fractionating process for concentrating vitamin fractions from oils.

Recovery of fatty substances. I. A. Parfentjev. *U. S. 2,395,790.* A process of recovering a high-grade shark liver oil comprises subjecting shark liver to the action of pepsin at a pH of about 1.5 and at temperatures not exceeding 100° F. until liver oil is separated, and removing the liver oil directly from the acid digestion mixture.

Stabilization of vitamin A and vitamin A-containing material. J. Korner and H. P. Loomis (Silmo Chemical Corp.). *U. S. 2,394,456.* A mixture of propyl gallate and β-amino-Et alcohol bound to glycerophosphoric radical is used to stabilize vitamin medicinal oils.

Process for dehydrating oil. I. M. Colbeth (Baker Castor Oil Co.). *U. S. 2,392,119.* The process of dehydroxylating glyceride oils comprises introducing the oil into the lower end of an inclined space of such shape that the oil is in a thin layer, and applying sufficient heat to the oil to vaporize it.

Tall oil processing. J. J. Lovas and P. F. Bruins. *U. S. 2,395,282-3.* The present inventions arise from the discovery by the inventors that the constituents of mixtures of fatty acid and rosin acid Na salts can be separated by the selective solvent action of certain ketone-water mixtures, such as acetone-water mixtures and Me Et ketone-water mixtures; also that fatty acid soaps may be separated by the same means from mixtures thereof with rosin soap and unsaponifiable material, including sterols.

Method of obtaining sterol and the like from tall oil. J. D. Jenkins (Pittsburgh Plate Glass Co.). *U. S. 2,394,615.* The process is based on removing the fat acid components, treating the residue with anhydrides of dibasic acids to form a half ester with the sterols, neutralizing the half ester with alkali solution, extracting nonesterified components with organic solvents, and liberating the sterols from the ester by boiling with alkali.

Valve lubricants. J. D. Morgan and R. E. Lowe (Cities Service Oil Co.). *U. S. 2,393,800.* A lubricant for valves consists essentially of a mixture of stearamide and glyceryl mono ricinoleate in a ratio by weight of from about 1:4 to about 2:3.

High-temperature greases. J. D. Morgan (Cities Service Oil Co.). *U. S. 2,393,797.* A high temperature lubricant consists of petrolatum having dispersed therein 8-14% by weight of Li stearate based on the weight of the grease.

Plasticizers. D. Price and R. Griffith (National Oil Products Co.). *U. S. 2,392,100.* The invention relates to a process for preparing halo-alkoxy derivatives of fat acids.

Extraction of glycerin from fermentation residues. F. R. Balcar (U. S. Industrial Chemicals, Inc.). *U. S. 2,392,569.* The method of recovering glycerin from concentrated distillery slop comprises subjecting a liquid slop containing 30-50% by weight of material other than glycerin, non-volatile at 100-105° to countercurrent extraction with aqueous acetone containing 50-90% acetone by volume.

Abstracts

Drying Oils

Edited by
HOWARD M. TEETER

The future of the soybean industry in the United States. W. H. Eastman. *Am. Paint J. 30,* No. 22, 26-30 (1946).

Examination of the results of acid and saponification value determinations. (Notes by N. Strafford on Cooperative Research of the Association.) *J. Oil Colour Chem. Assoc. 28,* 97-100 (1943). The results of the cooperative research indicate that acid and saponification value determinations are not as straightforward as commonly supposed. In 40 determinations of acid value (without standardization of techniques), the mean value was 16.8, the standard deviation 0,96 and the coefficient of variation 5.7%. Thus, 95% of the tests would be between 14.9 and 18.7. A study of the variables involved in determining the acid number of linseed stand oil gave no clue to the large deviation in the results of the cooperative research. One possibility is the tendency of the end-point to "drag." Potentiometric titration gives the same end-point as phenolphthalein except in the case of very heavily bodied oils. In 43 determinations of saponification values (without standardization of techniques), the mean value was 192.4, the standard deviation 3.8 and the coefficient of variation 2.0%. Thus, 95% of the tests would lie between 184.8 and 200.0. Tests in the author's laboratory indicated that conditions for saponification value determinations are not very critical. To overcome the variations observed in the cooperative research it is suggested that rigidly standardized methods be used. Proposed methods for the two determinations are given.

Crotonic acid, a new raw material. P. W. Blaylock. *Paint Manuf. 15,* 367-370 (1945). A review of the applications of crotonic acid in the fields of surface coatings, drying oils, modified alkyd resins, polymerization reactions, cellulose compounds, plasticizers, solvents, etc. Thirty-three references.

Is marcita oil a commercial possibility? Anon. *Paint Manuf. 15,* 356 (1945). Marcita oil is expressed from the kernels of the fruit of the tree *Parinarium laurinum,* a native plant of several areas in the Pacific, including New Guinea and the Caroline Islands. The kernels contain 12% of oil, which is a buff-colored liquid of soft consistency (m.p. 37°-50° C.). Having an iodine number 203-214, it oxidizes readily in air. The oil contains parinaric acid, a conjugated tetra-unsaturated fatty acid.

PATENTS

Plasticizers. E. A. Rodman (E. I. du Pont de Nemours and Co., Inc.). *U. S. 2,396,129.* Blown corn oil with a viscosity of 35-50 seconds on the Gardner-Holdt Scale is reacted with a dibasic acid or anhydride such as phthalic or maleic. The reaction product is used to plasticize nitrocellulose.

Coating compositions. W. T. Walton and J. W. Eysenbach (The Sherwin-Williams Company). *U. S.*

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
LENORE PETCHAFT

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.