ABSTRACTS

Soaps

Edited by **M. L. SHEELY**

The Development of Soap Rancidity in the Manufacture of Fine Soap. Oculus. *Seifensieder-Ztg.* **62,** 820-1 (1935).—A discussion of how to distinguish between soap rancidity due to (1) the catalytic action of metals, (2) the use of fats bleached with oxidizing agents and (3) the use of unsuitable fat material. (*C. A.* **30,** 1599.)

Water Glass in Soap, Soap Powder and Self-Acting Detergents. Fritz Ohl. *Allgem. Oel-u. Fett-Ztg.* **32,** 453-6 (1935).—A review giving the amount usually used and advantages of using Na silicates in soaps. (*C. A.* **30,** 1599.)

Dry-Cleaning Soaps and Solvents. S. W. Putnam. *Soap* **12,** No. 1, 25-8, 63 (1936).—Chlorinated solvents are replacing petroleum solvents in dry cleaning. The desirable characteristics for a soap for use with any chlorinated solvent are discussed. (*C. A.* **30,** 1600.)

Soap, Soap Fillers and Washing Powder. Ernst Jaeschke. *Seifensieder-Ztg.* **62,** 859-62, 879-81, 901-3 (1935).—Methods for filling soaps are illustrated with a number of practical examples. (*C. A.* **30,** 1599.)

Is Soap Coming Into Its Own Again? Anton Volz. *Monatschr. Textil-Ind.* **50,** Trade Issue III, 93-4 (Nov., 1935).—A literature review shows that the action of soap is important for numerous textile purposes and that soap cannot be entirely displaced by Ca-resistant detergents. This is particularly true for the degumming of natural silk, the dissolving of linseed oil size, the alkaline felting of wool and a variety of washing operations in the textile industry. (*C. A.* **30,** 1572.)

Chemical Studies of Cottonseed and Its Products. W. D. Gallup. *Okla. Agr. Expt. Sta. Rept.* **1932-4,** 177-80 (1934).—Cottonseed having a high oil content also had a high content of gossypol. For seeds of low oil content the oil: gossypol ratio was 55:1, and for oil-rich seeds the ratio was only 35:1. The presence of gossypol in the crude oil reduces the alkali refining loss of the oil. The nutritive values of cottonseed meal are discussed. (*C. A.* **30,** 2030.)

Composition of Rape-seed Oil. Riichiro Yamasaki and Kentaro Ichihara. *J. Chem. Soc. Japan* **56,** 1332-4 (1935).—Fat acids of the oil consisted of behenic 0.8, erucic 55, oleic 14, linolic 24, linolenic 2 and palmitic 3.5%; it contained also myristic, palmitoleic and stearic acids but the amount was small. The presence of rape-seed oil in the other oils can be identified by the detection of erucic acid, and the presence of the other oils in rapeseed oil by estg. stearic acid. (*C. A.* **30,** 1598.)

The Titer of Fat Mixtures. C. Bergell. *Seifensieder-Ztg.* **62,** 839-40 (1935).—Tabulated data on the titer of varying proportions of either (1) rosin, (2) coconut-oil fat acids or (3) soybean-oil fat acids with either (a) tallow fat acids or (b) palm-oil fat acids show that the titer of such mixtures cannot be predicted from their composition and the titer of their components. (*C. A.* **30,** 1595.)

Glycerine-preservation of lard. C. H. Lea. *Dept. Sci. Ind. Research Rept. Food Investigation Board* **1934,** 38-43 (1935). **Correction to:** *Oil & Soap* **13,** 107. Titles should read: **Antioxidants and the preservation of edible fat.** The antioxidants mentioned previously are suitable for adding to meat curing pickle solns. for the purpose of stabilizing bacon (fat against rancidity). (cf. *C. A.* **30,** 310.)

