reacting β-(3,6-dialkoxy methylphenyl) Et Mg halide with Me-4,8,12-trimethyl tridecyl ketone and thereafter refluxing the resultant tertiary alcohol under acidic conditions to de-alkylate the ether linkages thereof and cyclize to the corresponding 6-hydroxy tocopherol-like chroman.

STABILIZATION OF ORGANIC SUBSTANCES. C. J. Pedersen. (E. I. du Pont de Nemours & Co.). *U. S. 2,373,049.* Thiourea, in which a single H has been replaced by an electronegative aromatic radical, is used to protect fat and oil against the oxidation accelerated by catalyst metals.

PHOSPHATIDE COMPOSITION. P. L. Julian and E. W. Meyer (American Lecithin Co.). *U. S. 2,374,681.* A small amount of organic sulfonic acid is added to phosphatides to reduce emulsification properties and to reduce viscosity and thus improve their utility as lubricant adjuncts.

OIL-PHOSPHATIDE COMPOSITION. P. L. Julian and E. W. Meyer (American Lecithin Co.). *U. S. 2,374,682.* A difficultly emulsifiable lubricating composition suitable for lubricating high pressure internal combustion engines without substantial varnish formation, comprises a major amount of mineral lubricating oil and a minor amount of phosphatide which latter has been treated with such an amount of acid material that the charges upon the "zwitter" ions which tend to cause water solubility have been neutralized and the phosphatidic material is therefore at or near its isoelectric point.

METHOD OF FORMING FATTY ACID SUBSTITUTED AMINO COMPOUNDS. F. C. Bersworth (Martin Dennis Co.). *U. S. 2,374,915.* The amide compounds of the unsaturated fatty acids are converted into substituted amino acid amides by reacting the amide with an amine in the presence of a hydrogenating catalyst under conditions inhibiting oxidation and hydrolysis.

LUBRICATING GREASE COMPOSITION. J. C. Zimmer and A. J. Morway (Standard Oil Development Co.). *U. S. 2,374,966.* The grease is a mineral oil product containing Al soap and an organic amine.

STABILIZED LUBRICANTS. N. D. Williams and W. J. Backkoff (Pure Oil Co.). *U. S. 2,375,060-1.* The lubricant improving agents are prepared by treating fats or waxes with a small amount of P_4S_3 and converting about 50% of the product to the Sn or Pb soaps.

ANTIOXIDANT COMPOSITIONS. R. W. Riemenschneider and J. Turer (Sec. of Agr.). *U. S. 2,375,250.* An antioxidant composition comprises an ascorbyl monoester of a saturated aliphatic monocarboxylic acid containing from 12-18 C atoms per molecule, and a compound selected from the groups consisting of α-tocopherol and the isomers and analogues of α-tocopherol.

LUBRICATING GREASES. J. D. Morgan and R. E. Lowe (Cities Service Oil Co.). *U. S. 2,375,485.* A turret lubricating grease, comprises about 7% by weight of Ca stearate, about 2% by weight of Li stearate, about 0.6% by weight of Al stearate, about 1% by weight of Pb oleate, the remainder of the lubricant consisting essentially of a mixture of neutral mineral oil and naphthenic oil, said grease being prepared by mixing the stearates with the oils then adding the Pb oleate, heating the mixture to a maximum temperature of about 420° F. and then rapidly chilling the mixture.

CATALYTIC HYDROGENATION PROCESSES. A. S. Richardson and J. E. Taylor (Procter and Gamble Co.). *U. S. 2,375,495.* In the catalytic hydrogenation of compounds selected from the group consisting of fatty acids and esters thereof to form fatty alcohols, in the presence of a Cu containing catalyst at high temperature and pressure is a step of incorporating a substantial yet not predominant proportion of Cd soap in the mixture to be hydrogenated.

LUBRICATING OIL. C. M. Blair, Jr. (Petrolite Corp. Ltd.). *U. S. 2,375,516.* An amount of a straight chain saturated fat alcohol-citraconic acid monoethylenic straight chain fat alcohol condensation polymer is used to improve lubricants.

