of 268. Upon oxidation with alkaline permanganate this fatty acid failed to yield a crystalline derivative. The residue left from the distillation, upon further purification, yielded no other fatty acid having a higher equivalent weight than fraction 17.

Conclusions and Summary

The methyl esters of the fatty acids in the wax of dormant tung buds were prepared and fractionated in a column packed with a spiral screen. Myristic, palmitic, linoleic, oleic, and stearic acids were identified in some of the fractions by the saponification equivalents and by the melting points of the p-bromophenacyl derivatives of the saturated acids and the hydroxy derivatives of the unsaturated acids. The identification of these acids proved the presence of some of the higher fatty acid radicals similar to those found in Crisco and lanolin. It is believed that the mutual solubility of these fatty acids may have facilitated penetration of the alpha-naphthalenacetic or indole-3-acetic acid in Crisco and lanolin emulsions, into the bud tissue and in this way increased their effectiveness in prolonging dormancy.

Acknowledgment

The authors are indebted to Albert H. Best for suggestions in building the distilling column and to F. H. Hayes for the construction of the column.

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Abstracts

Oils and Fats

Edited by
M. M. PISKUR and MARIANNE KEATING

DECOLORIZATION AND DEODORIZATION OF MUSTARD OIL. S. C. Ukel and M. N. Goswami. *Indian Soap J. 12,* 258-65 (1947). S compounds are removed by deodorization at 100°. Optimum decolorization was with 9 parts of Fuller's earth and 1½ parts carbonit in the oil for 45 minutes at 75°.

CONTINUOUS DEACIDIFICATION OF OLIVE OIL IN A PACKED COLUMN. J. M. Martinez Moreno. *Anales fis. y. quim.* (Madrid) *43,* 261-78 (1947). Oleic acid is extracted from olive oil by 96° alcohol in a tower packed with Raschig rings or pieces of solid glass. The latter was the more effective. On passing through the tower, the mixture separates into an oil phase and an alcohol phase, the latter containing 75-90.5% oleic acid. (*Chem. Abs. 41,* 6420).

VACCENIC (ISOÖLEIC) ACID AS A MEANS FOR DETERMINING BEEF FAT IN PORK FAT. A SEMIMICRO METHOD. Oskar Bauer (Staatlichen Anstalt Lebensmitteluntersuch. Innsbruck). *Z. Lebensmittel-Untersuch. u. -Forsch. 86,* 223-8 (1943). The isoöleic acid detn. of Grossfeld was modified to a semimicro procedure. Results of analyses for isoöleic acid gave: various lards 0.21-0.41 (average 0.28), beef fats from various parts of the carcass 1.15-1.55 (1.30), and butter oils 1.10-1.29 (1.19)%. Using 0.3 and 1.3% as the average isoöleic content of lard and beef fat, resp., the error in approximating beef fat content in mixt. with lard was about 10%.

THE EFFECT OF THE FAT CONTENT OF CREAM ON THE HARDNESS, MOISTURE CONTENT, AND OTHER PROPERTIES OF THE BUTTER. H. Mulder (Rijkslandbouwproefstation, Hoorn, Netherlands). *Verslag Landbouw.* Onderzoek. No. 52C, 269-75 (1946). In view of the widespread belief that it is more difficult to prepare hard butter from cream low in fat than from rich cream, comparative experiments were made with cream containing 8% fat (I), and with 25-40% fat (II). It was found that I takes a longer time to churn and yields round, smooth butter particles, whereas II churns rapidly and gives flocs composed of small particles. The hardness of the butter is not affected by the fat content of the cream. The butter from I contained more moisture, more buttermilk, and was more difficult to dry than that from II. Centrifuging removed more fat from the buttermilk obtained from I, and the loss in fat upon churning was greater. But the phospholipid content of the buttermilk was about the same with or without centrifuging, and the difference in the fat loss could not be explained on this basis. Churning at a temperature of 9° gave harder butter than churning at 15°. (*Chem. Abs. 41,* 6349.)

