Abstracts

Oils and Fats

Edited by
M. M. PISKUR

with ¼ to 4 volumes of a mixt. one part benzol to 4 parts acetone by volume, lowering the temp. to at least about —10° C. and sepg. the material solidified thereby.

MARGARINE EMULSION AND PRODUCT TO BE USED THEREIN. A. K. Epstein and B. R. Harris. *U.S. re. 21,683.* Reissue of 1,917,253. Esters of polyhydroxy substance having unesterified OH groups are used as emulsifiers for margarine.

PROCESS FOR REFINING ESTER TYPE OILS, FATS AND WAXES. H. B. Schurink and W. Coltof (Shell Development Co.). *U.S. 2,228,038.* In a process of purifying a substance of the class consisting of oils, fats and waxes of the ester type, the step comprises contacting said substance with a mixt. of ethylene imine and water at a temp. below about 100°C.

SUPERIOR LUBRICATING COMPOSITION. P. J. Gaylor (Standard Oil Development Co.). *U.S. 2,223,473.* A compn. of matter comprises a petroleum lubricating oil and 0.5-30% of a licanic metal soap sol. in said lubricating oil.

ESTERS OF COMPOUNDS OF THE ESTRONE SERIES AND PROCESS OF MAKING SAME. K. Miescher and C. Scholz (Ciba Pharmaceutical Products, Inc.). *U.S. 2,228,397.* The fatty esters of compds, selected from the group consisting of estrone, equiline and equilenine, the fatty acid residue in which contains 5 to 8 C atoms are described. The compds. are said to have an especially strong activity.

SEPARATION PROCESS. K. C. D. Hickman and J. G. Baxter (Distillation Products, Inc.). *U.S. 2,221,692.* Natural antioxidants are concd. from vegetable oils by high vacuum short-path distn. methods.

PROCESS FOR PRODUCING VITAMINOUS SUBSTANCES. K. C. Hickman (Distillation Products, Inc.). *U.S. 2,229,173.* A distn. process of prepg. fat sol. vitamin concentrates is described.

Abstracts

Soaps

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M. L. SHEELY

AT THE SOAP PAN. J. M. Vallance. *Soap, Perfumery, Cosmetics 13,* 848-50, 862 (1940). Review of developments in textile soaps, industrial uses of soaps, soap patents and filling and building agents is presented.

SOAP IN THE LIGHT OF ITS STRUCTURE. Joachim Leimdörfer. *Seifensieder-Ztg. 67,* 431, 443-4, 455-6, 467-8, 479-80, 491-2, 503-4, 516, 525-6, 535-6, 545-6 (1940). An extensive review of phys. chem. observations and theories is presented. *(Chem. Abs.)*

SUDSING IN REGARD TO BODY CARE AGENTS (SOAPS). H. Schuralfuss. *Fette u. Seifen 47,* 526-30 (1940). A review with about 300 references.

CHANGES IN SOAP DUE TO PERFUME. H. J. Henk. *Fette u. Seifen 47,* 537-8 (1940). General discussion.

SULFONATION OF TALL OIL—SEPARATION OF ROSIN AND FATTY ACIDS. F. C. Vilbrandt et al. *Ind. & Eng. Chem. 33,* 197-200 (1941). Selective sulfonation of the fatty acids to the water-sol. sulfuric acid ester was performed at low temps. The effect of acid quantity and of time were studied at —13° C. and the effect of acid concn. at 0° C.

LIQUID CRYSTALLINE, WAXY AND CRYSTALLINE PHASES IN BINARY MIXTURES OF PURE ANHYDROUS SOAPS. Marjorie Vold. *J. Am. Chem. Soc. 63,* 160-8 (1941). The following forms of a single pure anhydrous sodium salt of a n-fatty acid can occur between room temperature and the melted liquid: crystalline (of which there is more than one kind), subwaxy, waxy, superwaxy, subneat, neat and ordinary liquid. All of those mentioned are stable phases, most or all of which occur successively on warming. The superwaxy phase has not been described previously. STABLE PHASES OCCURRING BETWEEN TRUE CRYSTAL AND TRUE LIQUID FOR SINGLE PURE ANHYDROUS SOAPS. Marjorie J. Vold et al. *Ibid.* 168-75. The following stable phases can occur in successive ranges of temp. above that for crystalline soap and below that for true liquid: subwaxy, waxy, superwaxy, subneat and neat. The transition temps. of Na salts of the even members of the homologous series of fatty acids have been detd. for all these phases from C_6 to C_{22} using 3 exptl. methods. Values previously reported for the "melting points" of these compds. by various authors in the past often relate to a transition sometimes as much as 100° lower. In 2 instances curves of transition temp. against length of C chain run together, giving rise to a change in the no. of stable phases intervening between the normal crystalline form and isotropic liquid.

WAR-TIME CONDITIONS IN GEMANY. Editorial. *Chem. Met. Eng. 48,* 118 (1941). The shortage of fats and oils has resulted in a deterioration of soaps in the Reich. The new standard "Einheitsseife" contains not more than 40% fat or grease, the remainder being chiefly kaolin. The soap bars are plain and undecorated, having only "R.I.R." embossed on them. Regular soap is still manufactured for export but producers report increasing difficulties in obtaining raw material supplies. For industries where hands are exposed to strong alkalies, a new soap has been developed. It contains 50% Turkey red oil, 20% liquid paraffin, and 30% water. The liquid soap is used without water and does not lather much, but it is claimed to clean workers' hands without taking too much oil out of the skin.

