2,395,925. Varnish bases are prepared by reacting a small proportion of a substantially non-volatile acidic resin with a polymerized unsaturated oil. The reaction is effected at 570-590° F., and volatile fatty acid substances are removed from the reaction by blowing with an inert gas. The volatile products removed are usually 8-20% of the total oil. These varnish bases give clear films when thinned with solvents.

DRYING OILS. J. D. Morgan and W. L. Pritchard (The Distillers Co. Ltd.). *Brit. 559,887.* The development of acidity, during the dehydroxylation of a hydroxylated oil to form a drying oil and during the bodying of a drying oil, is prevented by carrying out the dehydroxylation or bodying reactions in the presence of 0.01-4% (by weight of the oil being treated) of ammonia or an ammonia-generating compound. Castor oil was dehydroxylated in the presence of ammonium oxalate; at the end of the process the oil had an acid value of 6.9. A parallel experiment without the addition of ammonium oxalate gave an oil of acid value 15. Bodying of the dehydroxylated castor oil was effected in the presence of ammonium oxalate. When the oil had attained a viscosity of 50 poises the acid value had only increased to 9.1. A bodied oil prepared in a parallel experiment using no ammonium oxalate had an acid value of 35. (*Chem. Abs. 40,* 1048.)

Abstracts

Soaps

Edited by
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THE EVALUATION AND PROPERTIES OF WETTING-OUT AGENTS. F. R. Eastwood, N. Banks, and E. Webster. *Textile J. Australia 20,* 344-7 (1945). A discussion of the Herbig and Draves' methods of evaluation of wetting agents, properties of wetting agents, sulfonated and sulfated oils, alkyl sulfates, ester of Na sulfosuccinic acid (Aerosols), and alkyl arylsulfonates. Nine references. (*Chem. Abs.* 40, 1052.)

AT THE SOAP PAN. J. H. Wigner. *Soap, Perfumery Cosmetics 19,* 40-2 (1946). There is no convenient method for determining the concentration of soap or other detergent required to wash any given material clean; the direct method in which the fabric is given a standard amount of soiling and in which, after washing, the residual soil is determined by matching the final color against other standards soiled to a definite and lesser degree, is the best available method, and information on the relative detergent powers of different types of soap can be found this way. Physical methods such as determination of the drop number do not necessarily bear any definite relationship to the degree of removal of dirt. The most satisfactory of the newer detergents are the alkyl sulphates.

THE PRODUCTION OF SOAPS FILLED WITH SODIUM SILICATE. D. A. Rozhdestvenskii. *Pishchevaya Prom.,* No. 1, 27-31 (1945). R. discusses the advantages of employing Na silicate in soaps and outlines the changes necessary in Russian methods of soap manuf. to bring it up to American and British standards. (*Chem. Abs. 40,* 748.)

SOAP CRYSTALS. M. J. Buerger. *Am. Mineral. 30,* 551-71 (1945). X-ray data, obtained by the precession method, and optical data are given for single crystals of Na palmitates and stearates. The following information on alpha-neutral sodium soap hemihydrate, alpha—1:1 acid sodium soaps and beta—1:1 acid sodium soap is given: crystal system, space group, cell dimensions, cell contents and computed density. The layer nature of the crystals is discussed. (*Chem. Abs. 40,* 511.)

THE PROPHYLACTIC EFFECT OF SOAPS IMPREGNATED RESPECTIVELY WITH TETRAETHYLTHIURAM MONOSULFIDE AND WITH BENZYL BENZOATE WHEN USED ONCE DAILY TO WASH RATS EXPOSED TO INFECTION WITH SCABIES DUE TO NOTOEDRES. R. M. Gordon and K. Unsworth. *Ann. Trop. Med. Parasitol. 38,* 207-12 (1944). Ten per cent Tetmosol soap when applied once daily in the form of a lather containing approximately 1.8% tetraethylthiuram monosulfide completely protected 4 rats exposed to intense infection from Notoedres over a period of 16-17 days. Addition of 10% benzyl benzoate to 10% Tetmosol was ineffective. It is suggested that 5% tetraethylthiuram monosulfide when incorporated in soap represents the lowest concentration likely to confer complete protection (*Chem. Abs. 40,* 679.)

