

ABSTRACTS

Oils and Fats

Edited by
M. M. PISKUR and RUTH LINDAHL

double bonds are present, as in tung, oiticica and Synourin oil, and probably Pb is the best catalyst. Oxidation is more important in the film formation of linseed oil and is probably speeded up most by Co. When only Pb is present, which does not promote oxidation so rapidly, the linseed oil film dries slowly and remains more hydrophilic.

PATENTS

Flesh or fish meal. H. Wielrath. Ger. 646,922, Cl. 53g 4.02. Drying and rendering of flesh and fish is carried out in the vapors of a solvent having a b.p. greater than water and immiscible in water as halogenated hydrocarbons. The material and solvent are boiled together until the b.p. rises to that of the solvent.

Fatty oils and fats. K. Ludecke. Ger. 647,219. Cl. 53h 1.01. The fat or oil content of green seeds can be

increased by grinding the seeds, mixing with carbohydrates (sugar) with or without some salts ($MgSO_4$, Na_2CO_3 , etc.), and allowed to stand 15-50 days. The material is then dried and the fat extd. The fat obtained is appreciably greater than that contained in the original seeds and is acid free.

Antioxidant. D. P. Grettie (to Industrial Patents Corp.). U. S. 2,095,740. Lard is stabilized by addn. and incorporation therewith of a quantity of a distillate secured by the deodorization of hydrogenated sesame seed oil.

Fats and oils. J. McKee. U. S. 2,083,572. Oleaginous oils and fats of a sp. gr. of less than .970 are heated under diminished pressure without access to air to raise the sp. gr. to about .975 and then ozone is passed there through to ozonize the oils. The oils are used for medicinal purposes.

ABSTRACTS

soap

Edited by M. L. SHEELY

Modern views on the washing of textiles and the constitution of the new washing agents. A. Chwala. *Monatsh. Seide Kunstseide* 42, 268-9 (1937). In dil. solns. soaps exhibit a linear dependence of elec. cond. upon concn. At a certain concn. a sudden break occurs and the cond. decreases. This characteristic behavior of soaps and similar substances is due to the formation of micelles. Various washing agents affect differently the establishment of equil. in the 4 stages: (1) complete dissoen. of soaps into large colloid anions and small cations, (2) aggregation of the large ions to preliminary micelles, with simultaneous mach. and electrostatic union of the small ions, (3) further aggregation with the formation of ion micelles of higher stability, and (4) absorption of dissociated soap particles by the neutral particles and elec. charging of the latter. (*Chem. Abs.*)

Spraying Technic. Bert Thomas. *Seifensieder-Ztg.* 64, 466-7 (1937). A no. of practical suggestions as to the proper technic of spraying-drying washing agents are given. (*Chem. Abs.*)

Visible Action of Sodium Lauryl Sulfate on Microorganisms. Milward Bayliss. *J. Lab. Clin. Med.* 22, 700-4 (1937). Na lauryl sulfate in a diln. of 1:320 clears cultures of Gram-neg. organisms grown in liquid media in 1 hr. Vibrios are cleared by dilns. up to 1:2560 and pneumococci by dilns. of 1:5120. Streptococci and most other Gram-pos. bacteria remain unchanged. The clearing is accomp'd. by a marked increase in the viscosity of the media, indicating that parts of the bacterial cells have become dispersed. (*Chem. Abs.*)

Separating Petroleum Emulsions. *Chemical Industries*, 41, 264 (1937). The separation of water-in-oil emulsions, such as are produced by oil wells, has been the subject of extensive investigation, and among

the numerous methods proposed, the addition of chemical dehydration compounds seems to be most attractive. The following summary of an article, "Chemical Methods for Separating Petroleum Emulsions," by Ir. G. W. Baron Van Dedem M. I., page 65, August 12, 1937, *Oil and Gas Journal*, lists his conclusions:

1. It is necessary to possess analysis of the edge-water of every separate drilling project in an oil field, indicating the quantities of carbonate, bicarbonate, weak organic acids, sulfate, the total hardness and the pH value.

2. It is necessary to know the titration curve and the pH value of optimum, emulsion breaking effects of the dehydration compounds to be considered. This optimum value must be in line with the pH of the salt water.

3. For Alkaline water with high pH, which ordinarily also contains little alkaline earth salts, the neutral soaps of oleic acid, solid fatty acids, liquid saturated fatty acids, linoleic acid, etc., depending upon the pH and the alkaline earth content of the salt water, should be applied.

4. For alkaline water with lower pH, preferably buffered with bicarbonate, neutral or weakly acid ricinoleate, as pure as possible, has to be considered (eventually also other oxyacids, and perhaps also resin soaps). Instead of ricinoleate, either subject to a purification process or not, more economical results can often be obtained with ordinary Turkey-red oil with the sulfonate group esterified and loosely linked.

5. For more acid water, one should consider the soaps of naphthenic acids, preferably having a low sulfate content, and the more stable fatty acid, alcoholic, or aromatic sulfonates and the petroleum sulfonates, having a higher sulfate content, provided these are

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adapted to the pH of the water, and do not contain antagonistic constituents.