CONSTANT VISCOSITY GREASES. J. D. Morgan (Cities Service Oil Co.). *U. S. 2,376,312.* A comparatively constant viscosity lubricating grease comprises a major portion of a polyalkyl phosphate in which the alkyl group has 5 C atoms per molecule or less and a minor portion of polymerized castor oil dissolved therein and a Li fatty acid soap blended therewith to form a grease.

NEUTRAL ORGANIC ESTERS OF SULPHUROUS ACID AS PEST-CONTROL AGENTS. I. Hechenbleikner (American Cyanamid Co.). *U. S. 2,377,148.* The pest-control composition contains a toxic amount of dilauryl sulphite and a carrier therefor.

HYDROGENATION CATALYSTS AND OTHER CATALYSTS. J. A. V. Turck, Jr., (Colgate-Palmolive-Peet Co.). *U. S. 2,375,506.* Very porous, low density (2-10% of normal) metallic catalysts are prepared by precipitating the metal as the hydroxide, siphoning off the liquid, washing the precipitate with alcohol or acetone to reduce the water 1-3%, adding isopropyl alcohol or other reducing organic compound and heating in absence of O_2 at the critical reducing temperature.

Abstracts

Drying Oils

Edited by
HOWARD M. TEETER

SAVING LINSEED OIL AND THINNER IN PAINTS BY IMPROVEMENT OF LINSEED OIL. E. Asser. *Lack-u. Farben. Z 1933,* 185-6. A discussion of the economy effected by the Bisöl process [Chem. Abs. 31, 3308 (1937)], by which the viscosity of the oil is decreased and its wetting power is increased. Various suitable paint formulations for rust control are given. (*Chem. Abs.*)

PATENTS

SOLVENT EXTRACTION OF OIL FROM SEEDS. P. A. Singer and H. J. Deobald (Allied Mills, Inc.). *U. S. 2,377,975; 2,377,976.* Continuous extraction of oil from seeds by countercurrent flow of seeds and a solvent consisting of 70 to 80 parts of ethanol and 20 to 30 parts by volume of isopropanol. Extraction

is effected by elevated temperatures, and the bulk of oil is separated from the solvent by cooling. The freed solvent can then be used to extract fresh beans by removing at least 10 per cent of the solvent and supplying fresh solvent as make-up.

GASKETS. H. Drach and F. Bremer. (Assignors to Goetzewerk Friedrich Goetze A.-G.). *Ger. 740,388.* Asbestos impregnated with linseed oil mixed with powdered graphite is used for gaskets. (*Chem. Abs.*)

SYNTHETIC DRYING OILS. Theodore F. Bradley (American Cyanamid Co.). *U. S. 2,378,827.* Drying oils which have improved properties are obtained by esterifying polyallyl alcohol having at least 5 esterifiable primary hydroxyl groups with fat acids having an I value of at least 100. The fat acids are derived from dehydrated castor, soybean, linseed, or their conjugated isomers.

ANNEALING LACQUERS (ESPECIALLY WIRE ENAMELS). R. V. Have (Siemens-Schuckertwerke A.-G.). *Ger. 740,308.* As a binder for such enamels are used unsaturated drying oils produced from nondrying hydrocarbon oils by the known silent discharge method. The treatment continues until the desired degree of unsaturation (I. V. approx. 40) is obtained. (*Chem. Abs.*)

COATING COMPOSITIONS. J. K. Wise, G. W. Gill, and M. T. Schmidt (U. S. Gypsum Co.). *U. S. 2,379,402.* The coatings are emulsions of protein and dehydrated castor oil wherein the aqueous solution of the protein is the continuous phase and the dehydrated castor oil is the hydrophobe disperse phase. The compositions are characterized as forming water-washable, nonyellowing dry coatings.

AMIDES OF HIGH MOLECULAR WEIGHT CARBOXYLIC ACIDS. T. F. Bradley (American Cyanamid Co.). *U. S. 2,379,413.* Amides are obtained by heating ethylene diamine with acids and esters obtained by additional polymerization at elevated temperature of the methyl esters of tung oil fatty acids.