STRUCTURE OF SOAP MICELLES AS INDICATED BY X-RAYS AND INTERPRETED BY THE THEORY OF MOLECULAR ORIENTATION. II. THE SOLUBILIZATION OF HYDROCARBONS AND OTHER OILS IN AQUEOUS SOAP SOLUTIONS. Wm. D. Harkins, Richard W. Mattoon, and Myron L. Corrin. *J. Colloid Science 1,* No. 1, 105-26 (1946). The theory of the structure of soap micelles is reviewed. A method is described for the determination of the solubility of an oil in a soap solution. The method consists in a determination of the densities of several aqueous solutions of the soap, unsaturated with oil, in which known weights of oil have been dissolved. A plot is then made of the density of these solutions as a function of the amount of oil dissolved. The solubility is given by extrapolation of the line thus obtained to the value of the density calculated for a solution in which the volumes of soap solution and oil are additive. The concentration at which this is attained is the solubility. The solubilities of heptane, triptane, and styrene were thus determined. Results showed that soap micelles which have been utilized as loci for the formation of polymer may be used over and over again as the reaction proceeds. However, the polymer particles formed contain monomer and the polymermonomer particles adsorb a monolayer of soap. Thus, soap present in the micelles changes into adsorbed soap.

PATENTS

MANUFACTURE OF SOAP FROM SPERM OIL. German Schmidt and Carlos Edwards (Compania Industrial). *U. S. 2,393,421.* A method of making soap from sperm oil comprises heating sperm oil having a high fatty alcohol content with anhydrous alkali to simultaneously saponify the fatty acids of the sperm oil and to transform the fatty alcohols of the sperm oil into soap without withdrawing the fatty alcohols from the reaction chamber.

SOAP FOR DRAWING WIRES. Wilhelm Pape (Henkel & Cie G.m.b.H.). *Ger. 745,919.* A soap of a fat acid with 6-10 C atoms is used as aid in wire drawing and similar operations. (*Chem. Abs. 40,* 754.)

SKIN-CLEANSING AGENT. Rolf Jager and Felicitas Jager, nee Haustein, *Ger. 745,637.* This substance contains synthetic anion-active washing or wetting agents and noncoloring, high-molecular compounds having a great affinity for the keratin molecule. (*Chem. Abs. 40,* 756.)

WETTING, FOAMING, DETERGENT AND LIKE AGENTS. National Oil Products Co. *Brit. 559,265.* Surface-active materials are prepared by condensing 1 molecule of an aromatic hydrocarbon, e.g., benzene, toluene, xylene, naphthalene, anthracene and the like, with 2 molecules of primary alcohols having 12-14 C atoms, e.g., the lauryl and myristyl alcs. or the alcohols derived from the fatty residues of coconut oil, and treating the product with a sulfonating agent to produce a dialkylated mono-sulfonated aromatic compound. (*Chem. Abs. 40,* 1054.)

ROSIN CONDENSATION PRODUCTS USED AS DETERGENTS. Edward A. Bried (Hercules Powder Co.). *U. S. 2,383,289.* Hydrogenation of condensation products of rosin with aldehydes or reaction product of that condensation with a fatty acid (C_{6-18}) yields alcohols which may be sulfated to produce detergents.

SOLUBILIZING OF METAL SOAPS AND WATER-INSOLUBLE FAT ACIDS. I. G. Farbenind. A.-G. *Ger. 745,909.* Metal soaps and H_2O-insol. fat acids are solubilized in wash baths and on textiles by substances of the following constitution: R.X.R.'.SO_3.M, where X is COO, CONH, or CONR"; R is an aliphatic hydrocarbon residue of at least 11 C atoms; R' is a substituted aliphatic hydrocarbon residue; R" is a substituted aliphatic or aromatic residue, and M is either an alkali or NH_4. (*Chem. Abs. 40,* 754.)

AMIDE DETERGENT COMPOSITION. Nathaniel Beverley Tucker (The Procter & Gamble Co.). *U. S. 2,383,740.* The addition of 5-40% of a hydroxy acid amide (e.g. hydroxy-acetamide of lauryl amine) to detergents (esp. Na alkyl sulfates) permits laundry use of these agents at lower concentrations.

ALKYL ARYL SULFONATE DETERGENTS. Lawrence H. Flett (Allied Chemical & Dye Corp.). *U. S. 2,387,572.* The addition of proper amounts (40-65%) of water soluble salts (e.g. NaCl) to alkyl (C_{12-16})-aryl sulfonate detergents improves their washing power (esp. for woolens in soft water).

FATTY ACID ESTERS HAVING AMPHOTERIC PROPERTIES. John W. Orelup. *U. S. 2,388,281.* Amphoteric surface agents (both cationic and anionic) may be obtained by sulfation of esters prepared by reaction of a fatty acid (C_8 and above) and an amino alcohol with removal of water.