SOME MODIFICATIONS OF THE SCHIBSTED FAT ALDEHYDE TEST. W. R. Mummery (Dairy Res. Inst., Palmerston North, New Zealand). *J. Dairy Research 15,* 55-6 (1947). The application of the Schibsted fat aldehyde test for the routine examination of butter and butterfat is facilitated by the following modifications: storage of the reagent at cool temperatures, use of Na metabisulphite instead of SO_2, preparation of the standard color at a lower pH.

EFFECT OF STORAGE AND ACIDITY ON THE PROTECTION OF VITAMIN A IN SHARK-LIVER OIL BY ANTIOXIDANTS. S. M. Bose (Indian Inst. Sci., Bangalore). *Current Sci.* (India) *16,* 119-120 (1947). Vitamin A in shark-liver oil was protected by the use of antioxidants. Highest protection was achieved with 0.04% isobutyl gallate and 0.02% citric acid. Stored at room temperature in dark bottles the controls lost 10% activity in one month and about 60% within 10 months, whereas the activity in protected samples was retained up to this time. However, once deterioration had started the rate of destruction was comparable to those of the controls. (*Chem. Abs. 41,* 6021.)

VITAMIN A AND OIL CONTENT OF FISH LIVERS AND VISCERA. FISHES OF THE OREGON COAST. R. O. Sinnhuber and D. K. Law (Oregon Agr. Exper. Sta., Astoria, Ore.). *Ind. & Eng. Chem. 39,* 1309-10 (1947). The livers and viscera of a number of fishes were assayed for vitamin A and oil content in order to indicate potential supplies and to enable a more complete utilization of cannery waste. The report is a summation of approximately 400 samples. Generally within a given species the larger and more mature fish have a greater vitamin A value. In certain species of fish, sex also has an effect on the vitamin A content. The season, the water temperature, and availability of food undoubtedly influence the vitamin A content of fish livers.

VARIATIONS IN THE CAROTENE AND VITAMIN A CONTENTS OF CERTAIN NEW ZEALAND BUTTERFATS. C. R. Barnicoat (Dairy Res. Inst., Palmerston North, New Zealand). *J. Dairy Research 15,* 80-8 (1947). There were seasonal variations apparently due to nutritional rather than physiological causes. The minimum values (33-37 i.u./g. butterfat) for total vitamin A were found in late summer (February) at the time when the pasture normally tends to dry up, while the peak values (42-53 i.u./g. butterfat) occurred in late winter and spring (July-October). The variations in vitamin A potency with season were in the opposite direction to the variations recorded in the literature for Europe and America.

FURTHER STUDIES ON LIPID STIMULATION OF LACTOBACILLUS CASEI. V. R. Williams and E. A. Fieger (Louisiana State Univ., Baton Rouge). *J. Biol. Chem. 170,* 399-411 (1947). *Lactobacillus casei* was stimulated by lipids in biotin-free media in which casein hydrolysate was replaced with either (a) amino acids, or (b) amino acids, purines, and pyrimidines previously peroxide-treated. The addition of avidin sufficient to bind 1,000 micromicrograms of biotin did not prevent lipid stimulation in tubes containing no added biotin. Various synthetic detergents were examined for stimulatory effect with *Lactobacillus casei.* In general, non-ionic detergents proved stimulatory, many sufficiently so to enable the bacteria to convert glucose into acid with approximately 100% efficiency, even in the absence of biotin. The most stimulatory detergents were oleates. On the basis of the experimental data presented and through interpretation of the work of others, it was postulated that biotin functions as a cell permeability factor and can be replaced by the proper lipids.

A LACTOBACILLUS OF CECAL ORIGIN REQUIRING OLEIC ACID. A. R. Whitehill, J. J. Oleson, and Y. SubbaRow (American Cyanamid Co.). *Arch. Biochem. 15,* 31-7 (1947). An essential growth factor, present in fish solubles, necessary for the growth of a *Lactobacillus* isolated from the cecum of a rat, was demonstrated to be oleic acid.

