ABSTRACTS

Oils and Fats

Edited by
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Food composition and process of inhibiting oxygenation thereof. H. D. Royce (Southern Cotton Oil Co.). *U. S.* 2,123,863. Partially hydrolized fats are reacted first with P_2O_5 and then with primary amino alcs. to yield a suitable non-toxic antioxidant for fats and oils.

Hydrogenation of higher fatty acids. W. Normann and G. von Schuckmann (to H. Th. Bohme A.-G.). *U. S.* 2,127,367. In the catalytic reduction of fatty acids at elevated temp. and pressures in the presence of H, the step of regulating the activity of the catalyst by means of a catalyst poison in such manner that the reduction of the carboxyl radical alone is affected and not the ester radicals resulting from reaction of the alcs. produced with fat acids.

Process of making an alimentary product. A. D. Barbour (Ont. Res. Foundation). *U. S.* 2,125,215. Preservation of vitamins in fish oils when hydrogenating is accomplished by hydrogenating under pressure at temps. not exceeding 125° C. while violently stirring.

Hydrogenation of fatty oils. W. J. Paterson (to Lever Bros.). *U. S.* 2,123,342. Better selectivity and suppression of iso-oleic acid formation is obtained during hydrogenation of fatty oils by the use of Ni catalyst prepd. from electrolytic Ni substantially free from sulfides.

Oils. A. W. Ralston and S. T. Bauer (to Armour and Co.). *U. S.* 2,119,141. Fish oils for soap-making are both partially hydrogenated and isomerized to increase their melting points.

Method of producing glycerine and fat acids. W. H. Rees (to El Dorado Oil Works). *U. S.* 2,124,168. Method: Reduce the H_2O content of the fat or oil to about 3%, add fat acids to thin the charge, add reagent comprising alc., H_2SO_4, hydrolyzing catalyst and benzol, heat and agitate, filter from solid material, introduce water and separate.

Anti-foaming and anti-freezing mixtures. M. T. Flaxman (to Union Oil Co.). *U. S.* 2,127,490. An anti-foaming and anti-freezing soln. adapted to minimize foaming of aqueous solns. comprises water, glycerine, montan wax and lard oil.

Process of and apparatus for polymerizing oils. J. C. Harris, Jr., and G. Sutherland. *U. S.* 2,118,728. The app. described includes means of heating and cooling the oil charge and maintaining inert gas above the oil.

Method of producing quick drying oil suitable for varnishes. J. L. Schneider, S. L. Flugge and R. J. Evans (Continental Can Co.). *U. S.* 2,120,044. The method of bodying a drying varnish oil which comprises dissolving CO_2 in the oil to saturation at atmospheric temp. and pressure, forcing the oil under a pressure of 1,000 lbs. per sq. in. into and through a conduit heated to a temp. of 500-700° F. and effecting escape of the heated oil from the conduit prior to deleterious carbonization of the oil.

Refining oil, etc. Eugene Kellens. *Ger.* 657,888, Mar. 16, 1938 (Cl. 23a.3).—Oils and fats, especially those of animal or vegetable origin, are refined and decolorized by treatment at a low temp. with a small amt. of finely divided metals, metal oxides or metals salts and, after prolonged stirring, by adding a small amt. of H_2SO_4 or HNO_3 and warming to 90°, adding bleaching earth and filtering. Thus, Congo palm oil is cooled to a temp. near its congealing pt. and a small amt. of MnO_2 stirred in. When a green coloration appears, a small amt. of H_2SO_4 is stirred in and the mixt. heated to 90°. Bleaching earth is then stirred in and the oil filtered.

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Soaps

***Edited by* M. L. SHEELY**

Fatty acid softeners for rubber. *Soap Gazette and Perfumer* **40** (8), 12 (1938).—In compounding, zinc stearate has not found so much favor as other zinc salts, principal among which is commercial zinc laurate. The commercial sources of the lauric acids are principally palm kernel oil and coconut oil, which contain about 50 per cent of trilaurin, but because of the demand for lauric acid for the rubber industry and other industries, new sources of raw material are being sought. In India, for example, it is considered that the fats from seeds of certain plants belonging to the Lauraceae, particularly Actinodaphne lookeri, Litsea sebifera and Litsea lanuginosa, have commercial possibilities as important sources of lauric acid. The latter is, of course, the raw material for other products than rubber softeners, such as sodium lauryl sulphate, a new type of detergent considered superior to ordinary soap in many respects, and undoubtedly the commercial lauric acid will become increasingly in demand. Fats from the first two plants mentioned above contain no less than 96 per cent of trilaurin, while the last mentioned contains about 70 per cent. They are, therefore, obviously better sources of lauric acid than the palm kernel or coconut oils.

Synthetic soaps. A. Foulon. *Seifensieder Ztg.* **65**, 606-8 (1938).

Substitutes for the cosmetic and soap industries. T. H. Ruemele. *Seifensieder-Ztg.* **65**, 614-5 (1938).

Soap weight-loss adjustments helped. *Oil, Paint and Drug Reporter* **134** (6), 56 (1938).—In its report to the American Society for Testing Materials at the recent annual meeting committee D-12 on soaps and detergents pointed out that the specification it has developed provides an equitable basis for payment for soap, a matter that has presented a difficult problem in the industry and caused losses to shippers. Because soap dries rapidly, deliveries may be short-weight although still contain all the original soap content. The

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A. S. T. M. specifications developed by committee D-12 provide methods for settlement, taking into account loss of weight resulting from the drying out of moisture by making allowances for the consequent increased percentage of soap content in delivery.

