ABSTRACTS

Oils and Fats

Edited by
M. M. PISKUR and RUTH LINDAHL

fires are: the exclusion of air from the settling tanks, the reduction of the P contents in oils by refining and the use of low temps. in the hydrogenation and the discharge of the fat mixts. (*Chem. Abs.*)

PATENTS

Purification of oil. R. P. Dunmire. U. S. 2,116,344. Oil, which may also contain absorbent material, is sprayed into a vacuum chamber, removed and filtered.

Refining and bleaching oils and fats. E. Kellens. Ger. 657,888 Cl. 23a 3. The melted oil is treated with MnO_2 or other metal oxide. Next it is treated with sulfuric acid, heated to 90° C. and followed by bleaching with bleaching earth. The oil is then neutralized.

Fish liver oils. G. Jonsson. Brit. 475,893. The fish livers are passed through a series of autoclaves. The transference from one autoclave to the next is by means of steam pressure. The charge is pressed after leaving the last autoclave.

Fettspaltung. Henkel & Cie. Ger. 657,938 Cl. 23d Gr. 1. The fat is split by passing water and fat, counter-currently, at 185 to 315° C. under sufficiently high pressures. The glycerin is obtained in the water portion.

Refining and stabilizing fats, oils and waxes. Vaman R. Kokatnur and Oliver S. Plantinga (to Autoygen, Inc.). Brit. 477,282, Dec. 22, 1937. The fats are treated with an org. peroxide in presence of a precipitant of mucilaginous matter, e. g., dil. H_2SO_4, HNO_3, H_3PO_4, $Al_2(SO_4)_3$ or other neutral solid, fuller's earth or other adsorbent, at a temp. below that required to decompose the peroxide when heated alone, an excess of peroxide being used so that the purified oil contains a substantial amt. thereof. Blowing with superheated steam *in vacuo* may follow to hasten decolorization. When free fatty acid is also to be removed, the precipitant is preferably an alkali metal hydroxide or carbonate or a weak acid that forms a soap that is insol. in the oil, e. g., H_3BO_3, H_3PO_4. (*Chem. Abs.*)

Refining fatty oils and fats. E. M. James (to Sharples Specialty Co.). U. S. 2,115,668. Soybean oil is refined by mixing it with Na_3PO_4 in an amt. approx. 50% in excess of that necessary to neutralize the free fat acids contained in the oil, heating the mixt. to 60-70° F., increasing the temp. to 110-140° F. and thereafter centrifuging the mixt. to separate the aq. phase from the treated oil.

Oil compositions. W. H. Butler (to Bakelite Corp.). U. S. 2,120,124. Mixts. of blown oil and certain resins are treated by a special process to yield rubber-like masses.

Stabilization of oleo oil. H. S. Mitchell (to Industrial Patents Corp.). U. S. 2,113,216. Oils are stabilized by incorporating into them a quantity of hydrogenated refined soybean oil and lecithin.

Protection of vitaminous oils. F. W. Nitardy (to E. R. Squibb & Sons). U. S. 2,115,040. Hydroquinone, which is miscible with the oils and in which the hydroquinone is more soluble than in the oils.

Process of recovery of oil from spent bleaching clay. E. M. Slocum. U. S. 2,117,223. A soln. of water soluble salts of Fe, Mn, Cr, or Al is added to the spent bleaching clay; the mixt. is permitted to stand to allow the spent clay to settle and the oil or fat to float to the surface of the soln.; the oil or fat is then separated.

ABSTRACTS

Soaps

Edited by **M. L. SHEELY**

Influence of the nature of the fat acid on the hemolytic power of soaps. R. Cavier. *Bull. soc. chim. biol.* 19, 1663-75 (1937).—The hemolytic activity of different Na soaps varies somewhat with the species of erythrocyte used. Na 12-hydroxystearate was most active at pH 7.4, all other soaps had a greater hemolytic power at pH 5.8-6.2 than at pH above 7. Na myristate was more active than Na laurate, palmitate or stearate. The soaps of unsatd. fat acids are more active than those of the corresponding satd. acids and the activity increases in proportion to the no. of double bonds in the mol. The satd. and unsatd. acids contg. one or more hydroxyl groups show practically the same activity as the corresponding acids without hydroxyl groups. (*Chem. Abs.*)

Comparative study of the lathering property of shaving soaps. I. N. N. Godbole and P. D. Srivastava. *Indian Soap J.* 4, 179-84 (1938).—The lather values of 11 shaving soaps were detd. by the methods of Stiepel and of Lederer. The results are tabulated but no conclusions are drawn as some work in this connection is still in progress. (*Chem. Abs.*)

Fatty acid molecular weights. P. N. Das Gupta. *Indian Soap J.* 4, 197-9 (1938).—A consideration of the relation of the molecular weight of the fatty acids in soap to the various factors which affect detergent power, leads to a recommendation for maximum detergency of a soap containing 15-15.5% of coconut oil, made by the grained process. Molecular weight also has a marked effect on pH as shown in the following table:

	pH at a concentration of	
Sodium Salts of	0.5 gram per liter and 15° C.	1.0 gram per liter and 15° C.
Lauric acid	9.0	9.6
Myristic acid	9.0	9.5
Palmitic acid	10.2	10.4
Stearic acid	10.4	...
Oleic acid	9.8	9.8
Ricinoleic acid	9.2	10.0

(*Soap*)