PROCESS FOR MODIFYING MOLECULAR STRUCTURE OF OILS AND FATS. E. W. Eckey. *U. S. 2,378,005; 2,378,006; 2,378,007.* Rearrangement of the fatty acid radicals in a triglyceride mixture is accomplished by heating the triglyceride under pressure with 0.25 to 10 per cent water. Composition of the triglyceride is achieved by heating with fatty acids or fatty acid esters under conditions of rearrangement of the acid radicals on the glyceride molecule and removing by vaporization the fatty acids or fatty acid esters from the triglyceride.

OXIDIZED SOYBEAN OIL AND PLASTIC COMPOSITIONS CONTAINING THE SAME. E. Miller. *U. S. 2,374,692.* The method of producing a material suitable for the manufacture of golf ball covers comprises oxidizing soybean oil at elevated temperatures until an elastic gelled mass is obtained, and then mixing the latter with a rubbery gum in such proportions that a hard, tough, moldable material is obtained.

COMPOSITION OF MATTER AND METHOD OF MAKING SAME. M. DeGroote (Petrolite Corp., Ltd.). *U. S. 2,375,540.* A new demulsifier consists of an oxyalkylated resultant of the acetalization reaction product of a member of the group consisting of ricinoleic acid, polyricinoleic acid and their esters, with a member of the group consisting of aldehydes and ketones, with the proviso that said oxyalkylated resultant has 3-20 ether linkages for each acyl radical.

PROCESS FOR BREAKING PETROLEUM EMULSIONS. M. DeGroote (Petrolite Corp., Ltd.). *U. S. 2,375,537-8.* The process for breaking petroleum emulsions of the water-in-oil type consists in subjecting the emulsion to the action of a demulsifier comprising an oxyalkylated resultant of the acetalization reaction product of a member of the group consisting of ricinoleic acid, polyricinoleic acid and their esters, with a member of the group consisting of aldehydes and ketones; in said oxyalkylated resultant there being present 3-10 ether linkages for each acyl radical.

Abstracts

Soaps

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X-RAY DIFFRACTION STUDY OF MICELLE STRUCTURE IN K LAURATE SOLUTIONS. E. W. Hughes, W. M. Sawyer and J. R. Vinograd. *J. Chem. Phys. 13,* 131-2 (1945).

Isotropic soap solns. contain ordered aggregates of micelles that give x-ray diffraction patterns. The short spacing of 4.4 A. is independent of concn. or of the chain length of the soap. The long spacing is 50 A. to 125 A. It decreases linearly with soap concn.; it increases on addn. of hydrocarbon (toluene) in proportion to the mole ratio of the additive soap. The long spacing for an 18.3% K laurate soln. is 50.4 A. Increments in the long spacing from H_2O and toluene addns. are independent and additive. The proposed micelle structure is supported by observations of the changes in line intensities when substances are solubilized. The effect of a solubilized additive on long spacing depends markedly on its chem. nature. When the change in spacing in A./mole of additive/mole of soap is plotted against molar vol. of the additive, the paraffin and aromatic hydrocarbons fall on two lines that extrapolate to intercepts at 4.4 cu. A./mol. In K laurate-styrene solns. the long spacing is first increased by addn. of the styrene: polymerization causes it to decrease almost to its original value. These micelles then solubilize more styrene, continuing their role in emulsion polymerization. (*Chem. Abs.*)

WETTING AGENTS IN TEXTILE PROCESSING. IX. Na LAURO-P-TOLUIDE-3-SULFONATE. E. D. Daruwala, B. D. Tilak, and K. Verkataraman. *J. Indian Chem. Soc., Ind. News Ed. 7,* No. 1, 24-8 (1944). The -CONH- group of $4\text{-}CH_3C_6H_3(3\text{-}SO_3Na)NHCOC_{11}H_{23}$ (I) is partly responsible for the good detergent properties of the compd.; it interrupts the hydrophobic part of the mol. and helps make it substantive toward cotton. Affinity for the textile fiber permits economic application from a dil. soln. $C_{11}H_{23}COCl$ (1 mole) was gradually added to a stirred soln. of 1 mole of $4\text{-}CH_3C_6H_3NH_2(3\text{-}SO_3H)$ in 2 moles of 10% NaOH at 5-10°, stirred 3 hrs. at 10°, and gave a cream-colored paste (II) which was evapd. to a cream-colored powder (III). III extd. with EtOAc gave pure