ABSTRACTS

Oils and Fats

Edited by
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Hydrogenation of vegetable and animal oils at high pressures. J. M. Pertierra. *Anales soc. españ fis. quim.* 32, 738-41 (1934).—Spanish olive oil was hydrogenated at high H_2 pressure (80-120 atm.) and 160°, to avoid secondary reactions and destruction of the mol. The solid product obtained contained 71.55 per per cent of the original fatty acid as a solid fatty acid. Ni was used as catalyst, pptd. by $(NH_4)_2CO_3$ and reduced by H_2 at 450°. With olive oil, adsorption by H_2 begins at 80 atm. and 80°. E. M. SYMMES.

Vegetable lecithin as an antioxidant. E. W. Kochenderfer and H. Gregg Smith. *Proc. Iowa Acad. Sci.* 39, 169-70 (1932).—Two com. samples of soy-bean lecithin were shown to be weak antioxidants, having indexes of 1.7 and 1.8, resp. (antioxygenic index being the induction period of the fat with added antioxidant divided by the induction period of the fat alone). After purification of the soy-bean lecithins by pptn. with acetone marked differences were found in the antioxygenic properties, indexes obtained by means of the Kreis test being increased. W. G. GAESSLER.

Refractometric macro and micro methods for the determination of fatty substances in oil seeds. Wolfgang Leither. *Angew. Chem.* 47, 734-6 (1934).—An immersion refractometer is used to det. the n of an oil ext., which is obtained by extg. oil seeds pulverized in a mortar with sea sand and some anhyd. Na_2SO_4. Shaking of the seeds for 2 min. with a gasoline fraction b. 90-100° is sufficient. The accuracy of the detn. is 0.3-0.5 per cent for the macro method and 0.5-0.8 per cent for the micro method. Control detns. are presented which were made by extn. for 10 hours. KARL KAMMERMEYER.

The neutralization of oils on a small scale. Luis Bergues. *Quim. e ind.* 11, 112-15 (1934).—Data are presented showing that the benefits derived from the neutralization of olive oil and oil from grape waste warrant the high installation costs of the equipment required for this neutralization process. M. McMAHON.

Viscosity of oil preparations. Hellmuth Schrader. *Pharm Zentralhalle* 75, 689-93 (1934).—By means of the Höppler viscometer and ultra-thermostat a study has been made on, and values correct within ±0.001 mm. obtained, with certain oils (camphor, peanut, olive) and emulsions, more particularly related to the requirements of the DAB6. W. O. EMERY.

Analytical classification of the fish-liver oils. IV. Spectrographic examination of fish-liver oils for vitamin A. V. Fish-liver oils. Norman Evers and Wilfred Smith. *Quart. J. Pharm. Pharmacol.* 7, 476-81, 481-2 (1934); cf. *C. A.* 28,666⁴.—Further results of the spectrographic examn. of the liver oils for vitamin A are reported. Cyclohexane is a better solvent than $CHCl_3$ for this purpose. The detn. should be made on the unsaponifiable matter of oils of low vitamin A content. A short method of extg. the unsaponifiable matter with cyclohexane as the solvent is described. Further analytical results on fish-liver oils are reported. W. O. EMERY.

An unusual case of destruction of filter cloths. F. Wittka. *Allgem. Oel- u. Fett-Ztg.* 31, 395-6 (1934).—In filtering a bleached hardened fat (m. 40-42°) the filter cloth was destroyed. Tests showed that H_2SO_4 was the cause. Original oil, unused filter cloth and bleaching earth were tested for H_2SO_4 inconclusively. W. assumes that H_2SO_4 combined with mono- or diglycerides, or united at double bonds of oil during treatment or removal of Ni (hence no test for H_2SO_4 was obtained in the aq. ext.) and that during the bleaching this H_2SO_4 split off and later destroyed the filter cloth. To remedy this he suggests the use of a mixt. of H_2SO_4 and HCl in removing Ni or the use of unacidified bleaching earth. M. M. PISKUR.

Light and heat sensitivity of fats and their "building stones" and their importance in the household and in life. H. Schmalfuss, H. Werner and A. Gehrke. *Oesterr. Chem.-Ztg.* 37, 162 (1934); cf. *C. A.* 27, 3838.—Wave lengths of light below 330 mμ cause $Me(CH_2)_{10}COOMe$ to decompose to form ketones. Soybean oil decomposes much more rapidly to form ketones even with wave lengths up to 410 mμ, and at longer wave lengths this decompn. decreases much less than with $Me(CH_2)_{10}COOMe$. Hard or soft Röntgen rays or short electromagnetic waves do not cause soybean oil to form ketones. Unsatd. fats form ketones more readily than satd. O, water and N compds. are not necessary for the process but accelerate it. Ketones were detected as low as 2 parts per million. These expts. show the necessity of protecting unsatd. fats in storage from light and heat more carefully than satd. fats. ODEN E. SHEPPARD.