ABSTRACTS

Soaps

Edited by M. L. SHEELY

The determination of the molecular weights of the higher monobasic fatty acids. Günther Lode. *Österr. Chem.-Ztg.* **41**, 95-101 (1938).—A known amt. of acid is converted into a neutral salt and the amt. of metal ion consumed in its formation detd. From the amt. of acid in combination with the metal the mol. wt. of the acid is calcd. Metallic salts that are easily analyzed and are at the same time sol. in suitable solvents are most suitable. Zn, U and Cu, in the order named, were found most suitable and accurate. ZnO, UO_2 and CuOAc were used in alc. solns. The method is adaptable to microanalysis and is fairly accurate. (*Chem. Abs.*)

PATENTS

Soaps from oxidation products of non-aromatic hydrocarbons. I. G. Farbenindustrie A. G. have Brit. Pat. 482,277. Considerably better soaps can be obtained from the oxidation products of solid or liquid non-aromatic hydrocarbons obtained by oxidation with air or other gases containing oxygen by subjecting the saponified oxidation products to a treatment with steam at a temperature below that necessary for distilling off the higher boiling unsaponifiable constituents for such a length of time that the unpleasant odor is removed. The unsaponified constituents are removed after such treatment or still better prior to it. In this way the substances causing the unpleasant odor are almost completely removed and practically odorless soaps are obtained. (*Perfumery and Essential Oil Rec.*)

Making emulsions. N. V. Chemische Fabriek Servo. Brit. Pat. 473,760. Fatty acids having at least six carbon atoms and containing at least one double linkage which has been subjected to elaidinisation, and a strongly hydrophillic group, are stated to have detergent and emulsifying properties. A "strongly hydrophillic group" is defined as a group, other than a carboxylic group, which renders the fatty acids soluble in water. The water-solubilizing group may be introduced into the fatty acids by esterifying the carboxylic group with hydroxyethanesulphonic acid, or by condensing with taurine. Specified elaidinised fatty acids which may be used are those containing halogen or ester or ether groups or side chains of the aliphatic, aromatic, alicyclic or heterocyclic series which may be attached by means of carbon, oxygen or sulphur. The elaidinised fatty acids may be used in association with soaps or elaidinised fatty acids. (*Soap Gazette and Perfumer.*)

Separating acids. P. A. Moshkin and A. B. Davankov. Russian 36,403, May 31, 1934. Acids obtained in the oxidation of hydrocarbons are sepd. into sol. and insol. acids by treating their mixt. in gasoline or a similar solvent, in the cold with SO_2, NO_2, Cl_2 or HCl. The hydroxy acids are pptd. (*Chem. Abs.*)

Waterproofing composition. John H. Gardthausen (to Gardrights, Inc.). Canadian 372,170, March 1, 1938.—A water-insol. soap and a hydrocarbon solvent are heated to form a gel, alc. is added to convert the gel into a mobile liquid, and in the liquid is dissolved a normally substantially solid fatty acid glyceride. (*Chem. Abs.*)

New detergent agents. N. V. Chemische Fabriek "Servo" and Meindert D. Rozenbroek. Brit. Pat. 473,760.—Fatty acids having at least six carbon atoms and containing a strongly hydrophilic group and at least one double linkage that has been subjected to elaidinization, are used as detergents. The strongly hydrophilic group is one that renders the fatty acid soluble in water; it preferably contains sulfur or phosphorus and may be introduced by treating the fatty acid with a compound containing a water-solubilizing group such as taurine, or by sulfonation. (*Soap.*)

Soap. Robert G. Gerber. French 820,999, November 24, 1937. Soap is made rapidly in the cold by very finely emulsifying the fatty material causing an accelerator composed preferably of an oxidizing substance, e.g., Na peroxide, to act thereon and, after adding water, treating with a concd. alk. lye. The very fine emulsion is maintained through all the operations. French 821,000 describes an emulsifying app. capable of 2,500-6,000 turns per min. suitable for the above process.

Continuous process for converting comminuted soaps. British Pat. 482,535. The process consists in causing the fat to flow in countercurrent to water in a suitable vertical chamber at a high temperature under sufficient pressure to maintain the water in a liquid condition, the period of contact of fat with water being sufficient to cause a substantial splitting of glycerin from the fatty acids, then continuously removing the fatty acids with the water dissolved in same, and the sweet water resulting from said treatment, in separate streams, then continuously commingling in an enclosed space under pressure the fatty acids without substantial reduction of temperature with an alkaline reagent and water, the said water thus added together with the water dissolved in the fatty acids being substantially no more than enough to result in the formation of neat soap, and the said alkaline substance being in substantially combining proportions, and cooling the resulting soap by ejecting the same in the form of a spray with incidental drop of pressure. The product is a solid comminuted soap of unique structure and properties, in saleable form, with practically any desired moisture content. Any desired builder such for example as silicate of soda, soda ash, trisodium phosphate, borax, may be added to the solution of saponifying agent before mixing with the fatty acids or added separately in the mixer and thus produce a comminuted soap containing such builder. Excessive amounts of crystalline builders, such as soda ash for example, are objectionable because they tend to make a product having a definitely crystalline structure which product tends to break down in handling. The patentees keep the proportion of crystalline builders, when used, below that which produces the above mentioned effects. Hence their mixture as sprayed is a substantially homogeneous fluid mass of soap and water, with or without a builder, and forms a solid product that is also homogeneous, free from noticeable crystalline structure, and resistant to breaking down with ordinary handling. (*Perfumery and Essential Oil Record.*)