Easily Soluble Unfilled Soap Flakes. Paul I. Smith. *American Perfumer and Essential Oil Review* **31,** 6, 82 (February, 1936).—H. P. Martin recommends a charge consisting of 75 per cent tallow and 25 per cent coconut oil with or without the addition of 2 per cent rosin for soap flakes. The writer considers that palm kernel fatty acids can, with considerable advantage, be incorporated in the mix, and the presence of rosin tends to improve the appearance of the soap, but is not absolutely essential. In the "Manual of Standard Practice for the Power Laundry Washroom," issued by the Department of Research of the Laundry Owners National Association, Mellon Institute of Industrial Research, the following specifications are given for a good flake laundry soap.

1. The soap should not have more than 12 per cent moisture.
2. It should have no free alkali, certainly not over one-half per cent.
3. It should not have more than 3 per cent sodium carbonate.
4. It should not contain more than 1 per cent sodium silicate.
5. It should have no insoluble filler.
6. The sum of the sodium oxide as soap and anhydrous fatty acids should not be less than 85 per cent.
7. The fatty acids should contain no rosin.

A recent Lever Brothers' patent deals specifically with the drying section of a most interesting system which produces a new type of flake, curled with a length of 0.25 inches, and a thickness of .002 inches.

Summing up, it may be said that the ideal soap flakes to be packed for the domestic market must be exceedingly thin, about .003 inches is a good average, and uniformly shaped so that they present the minimum surface area to the water, and are thus very easily soluble. As regards the shape of the flakes, while some workers maintain that the square shape is the best, the triangular shaped flake is also good, and it does not appear to matter very much what shape the flakes really take, providing that shape is uniform.

PATENTS

Soap from Sperm Oil. U. S. 2,027,936, January 14, 1936. Walther Schrauth (to "Unichem" Chemikalein Handels, A.-G.). Sperm oil is saponified, and the alcohols formed by treating the material with concentrated alkali such as NaCH at a temperature of 200-280° are oxidized by use of about 1-2% more of the alkali than the stoichiometrically calculated proportion. (*C. A.* **30,** 1600.)

Detergents; Bleaching Agents. British Patent 439,493. W. J. Tennant, 111, Hatton Garden, E.C., on behalf of Henkel & Cie, Ges., 67, Heyestrasse, Holthausen, Düsseldorf, Germany.—A mixture of

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water-soluble meta- and pyrophosphates in which the pyrophosphate is substantially more than 10 per cent of the metaphosphates is added to known cleansing or penetrating agents, other than per compounds, or to the liquids used in dyeing or for the treatment of textiles, leather or other organic raw materials or intermediate products. Phosphates of sodium and of organic bases, e.g., triethanolamine, cyclohexylamine, and aminopropandiols, are specified. Suitable cleansing and like agents are soda, waterglass, borax, borates, alkali phosphates, soaps. There may be added soap substitutes, e.g., alkali salts of sulphonated oils or of sulphonated fatty alcohols, foam-producing agents, superfatting agents, organic solvents, enzymes, and abradants, e.g., finely ground sand. In an example, 0.2 gram of soda is used with 0.3 gram of a mixture of 30 or 50 parts of sodium pyrophosphate and respectively 70 or 50 parts of sodium hexametaphosphate. Specifications 378,345, 424,959, 435,861, 437,128, and 438,063 are referred to. According to the Provisional Specification, any mixture of meta- and pyrophosphates alone or with other cleaning and like agents may be used, and oxygen-yielding substances, e.g., hydrogen peroxide, perborates, persulphates, with or without stabilizing agents, may be added to impart bleaching properties. (*Oil and Colour Trades Journal* **89**, 1955, 114, April 3, 1936.)

Preventing Rancidity. German Patent 619,928. Isser Davidsohn and Robert Strauss. Oils, fats, and waxes or their mixtures and products such as soaps are prevented from becoming rancid by the addition of up to 3 per cent of aliphatic high-molecular halogenated hydrocarbons, such as chlorinated paraffins. (*C. A.* **30**, 1600.)