Committee D-12 reported to the society four new tentative specifications covering (1) white floating toilet soap, (2) chip soap, (3) powdered laundry soap, and (4) ordinary laundry bar soap. The committee also offered new tentative standards comprising methods of test for particle size of soaps and other detergents, determination of combined sodium and potassium oxides in soaps and chemical analysis of special detergents.

Acceptance of a recommendation to adopt as standard the tentative methods of sampling and analysis of soaps and soap products was deferred, pending some clarification of requirements on the apparatus used. During the coming year the committee plans to consider additional definitions and specifications for soap powders and built soaps and will continue its active work on certain other important problems, including standardized requirements for dry-cleaning and metal-cleaning detergents, and also for soaps for textiles.

PATENTS

Making emulsions. *Oil and Colour Trades J.* **94**, 420 (1938); *British* 477,521. Colgate-Palmolive-Peet Co. One molecular proportion of a fatty oil and one molecular proportion of anhydrous glycerine are reacted with such an excess of fuming sulphuric acid over the equivalent of three molecular proportions of 100 per cent sulphuric acid that the sulphuric acid remaining after the reaction has a concentration of not less than 95 per cent, and the product is neutralized, without previous dilution, in the presence of a large excess of already neutralized material. The neutralized product may be used as a detergent or emulsifying agent or as a soap substitute. The glycerine and fatty oil or the glycerine and excess fuming sulphuric acid may be first reacted together or the three components may be mixed simultaneously. The product may be prepared free from inorganic salts by extraction with alcohol, e. g., butyl alcohol, before or after the neutralization step or the sulphate free sodium, potassium, ammonium, triethanolamine and magnesium salts may be prepared from the calcium salt, the calcium being precipitated by means of carbondioxide or a carbonate, phosphate or oxalate. The effect of adding solutions of the following salts to the pure and sulphate containing products is stated: Calcium, barium, potassium, magnesium, aluminum, ferric and mercuric chlorides, ammonium and copper sulphates, lead acetate and silver nitrate. No turbidity or precipitate is given with hydrochloric acid, hard water and sea water. In an example, glycerine is treated with fuming sulphuric acid and the mixture is reacted with coconut oil. The products may be mixed with soap, sodium, carbonate, phosphate or silicate, germicides, phenol, cresol, resorcinol, silver nitrate, mercurybichloride, aluminum chloride, zinc sulphate, alum, isoeugenol, vanillin, methylanthranilate, pumice, whiting, feldspar, solvents, naphtha, talc, titanium dioxide, barium sulphate, chalk, pigments, dyes, deodorants, animal vegetable or mineral oils, and starch. The use in the process of tallow, soya bean oil, palm oil, fish oils and garbage grease is mentioned. The specification as open to inspection under Sec. 91 comprises generally the interaction of a fatty oil, anhydrous glycerine and fuming sulphuric acid. Naphthenic and abietic acids and acids obtained by the oxidation of paraffin hydrocarbons are specified and also the use, instead of glycerine of glycols. It is stated that the products may be mixed with emery, ether, alcohol, benzol, glycols and waxes. This subject matter does not appear in the specification as accepted.

Cleansing and detergent agent. Procter & Gamble Co. *U. S.* 2,121,485. As a new composition adapted for cleansing and wetting of materials, an aqueous solution of a water-soluble heavy metal salt of a compound of the group of sulphonated aliphatic compounds having at least eight carbon atoms in the alkyl radical consisting of a sulphonated aliphatic hydrocarbon, a sulphonated aliphatic alcohol, a fatty ester of isethionic acid, and a fatty acide amide of methyl taurine, said heavy metal being one whose normal sulphate is water soluble. (*Soap Gazette and Perfumer*).

Soap Containers. W. Gebhardt. *Fr.* 811,984. With the object of rendering papier-mache or wooden soap containers resistant to alkalies, they are impregnated with a mixture containing paraffin and rubber latex. Ex.: Melt at 60-80° C., 100p. of paraffin, add 8 p. of latex (dry material) and continue to heat up to 200-210° C., whereby a perfectly homogeneous product is obtained. The paraffin may be replaced by waxes, stearine or pitch.

Solubilization of disinfectant products by means of soaps. Deutsche Hydrierwerke A.-G. *Fr.* 823,289. Soaps or analogous derivatives of fatty acids containing more than 12 carbon atoms are employed. The efficacy of the final product depends on the molecular weight.

Ex. 1: Dissolve 6.2 p. of a mixture of 1.8 p. of p-chloro-m-cresol, 1.8 p. of chloroxylenol, 1 p. of chlorothymol and 1.6 p. of chlorocarvacrol in 93.8 p. of an aqueous solution of potassium caprylate. The final solution contains 13.5% of caprylic acid.

Ex. 2: Dissolve 2.5 p. of p-chloro-m-cresol, 1 p. of chloroxylenol, 2.7 p. of chlorocarvacrol and 30.7 p. of sodium monocaproylglycerinosulphate in 10 p. of alcohol and 53.1 p. of water. Sodium isethionate caprylic ester may be used in place of the sodium monocaproylglycerinosulphate.

Ex. 3: Dissolve the mixture of phenols of Ex. 1 in 93.8 p. of a 12% liquid soap. The fatty acids of this soap are composed of 2 p. of caprylic acid and 1 p. of oleine.

Soap powder. Lever Brothers, Ltd. *British* 486,819. The invention briefly consists in a process of producing a soap powder from soap having at least the moisture content of kettle soap, i. e., about 30 per cent, which comprises reducing the moisture content of the soap to a predetermined degree substantially lower than the original moisture content of the soap, converting the partially-dried soap into a plastic or semi-fluid mass, disintegrating the soap into discrete particles and solidifying the particles. (*Perf. Ess. Oil Rec.*).