ABSTRACTS

Oils and Fats

Edited by
W. F. BOLLENS nd M. M. PISKUR

435-8 (1934).—From figures on thiocyanogen nos. (A) (cf. *C. A.* 28, 4617^8) and I nos. (B) the oleic and linoleic acid contents of various Indian oils and fats were detd. according to the following formulas: Percentage of satd. acid $= 100 - 1.158A$, percentage of oleic acid $= 1.162(2A - B)$ and percentage of linoleic acid $= 1.154(B - A)$. The oleic and linoleic acid contents, resp., of some Indian oils and fats are as follows: Almond oil 78.63, 14.02, apricot pith oil 32.02, 41.9; peanut oil 56.15, 25.94; butter fat (cow) 34.47, 4.97; butter fat (buffalo) 37.9, 4.0; chaulmoogra oil 91.4, 4.74; coconut oil 10.34, 0; olive oil 26.8, 45.0; cacao butter 38.14, 0.66; lard 43.14, 9.32; mahua fat 37.47, 16.45; margosa oil 6.73, 2.3; beef tallow 33.58, 5.18 and mutton tallow 32.02, 6.85. Conclusion. In oils and fats that yield no hexabromide no. and contain no hydroxy acids, the oleic and linoleic acids can be detd. by the use of Kaufmann's thiocyanogen no.

M. M. PISKUR.

PATENTS

Neutral bleached edible oils and fats. U. S. 2,003,076, May 28, 1935. Wilhelm Gensecke (to American Lurgi Corporation). After separating the albuminous and mucilaginous matter from a colored edible oil or fat such as a crude maize oil, the free fat acids are separated by neutralization with alkali, and the oil or fat is heated to about 280° for a sufficient time to effect bleaching, free fat acids being formed and distilled off in a vacuum with the aid of an inert gas. (C. A. 29, 14, 4962, July 20, 1935.)

Bleaching fat acids, oils and fats. French 778,882, March 26, 1935. Oil, fat, etc., is heated to a point between its melting point and 100° and an alkali or alkali earth hypochlorite in water is added in successive small amounts sufficient for the desired bleaching. The oil, etc., is cooled before each addition, stirred with the hypochlorite, allowed to settle and finally reheated. (C. A. 29, 14, 4962, July 20, 1935.)

Production, fatty acid anhydrides. U. S. 2,001,211. Richard Muller, Heidelberg, and Erich Rabald, Mannheim, Germany, to C. F. Boehringer & Sachne, G. m. b. H., Mannheim-Waldhof, Germany. Production fatty acid anhydrides. (Chemical Industries, 37, 1, 53, July, 1935.)

Extraction of oils. Hônen Seiyu K. K. (Mitsuo Nakamura, inventor). Japan. 109,731, Feb. 23, 1935. A mixt. of CS_2 and EtOH (or EtOH contg. a small amt. of MeOH) is used to ext. oils. When the solvent is cooled, it is sepd. into two layers, the lower one (CS_2) contg. pure oils, and the upper one impurities.

Apparatus for extracting fatty oils. Karl Sohler. Brit. 422,530, Jan. 14, 1935. In app. consisting of a series of extractors for treating seeds and other oil-contg. materials in countercurrent with a solvent, the 1st extractor consists of a chamber in which is mounted a perforated feed pipe through which the material passes into a 2nd extractor.

Oil from seeds, fruits, etc. Ateliers de construction mécanique de Tirlemont, Soc. anon. (anciennement Ateliers de J. J. Gilain). Fr. 778,274, Mar. 13, 1935. The seeds, etc., are caused to react under pressure with steam produced from the natural moisture contained in them. If the seeds are partly dried an amt. of water is added corresponding to that removed.