SWEATING OF SOAPS. I. M. N. Goswami, A. Roy Choudhury and K. K. Basak. *Indian Soap J. 7,* 9-25 (1940). The sweating of soaps was investigated by detg. the absorption of moisture of various kinds of standard soaps at different humidities at a const. temp. and the effect of certain fillers. Numerous graphs and tables are presented from which the following is concluded: The moisture absorption of tallow soap compared to tallow coconut-oil soap (60:40) under 100%

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humidity indicates that the presence of coconut oil increases the absorption. When the initial moisture content of the soap is within 10%, the moisture content diminishes up to 78% humidity and increases from 85% humidity. In the case of 80% tallow, 20% coconut oil soap with 10% talc filler there was loss in wt. at humidities from 0 to 78% and gain in wt. at 85 to 100% humidities. There was also an increase in wt. from 85 to 100% humidities and a decrease from 0 to 78% in the case of peanut oil soaps, but the increase was much greater than those with soaps prepd. from tallow and coconut oil with or without fillers. The general character of the sweating was the same as in the cases with tallow coconut-oil soaps. From the results of observations it appears that there was no sweating up to 78% humidity, and that it increased from 85 to 100% humidities which gives rise to the idea that there must be a transition humidity point between 79 and 84 at which sweating just begins. Fillers like talc, starch and casein had different influences on the sweating; the former suppressed the wt. increase owing to sweating, whereas with the latter 2 fillers the wt. increase was much greater. (Chem. Abs.)

NEW PHARMACEUTICAL USES OF GLYCEROL. M. A. Lesser. *Am. Professional Pharmacist 6,* 634-6 (1940). The uses of glycerol in venom prepns., in allergenic protein products, as a solvent, adjuvent and stabilizer, and in pastes and dressings are discussed. 9 formulas and 17 references are offered. *(Chem. Abs.)*

LABORATORY STUDIES OF METHODS FOR CLEANSING OF EATING UTENSILS AND EVALUATING DETERGENTS. F. W. Gilcreas and J. E. O'Brien. *Am. J. Pub. Hlth. 31,* 143-50 (1941). Detergents in which wetting and emulsifying properties predominate remove oils and fats but have limited action on protein particles for which deflocculating and dispersing properties are essential. The alkaline silicates and phosphates have satisfactory emulsifying and deflocculating properties but are not sufficiently active as wetting and dispersing agents to be used alone effectively. Alkalies lack many detergent properties and are therefore quite ineffective by themselves. The sulfated alcohols exert marked wetting action as well as emulsifying power and therefore remove an oily soil effectively but are markedly less active toward solid and non-greasy soils.

DETERGENT SPECIFICATIONS AND METHODS OF ANALYSIS. H. P. Trevithick. *Chem. Ind. 48,* 200-3, 208, 242 (1941).

MEASUREMENT OF THE DIALYSIS OF SOAP IN AQUEOUS SOLUTION. O. Lamm. *Kolloid-Z. 91,* 275-9 (1940). A procedure is described, with diagram of app. whereby the dialysis can be so arranged that the otherwise disturbing hydrolysis loses its adverse significance. Instead the dialysis proceeds normally. The dialysis is arrested anomalously by progressive formation of micelles outside the membrane *(Chem. Abs.)*

PATENTS

WETTING, DISPERSING OR EMULSIFYING AGENTS. M. DeGroote et al. (Petrolite Corp.) *U. S. 2,228,985-9.* The products claimed are the partially esterified alkylolamines with ricinolein acid, polyhydric alcs, fatty acids and partially esterified polyhydric alcs. They are used as wetting, dispersing and emulsifying agents.

INORGANIC ACID ESTERS OF DIDIHYDROXYPROPYLAMINES. A. W. Ralston and J. Harwood (Armour and Co.) *U. S. 2,229,307.* The wetting agents comprise Na salts of sulfuric or phosphoric acid esters di-β, γ-dihydroxypropyl fat acid amine.

MANUFACTURE OF TALL OIL SOAP. *U. S. 2,227,203.* Ashton Scott, Charles Brown to the Sharples Corporation. In the treatment of a crude tall oil soap mixture containing constituents of black liquor including soaps of resin and fatty acids, saponifiable constituents and impurities including lignin, the steps comprising mixing said mixture with an alkali and heating the resulting mixture until the saponifiable constituents are substantially completely saponified, and thereafter separating by centrifugal subsidence impurities from the soaps of said mixture.

SOLUBLE OIL. R. F. Nelson and T. W. Langer (Texas Co.). *U.S. 2,231,214.* A sol. oil comprises a petroleum oil, about 9% of a rosin soap, about 9% of a naphthenate soap, about 2% of unsapon. rosin and naphthenic acids, about 3% of sulfonated castor oil, about 1% of diethylele glycol monobutyl ether, and about 4% water.

PROCESS FOR RESOLVING PETROLEUM EMULSIONS. M. De Groote (Petrolite Corp.). *U.S. 2,231,752-9.* Alkyl amines, acylated amino ethers, blown ricinoleic acid foots and like materials are used as deemulsifiers in the petroleum industry.

ART OF TREATING TEXTILE FABRICS. P. Kaplan (Richards Chem. Works, Inc.). *U.S. 2,229,975.* Art of treating leather. Ibid. *U.S. 2,229,976.* A mixt. of grapefruit seed oil, a sulfonated emulsifier and water or mineral oil are used for oiling textile fibers and for the treatment of leather.

PROCESS OF TREATING SOAP STOCK. B. Clayton (Refining, Inc.). *U.S. 2,230,196.* The process of purifying soap stock from the alkali refining of glyceride oils, comprises heating said soap stock to a temp. sufficiently high to break down odoriferous substances contd. therein and removing vaporizable materials from said soap stock in vapor form to produce an improved soap stock.