ABSTRACTS

Oils and Fats

Edited by
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Neutralization of Oils and Fats. *Chemical Abstracts.* Vol. 27, No. 9, page 2322, May 10, 1933. *J. Leimdorfer. Seifensieder-Ztg.* 60, 84, 98-9, 115-16, 133-4 (1933); cf. *C. A.* 27, 1776.—Nitrogenous impurities in oils cause foaming during the distillation of the fatty acids; they are removed with either HCl, alum, concentrated H_2SO_4, H_3PO_4, by heating to 200-300°, by electrical silent discharge or by Rontgen rays. The free fatty acids can be safely reduced to 0.5-0.2% by distillation; if continued beyond this, especially at increased temperature, splitting into glycerol and free fatty acids occurs, this making additional deodorization necessary. Vacuum distillation with subsequent earth treatment usually furnishes edible products. The continuous process requires a rather complicated column equipment. In esterification of free fatty acids with glycerol an equilibrium is reached and the process is incomplete. Alcohol dissolves not only free fatty acids but also some neutral oil. Mixed solvents are now under investigation. In general the less a oil or fat is subjected to heat or chemicals, the better the product. P. E.

Fatty Acids. *Chemical Abstracts.* Vol. 27, No. 10, page 2595, May 20, 1933. Grigori Petroff. German 565,665, January 18, 1927. Fatty acids with properties resembling those of the saturated fatty acids are prepared by mixing oils of high I number with about 10% of aromatic or hydrogenated hydrocarbons and phenols and about 10% of concentrated H_2SO_4. The polymerization product is separated by usual methods. Thus, sunflower oil is mixed with toluene and concentrated H_2SO_4. The oil, which has an I number of 136.2, gives a polymerization product of I number 88.97, acid number 39.6 and saponification number 196.2. Other examples are given.

Hydrogenating Fatty Acids. *Chemical Abstracts.* Vol. 27, No. 10, page 2595, May 20, 1933. Henkel & Cie G. m. b. H. German 566,926, May 20, 1931.—Fatty acids which do not harden well are given an addition of 15% H_2SO_4 prior to hydrogenation. Thus, palm oil fatty acid of I no. 52 is hydrogenated by a Ni catalyst to give a product of I number 37.6. Addition of 15% H_2SO_4 prior to the hydrogenation gives a product of I number 18.8 Cf. *C. A.* 26, 4973.

The surface tension of oils. E. Canals and Ramahenina-Ranaivo. *J. pharm. chim.* 16, 431-5 (1932); cf. *C. A.* 20, 2723.—The method of detg. surface tension of oils, *e. g.*, olive oil, by counting the no. of drops of H_2O falling through the oil (Duclaux app.) differentiates not only different kinds of oils, but also oils of the same nature but different origins. S. WALDBOTT.

The determination of the "foots" content in vegetable oils. L. Jolson and V. Ivanova. *Masloboino-Zhirovoe Delo* 1932, No. 3, 31-5.—The amt. of "foots" depends on the temp. and time of standing. After standing for 96 hrs. the deposit starts to shrink. The diln. of the oil with solvents accelerates the pptn. of the foots and also changes the abs. amt. of the latter. The detn. should be carried out by dilg. the oil 1:1 with benzine in a 100-cc. graduated tube and noting the vol. of the deposit after it stands 4 hrs.
E. BIELOUSS.

The Soviet bleaching earths, their activation and application. A. Markman and F. Vuishnepolskaya. *Masloboino-Zhirovoe Delo* 1932, No. 4-5, 45-8; P. Bukreeva. *Ibid* 49-50.—A no. of various clays and infusorial earths were investigated for their ability to adsorb the coloring matter of oils and soaps and of the phosphatides. The activation of the bleaching materials was accomplished by heating (830°), treating with an acid (H_2SO_4, HCl) or alkali (2% Na_2CO_3) or a combination of these methods.
E. BIELOUSS.

Detection of adulterations in beeswax by means of ultra-violet rays. E. J. Kraus. *Fettchem. Umschau* 40, 51-2 (1933).—Neither European nor foreign beeswax when pure shows sufficiently definite characteristics in ultra-violet light for detn. of origin. Their mixts. with paraffin show a typical bluish luminescence, and their mixts. with ceresin show an increased luminescence, but no definite conclusions can be drawn therefrom regarding kind and amt. of adulteration, and any added artificial dye would cover up the luminescence. The behavior of pure and adulterated beeswax in ultra-violet light is tabulated. P. ESCHER.

Antimony electrode for the determination of acidity of oils. E. Leclerc. *Bull. assoc. ing. élec.* (Liége) 10, 210-30 (1932); *Science Abstracts* 35B, 709.—The Sb electrode is more accurate than the ordinary colorimetric indicators and is not affected by color or turbidity of the oil. Its use demands skill on the part of the worker. G. G.