MODERATE FATS IN INFECTIOUS HEPATITIS: A NEW CONCEPT BASED ON RECENT ADVANCES. N. E. Reich (M.D., F.A.C.P.), Brooklyn, N. Y., D. L. Swartz, and P. Beckman.. *Am. J. Digestive Diseases 14,* 281-8 (1947). A moderate increase of fats up to 200 g. in the dietary treatment of infectious hepatitis is advocated in light of recent advances in pathologic anatomy and physiological and clinical observations.

RESEARCH ON THE CONDITIONS IN WHICH ETHYL PALMITATE, STEARATE, LAURATE, AND THEIR ALCOHOLS RETARD TUBERCULOUS PROCESSES. L. Negre, A. Berthelot, J. Bretey, and N. Fethke. *Ann. inst. Pasteur 71,* 406-14 (1947). Cetyl, octadecyl, and lauryl alcohols do not retard the evolution of tuberculous lesions. However, the addition of cetyl alcohol to a sample of active Et palmitate or Et stearate seems to increase the retarding action of these esters on the evolution of lesions. If an inactive Et ester is used, the alcohol does not confer any activity on it. Lauryl and octadecyl alcohols do not exhibit the same action. (*Chem. Abs. 41,* 5633.)

THE EFFECT OF DIETARY FAT UPON GASTRIC EVACUATION IN NORMAL SUBJECTS. J. H. Annegers and A. C. Ivy. *Am. J. Physiol. 150,* 461-5 (1947). Thirty normal subjects were given 1500-calorie test-meals of constant weight and volume and containing 53, 77, and 120 g. total fat. Of this 25, 50, and 80 g., respectively, were lard or hydrogenated vegetable oil (Crisco). Delayed gastric evacuation attributable to the fat content of the test meal was statistically significant. Twenty-five subjects showed a delay at 4 hours when the fat content by wet weight was increased from 6-8% and 27 subjects showed delayed gastric evacuation when the fat was increased from 8-14%. No significant differences were found between lard and hydrogenated vegetable oil in their effect on gastric emptying. No gastro-intestinal symptoms followed any test meals with either lard or hydrogenated vegetable oil. The gastric inhibition which occurred when the fat content of the meal was increased was a consistent characteristic for given individuals.

SOME STUDIES ON THE NUTRITIVE VALUE OF BUTTER FATTY ACIDS. E. Heftmann (Univ. Rochester, N. Y.). *J. Nutr. 34,* 455-67 (1947). There was no statistically significant difference in weight gain or efficiency of food conversion during a 5-week period between 2 groups of 10 young rats (5 males and 5 females) each, regardless of whether the fat component of a Sherman B diet was made up of the fatty acids of butter or the same fatty acids, stripped of their low molecular weight fraction by steam-distillation. In a similar experiment a significant difference in weight gain and some difference in the efficiency of food conversion was observed when the effect of butter fatty acids as part of the Sherman B diet was compared with that of the partially hydrogenated fatty acids. Weight gain and efficiency of food utilization were decreased only in the male rats of the group fed the hydrogenated fatty acids, and only when the intake of vitamins A and D was relatively low. The amount and concentration of vitamin A stored in the livers of rats fed preformed vitamin A was not significantly affected by complete hydrogenation of the butter fatty acids in the diet.

ESSENTIAL FATTY ACID METABOLISM. I. ESSENTIAL FATTY ACID CONTENT OF RATS ON FAT-FREE AND PYRIDOXINE-FREE DIETS. G. Medes and D. C. Keller (Lankenau Hosp. Res. Inst., and Inst. Cancer Res., Philadelphia, Pa.). *Arch. Biochem. 15,* 19-29 (1947). Animals in deficiency states caused by exclusion from the diet of fat and pyridoxine were studied for their response to Et linoleate, to pyridoxine, to pyridoxine and tryptophane, and to Et linoleate and pyridoxine. The fat produced in animals relieved by pyridoxine was of approximately the same amount as in animals relieved by Et linoleate. In the latter instance, the percentage of fat formed was greater. Where both supplements were used together, the fat increase was significantly greater than where either was used separately. Tryptophane did not have any influence. All fractions of the fat of these animals were increased, including the highly unsaturated fatty acids. On the pyridoxine supplement the increase was distributed almost equally among the di-, tri-, and tetraenoic fractions. When linoleate was fed, the dienoic fraction was more elevated. Although linoleic acid appears to share in the general elevation following pyridoxine feeding, the extent of its participation cannot be accurately evaluated until more specific methods of estimation and identification can be devised.