Extraction of oils. Hônen Seiyu K. K. (Mitsuo Nakamura, inventor). Japan. 109,730, Feb. 23, 1935. Addn. to 107,890. Oil-contg. material (such as soybean) is extd. with a mixt. of MeOH (or MeOH contg. a small amt. of EtOH) and chlorinated hydrocarbons (such as C_2HCl_3 or $(CH_2Cl)_2$). After extn., the solvent is sepd. into 2 layers; the lower one contains pure oils, while the upper one (MeOH) contains impurities. The residue obtained by the process contains only a small amt. of impurities.

ABSTRACTS

Soaps

Edited by M. L. SHEELY

Germicidal Soaps. *Th. Ruemele Seifensieder-Ztg.*, 62, 361-2 (1935). A brief review—mainly of patents. (C. A. 29, 14, 4962, July 20, 1935.)

Selective Adsorption from Soap Solutions. Harvey A. Neville and Milton Harris, *Journal of Research of the National Bureau of Standards*, 14, 6, 771 (June, 1935.) Soap is adsorbed from aqueous solution at all types of interfaces, but the ratio of fatty acid to alkali in the adsorbed portion varies with the nature of the interface. Soap foam, continuously removed from an aqueous solution by CO_2-free air, was found to be less alkaline than the original solution, while the latter became progressively more alkaline. The addition of alkalies to the soap solution decreased the selective effect and modified the character of the foam. When carbon black, paraffin oil, and pure olive oil were brought in contact with soap solutions, the aqueous medium became more alkaline and acid soap was adsorbed at the interface. Fuller's earth, olive oil containing free fatty acid, wool, and silk, in soap solutions adsorbed soap and alkali at the interface and the aqueous medium became more acid. Cotton showed no selective adsorption and adsorbed a relatively small amount of soap. The results of these experiments are consistent with the theory of the existence of an acid soap, resulting from the hydrolysis of soap in dilute solution.

ABSTRACTS

Soaps

Edited by **M. L. SHEELY**

Silver Compounds Used in Making Antiseptic Soaps. *Alcohol News, Drug and Cosmetic Industry,* 37, 2, August, 1935. The addition of silver salts or finely divided metallic silver to soaps for the purpose of imparting disinfectant qualities is claimed in a recent U. S. Patent issued to a German manufacturer. The disinfectant action of the soap is thought to depend upon the silver ions being liberated as required for obtaining satisfactory action but not to the extent which would discolor the soap. Among the silver salts which are said to be suitable are: Silver subchloride, silver subbromide and silver subthiocyanide. Oxidizing agents may also be added for the purpose of activating the silver compounds and thereby increasing the disinfectant properties according to the patent. Those suggested include: Hydrogen peroxide, sodium pyrophosphate, alkali metal perborate, etc.

Dispersion of Calcium Soaps by Modern Synthetic Detergents. I. Kurt Lindner, *Monatschr. Textil-Ind.,* 50, 65-6, 94-5 (1935). Alcoholic sulfonates differ greatly in their solubility, textile-chemical and colloid-chemical properties. Some are excellent media for dispersion of Ca soaps. The rate of formation of the Ca soap, its suppression in the presence of dispersion media and its quantitative resolution can be determined better by means of B. Lange's photo-electric colorimeter than by the simple observation of the Ca soap formation. A method is described for the measurement of the light absorption by turbid Ca soap suspensions. At a light absorption under 68% the Ca soap is present in a finely dispersed form which is harmless for textiles. By means of solutions of Igepon T powder or of Gardinol KD powder it is possible finely to disperse and then to dissolve freshly precipitated Ca stearate and oleate soaps. None of the dispersing media tried were capable of dispersing or dissolving filtered and dried Ca soap. Sulfonates of unsaturated alcohols disperse and dissolve Ca soap more quickly than do sulfonated esters or amides; sulfonates of saturated alcohols exhibit a far lower dispersion power. (C. A. 29, 14, 4852, July 20, 1935.)