Germicide from Coconut Oil Acids Is Rated High. *Oil, Paint and Drug Reporter*, 132, 17 (Oct. 11, 1937). Evidence that a new derivative of coconut oil fatty acids, alkyl-dimethyl-benzyl-ammonium chloride, may prove a significant addition to useful antiseptics is presented in a report published here.

The new compound, according to the report, retains inhibitory potency for *Staphylococcus aureus* in aqueous concentrations as dilute as 1:100,000. Similarly, phenol coefficients (F. D. A.) of 293 at 37° C. and 275 at 20° C. for staphylococcus are said to have been obtained.

Ten per cent solutions of the compound in distilled water or in ethyl alcohol are asserted to have destroyed microbial life on the human skin without any apparent dermal irritation.

Tests with three other organisms as well as with several types of bacterial spores and molds are also covered in the report.

Sulphite Cellulose Spent Lye in Soap-Making. *Oil and Colour Trades J.*, 92, 973 (1937). During the past two or three years one of the leading firms of cellulose producers in Germany has been experimenting with various methods for obtaining cellulose spent lye in a suitable form for soap-making, and a bleached powder has been evolved for which fairly substantial claims are made as to its adaptability in soap manufacture, including even toilet soaps. The spent lye, however, can be used in liquid form, after suitable treatment, which consists essentially in preliminary bleaching or clearing with chloride of lime, followed by concentration and oxidation. The method is of particular interest in that the soap produced with sulphite as a constituent can, it is claimed, be used with sea-water; and also because it illustrates a further use for the colloid mill introduced into Germany several years ago by Hermann Plausen. As a matter of fact, Plausen, in collaboration with Dr. Karl Braun, has recently patented in Germany (the corresponding patent has just been granted in this country, also, E. P. 470,254) a process for the manufacture of a clear soap in which sulphite cellulose spent lye is used. Briefly, it consists in preliminary treatment with chloride of lime in the colloid mill, followed by neutralization with acid, then by oxidation—with or without preliminary concentration—with ozone or hydrogen peroxide, the product being finally incorporated with a ready-made but still liquid soap. The process may be improved or/and accelerated first by carefully introducing chlorine, together with calcium hydroxide, into the crude lye; and secondly by adding also sufficient calcined gypsum, after chlorinating and neutralizing, for concentrating the lye, without, however, allowing the mixture to become solid.

The behavior of solutions of soap and wetting agents on semipermeable membrane. H. Kroper. *Fette u. Seifen*, 44, 298-30 (1937). Data are reported on dialysis through a cellophane membrane of K soaps of lauric, myristic, palmitic, stearic, oleic, linoleic and ricinoleic acids. There was considerable penetration with lauric and myristic acids, the latter being $\frac{1}{2}$ the

first. Palmitic and stearic acids penetrated only slightly. Double bonds and OH groups favor the wandering through the membrane. The penetration of the fat acids and the alkali portion can yield information on hydrolytic splitting of various soaps. The hydrolysis was higher with the higher acids. It is therefore suggested that hydrolysis could not be responsible for the skin irritation caused by low mol. wt. fat acid soaps. With fat alc. sulfonates and fat acid condensation products the dialysis capacity increases with decrease in size of the molecule. The possible use and indication of the data obtained are discussed.

PATENTS

Vacuum Treatment of Soaps. U. S. 2,087,788, July 20. Adolph F. Thal. App. is described and a method of treating soap under vacuum which consists in withdrawing hot soap in liquid form and at a temp. substantially above the b. p. of water under said vacuum and having a high percentage of solids directly from a soap kettle, admitting the withdrawn soap in undil. form to a vacuum chamber, applying a thin film of said soap, not exceeding 0.0015 of an in., while in said vacuum chamber to a relatively small heated drying drum rotating at from 50 to 150 r.p.m., thereby to reduce the moisture content and cool the soap, cooling said film to a temp. near the b. p. of water under said vacuum and reducing the moisture content of said film on said drum uniformly to less than 20% without skin effect, and scraping the soap from the surface in substantially solid form in condition directly to be packed in bar or flake form.


Detergent Composition. U. S. 2,092,913, Sept. 14, 1937. A. H. Fiske, assignor to Rumford Chemical Works. 1. A detergent composition containing a detergent having a cleansing action and an alkali metal salt of tetra phosphoric acid.

Powdering and Granulating. Dan. 53,048, May 10, 1937. A/S Niro Atomizer. Molten soap, soda, soda-soap mixts., NH_4NO_3 , $\text{Ca}(\text{NO}_3)_2$, urea or the like, directly before it is finely divided, is led through a cooler which contains a rapidly rotating part adapted to keep the size of any solid particles formed during cooling equal to, or less than, that of the product desired. The process reduces considerably the size of app. and quantity of air otherwise used.

Lubricant Grease. U. S. 2,087,805, July 20. Bert H. Lincoln and Alfred Henriksen (to Lubri-Zol Development Corp.). A hydrocarbon oil is used in admixt. with a soap of a halogenated higher fatty acid of the aliphatic series such as Na or Al or Pb soap of chlorinated stearic acid or fish-oil acids, etc.