Para-Tertiary Phenols Against Soap Discoloration and Rancidity Patented. The incorporation of very small amounts (0.01 per cent) of some of the para-tertiary butyl phenols and para-tertiary anyl phenols in soap will prevent or greatly retard the development of discoloration and rancidity, according to U. S. Patent 2,029,506, issued to the Procter and Gamble Company, Cincinnati, Ohio. Phenol itself and the cresols, when used in small quantities, have only a slight preservative action on soap; thymol has a marked stabilizing action; resorcinol, pyrogallol, and vanillin, on the contrary, all cause marked discoloration in soap on aging. The para-tertiary phenol stabilizer may be added to the soap in any convenient manner during the usual crutching or milling or other similar operation, care being taken to secure a uniform distribution. (*Drug Trade News* **11**, 7, 37, March 30, 1936.)

Phosphoric Fat Preservative. Canadian Patent Number 356,296. Procter & Gamble Company of Canada, Ltd. Substantially dry fats or fatty materials are treated to retard oxidation and the consequent undesirable changes in color, odor and flavor, with a composition of phosphoric acid or its acid-reacting derivatives, in such a quantity that the combined phosphoric anhydride is equivalent to less than 0.01 per cent of phosphoric acid in the fatty material. (*Soap* **XII**, 4, 69, April, 1936.)

Stabilizing Fat Odor. Canadian Patent Number 355,658. Procter and Gamble Company of Canada, Ltd. Fatty materials are treated to stabilize odor and flavor by mixing with inert absorbent powdered material and an acid having antioxidant properties toward fat. This treatment is subsequent to any of the usual bleaching treatments that may be required for decolorizing the fat. The major portion of the absorbent powder is later removed. (*Soap* **XII**, 4, 73, April, 1936.)

Glycerine Used in Making Thin Wood Sheets Soft. U. S. 2,030,819. Reginald Oliver Herzog, Berlin-Steglitz, and Alfred Burgeni, Berlin-Lichterfelde-West, Germany, to Wallwood Corporation, New York City.—Process making thin wood sheets permanently soft and flexible by treatment with alkali and saturation with water-soluble substances such as glycerol. (*Chemical ndustries* **38**, 294, 1936.)

Inhibiting Corrosion of Magnesium and Its Alloys. U. S. 2,028,343, January 21, 1936. Josef M. Michel (to Magnesium Development Corporation).—Corrosion by solutions such as those of glycol or glycerol is inhibited by incorporating in the liquid about 0.1% or more of an alkali fluoride such as KF. (*C. A.* **30**, 1356.)

Detergents. British Patent 428,961. Detergents are composed of an alkali metaphosphate, soap or a soap substitute, and a peroxygen compound such as alkali perborate, percarbonate, perphosphate and perpyrophosphate with or without a stabilizer, e.g., waterglass, pyrophosphate, or magnesium compound. Known cleansing agents, e.g., soda, alkali phosphates, silicates, and borates, solvents, and superfatting agents may be added. The detergent may be in the form of flakes, shreds, solutions, pastes, lumps, or powders, and preferably has a content of about 1 per cent of active oxygen and 30-50 per cent of soap (anhydrous). In an example, an aqueous solution of 30 lb. of sodium salts of sulphuric esters of higher fatty alcohols, and 10 lb. of sodium perborate is used for washing silk or other delicate fabric. References has been directed by the Comptroller to Specification 408,708. (*Soap Gazette and Perfumer* **37**, 11, 14, 1935.)

Soap Preparations. U. S. 2,026,816, January 7, 1936. Heinrich Bertsch, Chemnitz, Germany, assignor, by mesne assignments, to American Hyalsol Corporation, Wilmington, Delaware.—A soap composition for use in hard water comprising in combination essentially a water soluble salt of an acid sulphuric acid ester of a higher aliphatic alcohol in proportions which prevent precipitation of the soap during use in hard water. (*Soap* **XII** [3], 71.)

Emulsifying Agents Containing Fatty Acid Esters of Polyglycerols. U. S. 2,022,766, December 3, 1935 Benjamin R. Harris.—A mixture of polyglycerols is produced from glycerol, and the polyglycerols (usually in excess) are caused to react with higher fatty acids such as those of coconut oil, neat's foot oil, corn oil or lard or with the triglycerides of the oils and fats. Products are obtained which may be used in the preparation of cosmetic creams, shaving preparations, detergents, insecticides, etc. Various examples are given. (*C. A.* **30**, 791.)