REACTIONS BETWEEN FATTY OIL AND GRIGNARD'S REAGENTS. Kazuo Kaku, Ryohei Oda, and S. Arisue. *Bull. Inst. Phys. Chem. Research* (Tokyo) 357-9 (1943). Tertiary alcohols were obtained from the reaction of coconut oil and its fat acid esters with Grignard's reagents as follows: from 1 molecule coconut oil and 2 molecules $PhCH_2MgCl$, 1,1-dibenzyldodecyl alcohol (yield 44%) and dilaurin; from 1 molecule coconut oil and 4 molecules $PhCH_2MgCl$, the same alcohol (yield 35%) and monolaurin; from $C_{11}H_{23}COOEt$ and MeMgI, 1,1-dimethyldodecyl alcohol (yield 77.3%) which was changed to olefin b. 230-60° by distilling with P_2O_5. (*Chem. Abs. 41,* 6419.)

THE SYNTHESIS OF LAURIC ACID AND DODECYLAMINE CONTAINING CARBON FOURTEEN. H. J. Harwood and A. W. Ralston. *J. Org. Chem. 12,* 740-1 (1947). C^{14} was obtained in the form of $BaCO_3$ having a radioactive isotope ratio of 3.16% and an activity of 1 millicurie in 124.3 mg. The radioactive C was introduced into the aliphatic carbon chain by the reaction of CO_2 with undecylmagnesium bromide. The radioactive lauric acid so obtained was converted to the nitrile by passage over Al_2O_3 in the presence of NH_3. Reduction of the nitrile with Na yielded radioactive dodecylamine which was isolated as the acetate. Successive additions of inert materials at each step of the synthesis served to reduce losses of the active compounds as well as to achieve the desired activity in the final products.

S[illegible]THETIC CASTOR OIL—A PRELIMINARY NOTE. M. Goswami, G. Modak, and A. Dutta (Univ. Coll. Sci. and Technol., Calcutta, India). *Science and Culture 12,* 555 (1947). Air passed through ground nut oil at 70° with a Ni catalyst gave a hydroxylated oil similar to castor oil. The product was slightly higher in specific gravity, viscosity, saponification number, and molecular weight than castor oil; the acetyl value was 125 compared to 145 for castor oil. (*Chem. Abs. 41,* 6421.)

PATENTS

PROCESS OF TREATING SOYBEAN AND SIMILAR GLYCERIDE OILS. L. F. Henderson and L. H. Libby (Lever Bros. Co., Cambridge, Mass.). *U. S. 2,428,367.* The process of improving oil and fat stock comprises treating to remove color imparting impurities with formaldehyde and a mineral acid catalyst.

OIL BLEACHING PROCESS AND APPARATUS. R. R. King, S. E. Pack, and F. W. Wharton (Mrs. Tucker's Foods, Inc.). *U. S. 2,428,082.* The invention provided an improved method of treating oil which includes the step of deaerating and steam stripping the oil-adsorbent mixture at a low or normal temperature prior to contacting it at an elevated temperature, whereby the rapid dissipation or flashing off of the entrained moisture, oxygen, and other highly volatile substances is accomplished and the ready adsorption of soaps and other hydratable colloids is permitted.

INTERESTERIFICATION OF FATS. (Procter & Gamble Co.). *Brit. 574,807.* The fats are heated at 200° in presence of catalyst in order to change the distribution of the fat acids of glyceride from an "even" to a "random" condition. The process increases the relative amounts of tri-saturated fat acid glycerides. Fats so altered may be more suitable as shortening or in the drying oil field, they condition the oil for better removal of non-drying constituents by crystallization.

COSMETIC PREPARATION CONTAINING TRIETHANOL AMINE SALTS OF SULFURIZED FATTY ACIDS. F. E. Dearborn. *U. S. 2,427,717.* A cosmetic preparation comprising an aqueous solution of the addition product of sulphurized oleic acid and triethanolamine.