Germicidal Effects of Soaps—Disinfectant Soaps. *Perfumery and Essential Oil Record,* 26, 7, 285 (July, 1935.) A good deal of work has been published during recent months dealing with the germicidal action of soaps per se and of soaps admixed with various disinfectants. So far as the effect of soap itself on organisms is concerned, this was investigated very fully by Dr. J. E. Walker in America in 1931, and the knowledge accumulated to that time was summarized in the "P. & E. O. R.," October, 1932, p. 364, showing clearly that ordinary commercial soaps—toilet, laundry, coconut or olive—are more powerful germicides than carbolic acid in their action on many pathogenic organisms, though they do not destroy staphylococci or typhoid bacilli. Bayliss and Halverson (J. Bact., 1935, p. 9) have now extended this work to pure soaps of various fatty acids, and show that pneumococci are very sensitive to the action of unsaturated soaps, containing the acids oleic. linolic, linolenic and clupanodonic. Sodium stearate and palmitate are also germicidal to pneumococci, but not to S. lactis. Experiments on the detoxifying properties of soaps against diphtheria toxin show that the introduction of an unsaturated linkage (e. g., oleic acid) into the fatty acids of a saturated soap, increases its detoxifying power, but that additional double linkages (linolic, linolenic acid) produce no further increase. A further article on the subject by these same authors in association with Ordal and Wilson, contributed to "Soap," May, 1935, 25, discusses the difficulty of producing a soapy phenolic disinfectant which shall be at the same time a detergent, since for good detergency the pH value should approach 10, whereas the bactericidal value of phenols at a pH of 10 is very much reduced. They recommend a mixture in which the soap is sodium resinate, 10 per cent (this and sodium laurate are found superior to other soaps), the disinfectant is sodium chloro-orthophenyl phenolate .1 per cent, and the remainder consists of 13 per cent sodium hexametaphosphate, together with sodium bicarbonate, and silicate. It is interesting to note that in an article on Bactericidal Soaps in the Seifen. Zeit. (1935, 361), by T. Ruemele, reference is made to the incorporation of fluorides in soap for this purpose. This was recommended in this country some 30 years ago, but does not appear to have been successful.

PATENTS

Sulfonated Terpene Products (Wetting and Emulsifying Agents.) U. S. 2,003,471, June 4, 1935. Alfred L. Rummelsburg (to Hercules Powder Company.) Relatively stable products are obtained by sulfonating mixtures containing fat acids or their esters such as castor oil, ricinoleic acid, olein, oleic acid, olive oil, linseed oil, corn oil, stearic acid, palmitic acid or a resin acid such as abietic acid, together with polymerized terpene mixtures such as light or dark dipolymer, or mixtures such as light or dark dipolymer with compounds such as BuOH, laurol, abietyl alcohol, stearol, amyl chlorides, benzyl chloride, naphthols, phenols, cresols, naphthylamines, aniline, acid amides, acid chlorides, phthalic anhydride, Ac_2O, toluene, C_6H_6 or naphthalene, or mixtures of dipolymer, fat acids and any of the mentioned substances, using a condensing and sulfonating agent, chlorosulfonic acid, acetylsulfuric acid or fuming or concentrated H_2SO_4, (C. A. 29, 14, 4855, July 20, 1935.)

Soaps. British 423,279, January 29, 1935. Colgate-Palmolive-Peet Company. Soap is made from the oxidation products of petroleum by saponifying with alkali in the absence of H_2O, agitating the molten anhydrous soap in a closed vessel while passing in a current of steam, CO_2 or PhMe or xylene vapors and finally removing the unsaponified materials. The crude saponifiable products of hydroxy acids and lactones are thus transformed into unsaturated acids by the elimination of the elements of H_2O. The steam removed unsaponifiable materials, e. g., unchanged petroleum, tars, partially oxidized substances, and leaves a white odorless soap. Animal or vegetable fats or oils may be added to the crude saponified product to produce mixed soaps. (C. A. 29, 13, 4614, July 10, 1935.)