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

I. Solns. of I, II, and III were stable and gave clear solns. with 10% Na_2CO_3, 5% H_2SO_4, and 1% $CaCl_2$. Igepon T and Gardinol WA were purified by extn. with EtOAc; Nekal BX was purified by the use of dioxane; Igepal C and Triton NE were purified by the removal of water. Aerosol OT, nearly 100% pure pellets, was not further purified. I, II, III, and the com. and purified com. wetting agents were compared in their properties by the Herbig no. (C. A. 33, 392[5]), Draves test (C. A. 25, 529[6]), Ca-soap-dispersing power (C. A. 33, 871[8]), and Congo Rubine no. (C. A. 31, 1626[8]). I, except for Aerosol OT at 0.25% concn., gave the lowest Herbig no. I and purified Igepon T, Igepal C, and Triton NE were about equally resistant to hard water; Gardinol WA, Nekal BX, and Aerosol OT were next in order. I showed superior protective colloidal action by the Congo Rubine no., and was found to have better all-around properties. (*Chem. Abs.*)

TEXTILE-WETTING AND FOAMING AGENTS FROM PETROLEUM. E. Profft. *Petroleum Refiner 23,* 502-3 (1942). Foaming and wetting expts. on 4 types of amine salts show the value of products that can be made from petroleum and its fractions, instead of the valuable and edible animal and vegetable oils usually used. (*Chem. Abs.*)

SOAP MANUFACTURE. Robert T. Sheen. *Chem. & Met. Eng. 52,* 214-8 (1945). This article reviews the modern method of continuous soap manufacture as contrasted with the old batch kettle process. The continuous process is a method of handling organic materials at high temperatures and results in complete saponification with accompanying rapid separation of usable glycerine. Proper control of temperatures throughout this process is most important to assure success. Glycerine may be removed rapidly, leaving a substantially anhydrous soap.

TREND IN AL CLEANING. J. C. Harris. *Aluminum and Magnesium 1,* No. 7, 28-32 (1945). Al can be cleaned in alk., neutral, or acid media. The important alk. cleaners comprise soda, silicates, and phosphates. Certain silicates are excellent corrosion inhibitors when used with other alkalies. Phosphates are the best alk. water softeners. The best water-sol. neutral cleaners are the synthetic wetting agents and detergents; these can be used equally well in alk. or acid solns. The use of some synthetic wetting agents and detergents with org. or inorg. acids causes improved cleansing and reduced corrosion. Over 30 Al-cleaning patents are discussed, the available literature is reviewed, and agents are tabulated. (*Chem. Abs.*)

PRACTICAL INFORMATION ABOUT CLEANING AND CLEANERS. A. J. Hereford. *Southern Power and Ind. 63,* 112-15 (1945). A metal surface is free from oil and grease if an unbroken sheet of water clings to the entire surface after the surface has been immersed in water. Modern cleaning compds. contain newer, faster soaps and wetting materials, combined with detergents. Emulsification will take place at 180° F. The function of heat is to soften the oils and grease, to permit rapid wetting. Emulsified oils and greases are readily dispersed into the bath soln. with the aid of detergents. A rinse is needed to remove residue. Both sapon. and emulsification can be accelerated by electrolysis. Various methods of washing are discussed, including machine washing, spray washing and soak tank method. After rinsing, tests with pH paper should not show an alk. reaction. Preliminary treatment with solvents may be required to remove excessive amts. of grease and oil. The pH of the bath should be chosen low enough to avoid etching the metal (a table of pH at which etching occurs is given). Paint-removal methods are reviewed. (*Chem. Abs.*)

ABRASIVE CLEANERS—SCOURING POWDERS, PASTES AND BARS. Milton A. Lesser. *Soap 21,* No. 6, 44-7 (June 1945). A scouring powder usually consists of a uniform mixture of soap powder and an insoluble abrasive, with or without the addition of such materials as sodium carbonate, trisodium phosphate, sodium metasilicate or the like. It is advisable to replace sodium carbonate with trisodium phosphate or sodium metasilicate because it is irritating to the skin and attacks aluminum utensils. Formulas and methods of manufacture are listed. Abrasive pastes and soap cakes are also described but they do not have the wide use and popularity of the powders.

PATENTS

AMIDES AND SULPHONATED DERIVATIVES THEREOF. Gifford D. Davis *et al.* (National Oil Products Co.). *U. S. 2,367,010.* Preparation of sulphonated amides having surface active properties by reaction of a methallyl chloride with ammonia or a primary amine, then reacting the resulting amine with an acylating agent such as higher fatty acid or derivatives to form amide and then sulphonating.

HIGH SO_3 AMIDE PRODUCTS. Maurice J. Kelly (National Oil Products Co.). *U. S. 2,372,786.* Production of sulphonated amides, useful as surface-active agents, by heating sulphonated oils, fats and fatty acids with amide-forming amine in presence of nitrogenous catalyst such as ammonium and amine salts of mineral acids.

CONDENSATION PRODUCTS. William L. Abramowitz and Ernest Segesseman (National Oil Products Co.). *U. S. 2,372,797.* Preparation of ester-amides useful as surface-active agents by reaction of hydroxy acid such as castor oil and a non-hydroxy acid such as stearic or oleic acid amidified with a nitrogen containing compound such as amines and polyamines.

METHOD AND APPARATUS FOR TRANSFORMING SUBSTANTIALLY NON-FORM-RETAINING MASSES INTO SOLID CAKES OR BARS. Fred F. Pease (Lever Brothers Co.). *U. S. 2,373,593.* Soap cakes formed by molding a heated plastic mass into a bar, chilling the bar to render the surface firmer than the center, trimming to form areas of weakness in the firmer surface, then further cooling to permit a controlled shrinkage.

USE OF CELLULOSE AND ITS DERIVATIVES IN SOAPMAKING. Soc. anon. Alliance Europeenne. *Belgian 446,052.* One or more of the following is used as filler: powd. cellulose, oxycellulose, cellulose that has been dehydrated or condensed with naphthalenesulfonic acid, cellulose glycolate, or other cellulose derivs. (*Chem. Abs.*)