Soaps

Edited by
LENORE PETCHAFT

MODERN SYNTHETIC DETERGENTS. Samuel Alperin. *Soap, Perfumery, Cosmetics 20,* 885-8 (1947). Three types of detergents are reviewed, the fatty alcohol sulphates, the condensation products of a fatty acid molecule with amino or similar compounds, and the sulphonated alkyl-aryl compounds. The fatty alcohol sulphates may be produced by reaction of fatty acids with sodium and a low molecular alcohol, by the Bouveault-Blanc method or by the Van Andel process. Details of all are given. An outstanding characteristic of this group is the fact that they are incompatible with soap. The condensation type consists of the reaction products of oleyl chloride with the sodium salt of hydroxy ethane sulphuric acid to yield Igepon AP, with the sodium salt of methyl taurine to yield Igepon T and with the sodium salt of sarcosine to give Medialan A. Directions for producing all of these compounds along with steps involved in preparing the final product are also described. Manufacturing procedures for the alkyl-aryl sulphonates—Nacconol—are then included. Nine references.

MODERN AIDS TO CLEANLINESS—INDUSTRIAL, PUBLIC, AND PERSONAL. O. M. Morgan (Allied Chemical and Dye Corp., Buffalo, N. Y.). *Am. Dyestuff Reptr. 36,* 601-8 (1947). The uses of synthetic detergents and specifically the Nacconols are reviewed. Industrial applications include such fields as textiles, leather, paper, metals, paint, foodstuffs, canning, and brewing industries.

THEORY AND PRACTICE OF THE IONICALLY ACTIVE AND IONICALLY INACTIVE SOAPLIKE MATERIALS. A. Chwala and A. Martina. *Textil-Rundschau 11,* 147-61 (1947). A discussion of the chemical and physical properties of various types of surface- active agents. A classification of the commercially available materials according to their ionic nature and their use in the textile industry is included. (*Chem. Abs. 41,* 6422.)

USE AND RETENTION OF PERFUMES IN SOAPS. E. Gorokhoff (V. Mane Fils, a Asinieres). *Ind. parfumerie 2,* 91-9 (1947). A discussion of principles under the headings: alcohols, aldehydes, ketones, phenols and phenolic ethers, acids, ethers, lactones, ether oxides, N compounds, essential oils, and resinoids. Data for odor retention and coloration produced by more than 40 compounds and aromatic substances are tabulated. (*Chem. Abs. 41,* 6671.)

Soap products from coffee. Anon. *Soap 23,* No. 10, 59 (1947). A new soap powder and household cleanser has been developed from the oils found in substandard and contaminated coffee. The basic ingredients in the preparations are oils which comprise 30% to 40% of the composition of coffee, other glycerized materials and tannin acids. The unsaponifiable material remaining after treating the coffee oils with alkali to make the soap is said to be advantageous in protecting the hands. The soap makes a heavy lather and is said to have some bleaching action. Free of odor itself, the "coffee soap" can actually deodorize foreign odors.

Crystal structure of a crossed-chain potassium soap. V. Vand, T. R. Lomer, and A. Lang (Lever Bros. and Unilever Ltd., Port Sunlight, Eng.). *Nature 159,* 507-8 (1947). Three forms of anhydrous (A, B, C) and one form (D) of hydrated, neutral, even-numbered K soaps were found. Each gives a different characteristic x-ray powder pattern. Form A is monoclinic and was obtained for soaps with 4-12 C atoms in the chain. Form B is probably triclinic and was obtained for soaps with 12-18 C atoms per molecule. Form C was observed only at higher temperatures and D at lower temperatures; neither of these has been studied sufficiently to warrant description. By means of a single-crystal X-ray examination,, the hydrocarbon chains of K caprate (Form A) were found to cross each other at an appreciable angle. Rotation, oscillation, and moving film photographs were taken about the a and b axes using Ka radiation of Cu. The unit-cell dimensions a, b, and c are 8.09, 5.63, and 28.81 kX, respectively, B=108°, d (001)=27.40 kX, measured and calculated densities are 1.123 and 1.112 g./cc., respectively. (*Chem. Abs. 41,* 6104.)

