jr. (to Chaslyn Co.). U. S. 2,133,300. Chaslyn balls, tablets, discs, etc., for hydrometric units which when placed in liquid will sink or swim according as the densities of the units are greater or less than that of the liquid under tests are prepd. by mixing hydrogenated castor oil and chlorinated naphthalene.

ABSTRACTS

Soaps

Edited by M. L. SHEELY

Naphthenic acid soaps. Herman Levinson and Arthur Menich. *Soap 14,* 12, 24 (1938). It is a well known fact that soaps in general possess little or no disinfectant value. The slight reduction in bacterial count which results from washing with stearate soaps for example, is chiefly traceable to the mechano-detergent property of the soap.

Naphthenic acid per se and its alkali soaps are distinguished by definite bactericidal and germicidal efficacy. This activity has been know for some thirty years. The relative potency of the naphthenic acid as compared with its alkali soaps, is difficult to define as the free acid seems more toxic on some bacteria than the soap, while the contrary condition may prevail with some other organisms. As Spalwing has demonstrated Staphylococci Aurea will be destroyed by a 1 per cent naphthenic acid emulsion in less than 30 minutes, which compares favorably with a 3 per cent phenol solution. The alkali naphthenates are of somewhat lower effect upon this particular germ but will prove even superior to the unreacted acid in the case of Coli Communis.

Pan charge and physical properties. Archibald Rayner. Soap, Perfumery & Cosmetics, *11,* 12,1086 (1938). Variation in the hardness of soaps may give rise to difficulties in stamping and cutting. A machine has been constructed for the purpose of measuring the hardness of soaps from individual fats. Soaps tested and hardness found were as follows:

Coconut	20	lbs.
Palm-kernel	15	lbs.
Tallow	3	lbs.
Olive oil foots	3	lbs.
Palm	5	lbs.
Peanut	1¼	lbs.
Cottonseed	1¾	lbs.
Hardened Whale oil	7	lbs.
Soya bean	1¼	lbs.

Tests on solubility of different soaps showed that the solubility of soaps containing a high proportion of palmitates and stearates is more than 3 times as great when the temperature is raised as little as 10° F.

ELECTRON ANALYSIS OF STEARIC ACID FILMS. L. H. Germer. *Bell Labs. Record 17,* No. 1, 12-13, 1938. Stearic acid films, formed by dipping a foil repeatedly through a film of stearic acid floating on water, were examd. by means of electron diffraction by both transmission and reflection. A single crystal of stearic acid was also examd. It is concluded that the stearic acid layers consist of monoclinic crystals in which chains of carbon atoms are parallel to the long crystallographic axis, and that the orientation of these crystals are distributed about a mean orientation which is simply related to the direction of dipping. (*Chem. Abs.*)

THE DIFFUSION OF WATER IN GYLCEROL. Ole Lamm and Georg Sjostedt. *Trans. Faraday Soc. 34,* 1158-63. With Lamm's optical method the diffusion const. of water in glycerol was measured at 20.08°; the viscosity and d. of the solns. were also measured. The abnormal rapidity of the diffusion indicated that the water mols. move independently of the glycerol mols. The diffusion const. of the water is not detd. by the viscosity of the glycerol alone, but is affected by factors not susceptible to a hydrodynamical interpretation. Diffusion measurements can be used to det. the constitution of liquids and mixts. (*Chem. Abs.*)

PATENTS

CLEANSERS. I. G. Farben-industrie. German 662,-911. A mixt. of water-sol., surface-active salts of acid esters of polybasic mineral oxy acids with high-mol. aliphatic or cycloaliphatic alcs. or high mol. olefins, or sulfonic acids of high-mol. org. compds. or condensation products of high-mol. fatty acids with aminoalkyl- or hydroxyalkylsulfonic acids, and water-sol. highly polymerized products from vinyl compds. or polymerization products from C_2H_4O or condensation products from aldehydes and urea or urea derivs., is used for making soap-like compds. In an example, Na dodecylsulfate is mixed with water and the Na salt of polyacrylic acid and kneaded to form a cleanser for the hands. Other examples are given. (*Chem. Abs.*)

REMOVING PITCH FROM TEXTILE MATERIALS. Ehrhart Franz. U. S. 2,131,137. The material is steeped in a liquid higher fatty-acid softener for pitch in a quantity exceeding the material in wt. until the pitch has become friable when the material is rubbed between the fingers, so much of the acid is removed as can be removed mechanically and the remaining acid is rendered water-sol. by introducing an aq. alkali soln. to effect sapon. and the sapond. acid is washed off together with emulsified pitch. (Chem. Abstracts)

SULFONATING FATTY COMPOUNDS SUCH AS FATS AND FATTY ACIDS. Daniel S. Whiteman. U. S. 2,129,-896. An arrangement of app. is described, and a process which comprises continuously passing the fatty compd. as a film between relatively moving adjacent surfaces and introducing a sulfonating agent into the continuously moving film. (*Chem. Abs.*)

GERMICIDAL DETERGENT. Halvor O. Halvorson, John L. Wilson, and Erling J. Ordal. U. S. 2,138,806. A germicidal detergent composition comprising buffer salts, soap, and azochloramid, said composition being soluble in water, and a solution made therefrom, and containing from ½% to 3% of the composition, containing only a small fraction of 1% of the soap and azochloramid, the azochloramid being present in amounts insufficient to render such solution germicidal in the absence of the soap.

HARD WATER SOAPS. An invention (British Pat. 492,719) by Lever Bros., Ltd., Richard Thomas, D.Sc., and Henry B. Oakley, M.Sc., is based on the discovery that when soaps derived from polyethylenic fatty acids, i.e., fatty acids having two or more ethylenic groups, such as linoleic acid, or from mixtures of polyethylenic fatty acids with certain other fatty acids, are incorporated with phosphates of the alkali metals, such as trisodium phosphate or disodium-mono-hydrogen phosphate, the resultant product when used in hard water give rise to little or no precipitation of insoluble soaps or formation of scum, the liquid when boiled remaining clear or substantially clear.

The invention consists in a process for the manufacture of soap products which consists in incorporating sodium soaps with orthophosphates of the alkali metals and producing the products in a form which will ensure rapid solution in water, the soaps being derived from polyethylenic fatty acids such as linoleic acid, or from mixtures of such fatty acids with oleic acid or other monoethylenic fatty acid, and the ratio of orthophosphates (calculated as anhydrous salts) to fatty acids being from 1:10 to 1:4. (*Perfumery and Essential Oil Rec.*)

LUBRICANTS. W. B. D. Penniman. British 486,942. A lubricating oil for internal combustion engines comprises a hydrocarbon oil having a viscosity above 135″ and below 250″ Saybolt at 100° F., and a polar body for increasing the oiliness of the composition. A mushiness ingredient also may be present, and the amount of polar body and mushiness ingredient together, preferably does not exceed 15 per cent of the composition. Specified polar bodies are fatty acids, e.g., oleic acid, higher alcohols and ketones, some metallic salts, sulphur compounds prepared by the treatment of petroleum or tallow oil with sulphur, soaps such as the oleates of lead, copper, zinc, calcium and sodium, and sodium sulphur oleate, substituted ammonias, e.g., diphenylamine, lard oil and tallow oil. Specified mushiness ingredients are saponifiable oils and fats, e.g., castor oil, and ketones obtained by the heat treatment of higher fatty acids. (*Oil & Colour Trades J.*)