Hydrolysis of Fats. Fr. 808,069, Jan. 28, 1937. Henkel & Cie, G. m. b. H. Water is passed in uninterrupted circulation through a column of molten fat also in circulation, at a temp. sufficiently high and under sufficiently high pressure to liberate the fat acid and glycerol. The glycerol liberated is constantly washed by the flowing water and is evacuated as glycerol contg. water while the fat is evacuated at the other end.

WHO
WHAT
WHERE
WHEN
WHY



Joins Industrial Chemical Force

H. A. Moffat has joined the sales force of the Industrial Chemical Sales Division of West Virginia Pulp & Paper Company, at the Chicago office.

Mr. Moffat is a graduate chemical engineer of the University of Minnesota, and was assistant chief chemist for Milwaukee Coke and Gas Company, Milwaukee, Wis. Later he joined the organizations of Central Scientific Company and E. H. Sargent & Co., both of Chicago, and was engaged in selling laboratory equipment.

Appointed District Sales Manager

E. S. Boston has been appointed district sales manager of the Patterson Foundry & Machine Company of East Liverpool, Ohio, with headquarters at St. Louis, Mo., and will have charge of the territory adjacent to St. Louis.

Mr. Boston is a chemical engineer, having graduated from the University of Wisconsin and the Armour Institute of Technology at Chicago. He was formerly connected with the laboratory of the Anaconda Copper Mining Company and is well known in the St. Louis territory, having also been connected with the Ohio Zinc Oxide Company as sales representative.

Marvin C. Reynolds

The Emulsol Corporation regrets to announce that its president, Marvin C. Reynolds, passed away suddenly at his home on October 11, 1937.

Mr. Reynolds was born August 8, 1884, in the small agricultural town of Carlisle, Iowa. He attended the public schools in that city and in 1889, at the age of 16, he entered college and graduated in 1903 from the Agricultural and Mechanical School of the University of Iowa at Ames, Iowa, with a degree in electrical and mechanical engineering.

He worked for the Illinois Bell Telephone Company for several years, and then for two years was manager of a ranch in Billings, Montana. From 1914 to 1923 he was general manager and superintendent in charge, as well as a member of the Board of Directors, of Downey-Farrell Company, who manufactured margarine and similar products. During this period Mr. Reynolds studied the chemistry of oils and fats and food bacteriology, and became an expert in that field.

In 1923 he became associated with the firm of Epstein, Reynolds & Harris, consulting chemists and engineers, doing a considerable amount of research and development work in margarine and mayonnaise products. In 1926 he was one of the founders of The Emulsol

Corporation, and was president of that company until his death.

He was a member of the Shriners, the American Chemical Society, the American Oil Chemists' Society and many other trade and civic organizations.

Develops Line of Blenders

The Patterson Foundry & Machine Company of East Liverpool, Ohio, has developed and has now placed on the market a complete line of blenders for use in oil refineries and in chemical process plants. These blenders, for which unusual efficiency is claimed, are suitable for speedy, uniform blending of asphalt cut-backs, oils, etc.

The newly developed blenders are obtainable in several sizes and in plain steel, stainless steel, Monel metal, nickel clad and aluminum. They are built in both belt and motor-driven types.

Marked Increase in Vegetable Oil Production

A sharp increase in production of domestic edible vegetable oils has been reported by the Bureau of Agricultural Economics in its October "Fats and Oil Situation."

Expected increases this year over last include a 33 per cent gain in the supply of cottonseed oil, a rise of 15 to 20 per cent in production of soybean oil, and smaller gains in production of peanut, corn and other minor vegetable oils.

The bureau said that although the production of lard and other edible animal fats will probably be less in 1937-38 than in the preceding year, "it is believed that the increased production of vegetable oils will more than balance this reduction."

Consumption of fats and oils in the drying industries (paint, varnish, linoleum, oilcloth and printing ink) was estimated at 469,000,000 pounds for the first 6 months of this year, compared with 395,000,000 pounds in the same period of 1936. Biggest increase—nearly 100,000,000 pounds—was in consumption of linseed oil; consumption of perilla oil was sharply reduced.

The bureau said "competition of other drying oils with linseed has increased . . . the present business recession may weaken the demand for all drying oils in the next few months."

Becomes Eastern Sales Manager

Announcement has just been received from Wilson & Bennett Mfg. Co., makers of steel pails and drums that John T. Gossett has recently been appointed to the position of Eastern sales manager.

Mr. Gossett will have his headquarters at the Jersey City office and plant and will be in charge of all sales in the territory east of Pittsburgh.

Corning Glass to Exhibit at Chemical Exposition

Corning Glass Works will exhibit many new items in "Pyrex" brand laboratory glassware, together with displays of standard items, complete units of laboratory apparatus and equipment for industrial applications at the sixteenth annual Chemical Exposition, Booths Nos. 332-333-346-347, Grand Central Palace, New York City, December 6th to 11th.