The constants of some oils relative to their methods of preparation. N. Dublyanskaya. *Masloboino-Zhirovoe Delo* 1932, No. 1, 65-8.—The consts. of some oils (perilla, linseed, soy, sunflower, rapeseed, peanut, castor), *e. g.*, n^{20}_d, color, sp. gr., acid, sapon. and I nos., showed, in some cases considerable differences with oils prepd. by different methods. For analytical purposes the oils should be cold-pressed. E. BIELOUSS.

Refining vegetable oils. R. B. Greenwood. *Chem. Eng. Mining Rev.* 25, 172-3 (1933).—A brief outline of refining methods for salad oils and oils for cooking purposes, such as margarine and hydrogenated products. The oils most used in Australia are: cottonseed, soy-bean, maize-germ, peanut, sesame and copra (coconut). W. H. BOYNTON.

The purification of castor oil of high acidity. G. Petroy and A. Pichugin. *Masloboino-Zhirovoe Delo* 1932, No. 3, 36-42.—Satisfactory results were obtained by treating castor oil of high acidity with NH_4OH and $MgSO_4$. E. BIELOUSS.

The extraction of oil from soy beans. S. Yushkevich, S. Brilling and F. Antonemkov. *Masloboino-Zhirovoe Delo* 1932, No. 4-5, 52-3.—The yield, color, odor and taste of the oil were detd. after extn. with C_2HCl_3, $C_2H_2Cl_2$,$CHCl_3$, C_6H_6, CCl_4, benzine (b. 65-90° and 85-105°), Et_2O and Me_2CO. C_2HCl_3 and $C_2H_2Cl_2$, while giving excellent yields, impart an objectionable odor and taste to the oil. E. BIELOUSS.

A sample of castor oil 135 years old. Norman Evers. *Pharm. J.* 129, 372 (1932).—The oil contained in a white, well-stopperd bottle had a burning taste. The consts. were normal except that the acid no. was 15.8 and the optical rotation +6.72°.
S. WALDBOTT.

Phosphorus determination in fat. M. Mohr and J. Moos. *Milchwirtschaft. Forsch.* 13, 385-7 (1932).—A steel bomb is used to oxidize P and is found satisfactory. Only a trace of phosphatides was found in butter oil. The loss of natural phosphatides is believed to be due to the method of sepn. The method may be employed for *P* and *S in casein.*
GEORGE R. GREENBANK.

Occurrence of lauric acid in fish oils. Henry G. Rees. *Analyst* 58, 222-3 (1933).—During the examn. of the fatty acids from bream oil, small quantities of lauric acid were identified. An unsuccessful attempt was made to isolate this acid from dog-fish oil. W. T. H.

Decolorization of fatty materials, with personal experiences on the mode of action of decolorizing earths. V. Boulez. *Ind. chim. belge* [2], 3, 488-92 (1932). A. L. H.

Examination of a proposed method for the identification and estimations of oils and fats. J. R. Stubbs and A. Lees. *Analyst* 58, 211-19 (1933).—The method of Chowdhury and Das-Gupta (*C. A.* 25, 6001) was subjected to careful study but was found unsatisfactory. It was found impossible to reproduce the results claimed for the method. W. T. H.

PATENTS

Refining vegetable oils. BENJAMIN CLAYTON. Ger. 573,209, Sept. 9, 1931. A mxit. of the oil and a reagent passes continuously through a coil in which it is heated to a temp. preferably not above 38° and subjected to a moderate pressure, *e. g.*, 7 atm., the pressure gradually diminishing in the direction of flow of tne mixt. through the coil. The mixt. is centrifuged after it leaves the coil. The method may be applied, *e. g.*, to the treatment of cottonseed oil with NaOH soln.

Lecithin products from vegetable oil. AKTIEBOLAGET SEPARATOR (invented by H. O. Lindgren). Swed. 71,528, April 7, 1931. To vegetable oil produced by pressing or extn. is added NaCl or another suitable coagulation substance while the oil is being blown with steam, after which the lecithin emulsion formed is sepd. by centrifugalizing.

Purifying animal or vegetable oils, fats, waxes and resins. LUDWIG ROSENSTEIN. U. S. 1,900,132, March 7. Liquid NH_3 is used for treating a mass of the material such as coconut oil in order to remove free fatty acids, etc.

Purifying Oils. *Chemical Abstracts.* Vol. 27, No. 8, Page 2056, April 20, 1933. Metallgesellschaft A.-G. British 366,792, May 2, 1930. Animal or vegetable oils or fats are freed from fatty acids by treatment with concentrated alkali solutions in the theoretical quantity necessary or up to 5% excess and are then decolorized, etc., by alkali solution too dilute to attack the glycerides. An example of the treatment of corn oil is given.

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