liquid, drying whilse the fabric is not in a relaxed condition, as by ironing or stentering, and then, if necessary and/or if desired, rinsing the fabric to remove any of the solvent medium which remains thereon.

LUBRICATING OIL COMPOSITION. F. L. Johnston (Shell Development Co.). *U. S. 2,372,955.* A mineral lubricating oil suitable for internal combustion engines contains dissolved about 0.25-10% of an oil-soluble alkali metal salt of a phthalic acid mono alkyl ester in which the alkyl radical contains about 10-20 C atoms and has at least 2 atoms selected from the class consisting of tertiary and quaternary C atoms.

SULPHURIZED HYDROCARBON DERIVATIVES. M. A. Dietrich (E. I. du Pont de Nemours). *U. S. 2,373,-879.* The stability of mineral lubricating oils is improved by addition of phosphate esters of sulfurized mixture of fat alcohols.

Abstracts

Drying Oils

Edited by the
STAFF OF THE NORTHERN REGIONAL RESEARCH LABORATORY*

ACETYLATED CASTOR OIL. O. Grummitt and H. Fleming. *Ind. Eng. Chem. 37*, 485-91 (1945). Castor oil (I) may be acetylated satisfactorily with HOAc (II) in the presence of *p*-toluenesulfonic acid (III) as catalyst if the water of esterification along with some II is continuously removed from the reaction mixture by fractional distillation. In a typical experiment 200 g. I, 120 g. II and 0.6 g. III were reacted for 3 hours to achieve 96% acetylation. The product had an acid number of 9.1 and a saponification number of 301. The thermal decomposition of I acetylated with acetic anhydride was studied. The product of acetylation with II was also suitable for study if all III were removed by treating with 1% clay for 2 hours at 100°. Decompositions were conducted under N_2 in glass flasks heated with a free-flame to reaction temperature in 5-9 minutes. After reaction temperature was reached the decomposition was followed by noting the rate of formation of II either by collecting and weighing it or by absorbing evolved II in excess standard alkali and titrating aliquots at various time intervals. The decomposition, which begins at 250°, was studied at 295°, 300°, 306° 312°, 320°, 330° and 340°. The process was found to be first order with an energy of activation of 44.5 kg.-cal. The following substances were shown to increase the rate or lower the temperature of decomposition: H_3PO_4 (65%), H_2SO_4 (96%), *p*-toluenesulfonic acid, $Zn(OAc)_2$, $FeCl_3$, $ZnCl_2$, titania gel (from $TiCl_4$) and *p*-toluenesulfonyl chloride. High temperatures (320°-340°) and short reaction times minimize thermal polymerization which occurs during decomposition. The product contains 30% conjugation and is suitable for use as a drying oil.

MECHANISM OF HEAT POLYMERIZATION OF DRYING OILS. D. S. Bolley. *Am. Paint J. 29*, No. 37, 19-22, 48-50 (1945). A review with 18 references.

THE EFFECT OF ORGANIC SUBSTANCES ON THE DRYING OF OILS. Kia-Khwe Jeu, Chia-Cheng Tong, Chi-Tsiang Lin and Hsueh-Fang Ma. *J. Chinese Chem. Soc. 11*, 25-33 (1944). Samples of tung, stillingia and linseed oils containing a small amount of Cu soap as catalyst are treated with organic substances in AcOEt solution and diluted with the solvent to 25 ml. Aliquots are removed and evaporated and the I number of the oils is determined after definite time intervals. All the substances examined inhibited oxidation of the oil in descending order of potency as follows: pyrogallol, *p*-aminophenol, thiourea, catechol, hydroquinone, resorcinol. (*Chem. Abs.*)

PATENTS

WATER REPELLENT COMPOSITION. J. J. Cohen. *U. S. 2,375,348.* A water repellent composition comprises a water emulsion resulting from the mixture of Japan wax, aluminum stearate, uncooked and unpolymerized China-wood oil, water-soluble A-stage urea-formaldehyde resin, ammonium hydroxide and a hydrocarbon solvent, and acid ammoniacal base reacting with free fatty acids in said mixture to form a thermo-labile soap acting as the active emulsifier for the entire mixture.

PETROLEUM DEMULSIFIER. M. De Groote, B. Keiser, and A. F. Wirtel (Petrolite Corp.). *U. S. 2,375,531.* A hydroxyacetylated drastically-oxidized dehydrated ricinoleic acid compound selected from the class consisting of drastically-oxidized castor oil, drastically-oxidized dehydrated triricinolein, drastically-oxidized dehydrated diricinolein, drastically-oxidized dehydrated monoricinolein, drastically-oxidized dehydrated ricinoleic acid, drastically-oxidized dehydrated polyricinoleic acid, and the estolides of drastically oxidized dehydrated castor oil. In the manufacture of the compound just claimed, the step of hydroxyacetylating a drastically-oxidized dehydrated ricinoleic acid compound, selected from the class just described, is also claimed.

PROCESS FOR BREAKING PETROLEUM EMULSIONS. M. De Groote (Petrolite Corp.). *U. S. 2,375,539.* A process is claimed for breaking petroleum emulsions of the water-in-oil type, characterized by subjecting the emulsion to the action of a demulsifier comprising a member of the class consisting of oxyalkylated monohydric lower alkyl esters of a polymerized polyethylenic higher fatty acid and oxyalkylated sulfurized monohydric lower alkyl esters of a polymerized polyethylenic higher fatty acid.

COATING COMPOSITION AND METHOD OF PRODUCING. P. H. Scrutchfield (Hercules Powder Co.). *U. S. 2,-376,823.* A coating composition comprising a material selected from the group consisting of drying oils and semidrying oils and a reaction product of a polyhydric alcohol and a conjoint condensation product of the simultaneous reaction of reactants consisting essentially of a rosin compound selected from the group consisting of rosin acids and lower monohydric alcohol esters thereof, an aldehyde and an alpha-beta-unsaturated polycarboxylic acid.

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