PATENTS

Refining oils, etc. Walter J. Hund and Ludwig Rosenstein. Fr. 771,338, Oct. 5, 1934. Free alkylolamine is recovered from the compd. which it forms with a fatty acid or from a material contg. such a compd., *e.g.*, an ext. of alkylolamine from oil, fats and waxes of the ester type, by distn., preferably with steam and under reduced pressure, in the presence of an alk. compd.

Vegetable lecithin. Hanseatische Mühlenwerke A.-G. (Bruno Rewald, inventor). Ger. 602,637, Sept. 13, 1934 (Cl. 53*i*. 1.10). Pure lecithin is obtained by washing the aq. phosphatide emulsion from soybeans with high percentage alc., freeing the residue from the alc. liquor and evapg. off the remaining alc. and water under reduced pressure.

Vegetable lecithin. Hanseatische Mühlenwerke A.-G. (Albert Schwieger, inventor). Ger. 602-933, Oct. 10, 1934 (Cl. 53*i*. 1-10). Practically water-free oily vegetable lecithin is obtained by treating the crude material with dibenzoyl peroxide. The product is *used in foods.*

Stabilizing oils and fats. Donald P. Grettie and Roy C. Newton (to Swift & Co.). Brit. 415,205, Aug. 23, 1934. Rancidity of oils and fats, *e.g.*, cottonseed oil and lard, and cloudiness or seeding-out of salad oils, *e.g.*, olive and peanut, are inhibited by adding a small percentage of crude cottonseed oil, which may first be deodorized, *e.g.*, by blowing with steam, without impairment of its antioxydizing power. Cf. *C. A.* 28, 668.⁸

Deodorizing oils or fats. N. V. Machinerieën- en Apparaten Fabrieken. Fr. 770,269, Sept. 11, 1934. The refined oil is heated under vacuum to 100-150° while in the form of fine streams on a series of superposed inclined planes.

Compositions containing oils and fats. I. G. Farbenind. A.-G. (Erich Lehmann, inventor). Ger. 603,279, Sept. 26, 1934 (Cl. 53*h*, 1.01). The sesame oil ordinarily added to margarine, to enable the latter to be identified as such, is replaced by 1,2,4-triacyloxybenzenes, which give the same color reaction as sesame oil when subjected to the Baudouin test. The triacyloxybenzenes may also be used generally as agents to be added by a manufr. to oils and fats, to enable the latter to be identified as his products. Thus, 0.01 per cent of 1,2,4-triacetyloxybenzene may be added to cacao fat.

Apparatus for continuous extraction of vegetable oils and fats. Fried. Krupp Grusonwerk A.-G. Fr. 770,153, Sept. 10, 1934. The materials and extg. agent pass into countercurrent through two concentric cylindrical vessels.

Extraction method and apparatus. Alfred R. Jahn. Brit. 413,041, July 12, 1934. *Fats, oils, waxes and resins* are extd. from raw materials contg. them by treatment in an extractor with solvent vapors under pressure, suction is generated by a low pressure produced by condensation of the vapors and by an induced draft at the end of the app. being applied to the vapor exit of the extractor.

Fish-liver oils. Alphonso T. A. D. Middlemass. Brit. 414,717, Aug. 10, 1934. Oils are extd. from fish livers by treating with glacial AcOH. Livers of the dogfish, after removal of the gall bladder and veins, are minced and warmed to 70° with sufficient glacial AcOH to bring the p_H to 4.6 or less. After a short macerating and settling period the oil is drawn off and the residue mixed with H_2O to yield a further quantity of oil or the oil may be extd. by solvents.

Shortening Preparations.—British 413,343, July 13, 1934. Roy C. Newton and Donald Pomeroy Grettie (to Swift & Company). Shortening consisting of substantially 100 per cent fat and (or) oil, without an appreciable amount of free fatty acid or H_2O, is improved in regard to its capacity to mix with the other ingredients in a baker's mixture by adding a relatively small amount, e.g., 0.1-0.2 per cent, of mono- and (or) di-acid glyceride. The added glycerides may be the stearates. The shortening may be made from cottonseed or animal oils or fats. Alternatively, the di-acid glyceride may be formed in the oil or fat as described in Canadian 333,067 (C. A. 27, 4321). (C. A. 29, 2, 518, 1935.)

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