PATENTS

Washing agent and detergent. Henkel & Cie G.m.b.H. *Belg. 448,841.* The product is composed of a hydrated mixture of alkali percarbonates, soaps and the like, alkaline-reacting solvents, a salt of phosphoric acid that contains less water than orthophosphoric acid, and stabilizers for the alkali percarbonates. The vapor pressure of the complete mixture varies from 4-9 mm. of Hg. at 20° to 9-19 mm. at 30°. (*Chem. Abs. 41,* 6423.)

Washing, cleaning, wetting, dispersing, and emulsifying agents. Deutsche Hydrierwerke A.-G. *Belg. 448,363.* Cyclic acetols obtained by condensation of carboxylated compounds, such as aldehydes or ketones, with pentaerythritol or dipentaerythritol and containing at least 1 free OH group are added to soaps or similar substances which can absorb large quantities of them in aqueous solution. (*Chem. Abs. 41,* 6423.)

Washing, fulling, and cleansing agents. I. G. Farbenind. A.-G. *Belg. 448,523.* The active substances are polymerization products of hydroxyalkylamides with acrylic acid, $CH_2{=}CH{-}CO{-}N(R'ROH)$, in which R is an aliphatic radical and R' is H or R or a cycloaliphatic radical or ROH. (*Chem. Abs. 41,* 6423.)

Floating soap. Chemische Fabrik von Heyden A.-G. *Belg. 449,078.* Synthetic fatty acid is fused and dioxodisiloxane is added. After neutralization with NaOH a fresh quantity of dioxodisiloxane is added a short time before setting, the total quantity added being not over 1%. (*Chem. Abs. 41,* 6742.)

Sulfonates of long-chain hydrocarbons. I. G. Farbenind. A.-G. *Belg. 449,767.* Salts of fatty acids are caused to react with paraffin sulfochlorides obtained by treating paraffin hydrocarbons of boiling points 230-360° with SO_2 and Cl, if desired in the presence of short wave radiation. The products are useful as detergents. (*Chem. Abs. 41,* 6742.)

Production of ether sulphonates for detergents. Ralph Carlisle Smith. (Colgate-Palmolive-Peet) *U. S. 2,427,576-7.* Reaction of an aliphatic alcohol with hydroxy and/or halogenated sulphonates yields a detergent having improved wetting and emulsifying power and less tendency to dust due to the presence of the hydroxy or halogen groups relatively close to a sulphonate group.

Drying Oils

Edited by
HOWARD M. TEETER

The thiocyanogen value of linoleic acid. P. Desnuelle, J. Rouzier, and M. Naudet (Faculte Sci., Marseille). (*Bull. soc. chim. France 1947,* 325-6. Linoleic acid and methyl linoleate were prepared from sunflower oil through the tetrabromides. The thiocyanogen number of the sunflower oil became constant at 81.1 after 24 hours, but the thiocyanogen numbers of linoleic acid and methyl linoleate after 24 hours were in excess of the values expected for absorption of one mol. of thiocyanogen and increased further after this period. Isomerization of the linoleic acid and ester during preparation is thought to cause this discrepancy. (*Chem. Abs. 41,* 6419.)

The component acids and glycerides of Australian lumbang oil. F. D. Gunstone and T. P. Hilditch (Univ. Liverpool). *J. Soc. Chem. Ind. 66,* 205-8 (1947). A sample of lumbang nuts (candlenuts) from North Queensland gave kernels yielding 62% of light-colored oil having an iodine value of 164.3 and a free fatty acid content of 0.3% (as oleic acid). The component acids of the oil are palmitic 5.5, stearic 6.7, arachidic 0.3, oleic 10.5, linoleic 48.5, and linolenic 28.5%. Possible component glycerides are calculated. By crystallization at —35°C., 66% of the oil was obtained with an iodine value of 179 but having a glyceride composition widely different from that of linseed oil. Lumbang oil should have considerable use as a drying oil.

Ketolic oxyns. I. Characterization of linseed oil oxyns by the aluminum number. E. Eigenberger (Deutsche tech. Hochschule, Prague). *Reichsamt Wirtschaftsausbau, Chem. Ber. Pruf.-Nr. 15* (PB 52015), 409-23 (1942). The aluminum number is defined as the parts of Al by weight combining with 100 parts of sample. The reagent is a solution of Al isobutylate in benzene. The Al number is a measure of the amount of reactive carbonyl oxygen in the sample. Al numbers for a variety of organic compounds of simple structure are given. Results with oleic acid and oleyl alcohol under various conditions of storage and after blowing for various times are stated. The autoxidation of linseed oil under various conditions was followed by changes in Al number, acid number, peroxide number, viscosity, oxygen absorption, changes in weight of films, and loss of volatile acids. The results are presented in nine graphs.

Al isobutylate added from time to time during the course of blowing of linseed oil at 70°C., stabilized the ketolic oxyns as Al complexes. A solution of such an "aluminated" oil (3.3% Al) gave a film which became hard, elastic, and non-adhesive and decreased in water absorption to 0%, compared with 6.8% for the original linseed oil. II. RUST PREVENTION BY LINSEED-OIL METAL-OXIDE FILMS. *Ibid. Pruf.-Nr. 093,* (PB 52020), 1063-72. The term oxyns is given to all autoxidation products of drying oils intermediate between liquid and gelatinous products. Many Pb, Zn, and Fe compounds of ketolic linseed oil oxyns either as a clear varnish or as a mixture with an equivalent amount of metal oxides have rust-preventive action analogous to the usual linseed oil-red lead mixtures. Experimental results are given for several such formulations. Al compounds of the oxyns showed no rust prevention. (*Chem. Abs. 41,* 6414-6.)

LINSEED-OIL DRYING. E. Eigenberger. *Reichsamt Wirtschaftsausbau, Chem. Ber. Pruf.-Nr. 15* (PB 52011), 93-103 (1942). The factors involved in the drying of linseed oil are considered in detail. (*Chem. Abs. 41,* 6414.)

TALL OIL AS A SUBSTITUTE FOR LINSEED OIL. B. Widegren. *Seifensieder-Ztg. 1943,* 76-7. Properties of unesterified tall oil to be used in paints and varnishes, etc., include a high content in linolenic and linoleic acids (high iodine number) and a low resin acid content. The combination of tall oil with dehydrated castor oil gives good results. (*Chem. Abs. 41,* 6416.)

PATENTS

POLYMERIZATION NUCLEUS FOR WRINKLING OILS. G. M. Williams (New Wrinkle, Inc.). *U. S. 2,428,901.* One hundred parts of soya bean oil and 0.05 part of Na are heated together to 120°C. to increase the drying rate of the oil and transform it into a wrinkling oil.

PROCESS OF MAKING LINEAR SUPERPOLYESTERS. J. C. Cowan and D. H. Wheeler (United States Department of Agriculture). *U. S. 2,429,219.* Dimeric, dibasic fat acids or their esters, derived from heat-bodied vegetable oils containing acids having a plurality of double bonds, are reacted with a dihydric alcohol to form an essentially linear superpolyester containing non-benzenoid unsaturation.

DRYING ROSIN OIL AND METHOD OF PRODUCING SAME. E. E. Fleck (United States of America). *U. S. 2,429,-264.* A drying rosin oil is prepared by slowly adding H_2SO_4 to rosin and stirring at atmospheric pressure and 180-200° for at least two hours and subsequently raising the temperature to 255-325° for at least 2 hours. The ratio of rosin to sulfuric acid used is 100 parts to 1-10 parts by weight.

DEHYDRATION OF CASTOR OIL. W. T. Walton, C. A. Coffey, and O. E. Knapp (Sherwin-Williams Company). *U. S. 2,429,380.* Castor oil is dehydrated to form a light-colored drying oil by heating it to about 190-290° C. with at least about 3% of a catalyst selected from the group consisting of 2-naphthol-8-sulfonic acid and 2-naphthol-6-sulfonic acid.