

ABSTRACTS

Soaps

Edited by M. L. SHEELY

Soya Bean Oil Used in Preparation of Soft Soap. R. Krings. *Seifensieder-Ztg.* 61, 982-4 (1934).—Transparent soft soap is prepared from soya bean oil or from the fatty acids from soya bean oil. Up to 10% of rosin can be introduced. Up to 20% of waste animal fat can be used, but in that case, saponification must be entirely with caustic potash. (*Soap*, XI, 2, 61 February, 1935).

Persulfate in Detergents. Paul I. Smith. *Soap, Perfumery and Cosmetics Trade Review*, 7, No. 11, 15-16 (1934).—The demand for persulfates by the soap manufacturer is on the increase. Persulfates of ammonium, sodium and potassium are used as active oxidizing agents, both for bleaching soap and in proprietary soap powders. Although the more general practice is to bleach the oils and fats before saponification, some soap-makers prefer to bleach the soap mass in the pan.

Ammonium persulfate is excluded from use with certain soaps, due to the odor of ammonia which is given off. The ammonium salt possesses the advantage of being more soluble than either sodium or potassium persulfate. For this reason, the two latter salts are added in the form of a paste. Addition of persulfate is not made until spent lye has been removed. Bleaching takes place by the liberation of oxygen. The extent of the reaction can be followed with great accuracy.

Where the soap composition contains an appreciable proportion of rosin, preference is given to sodium persulfate. A small excess of alkali must be added to allow for that taken up during the process. The soap must be stirred thoroughly during the addition of persulfate. Bleaching action usually continues for some time. After the salt has been mixed through the mass, the whole is boiled for a time and allowed to stand before finishing the process. The amount of persulfate to add is calculated from the proportion of fat present and seldom exceeds 1 per cent.

In raking special cleansing powders, the ingredients are mixed in the dry state. The components are usually bought in a more or less finished condition and simply mixed in special lifting and mixing machines. (*Soap*, XI, 2, 59, February, 1935.)

Dispersing Agents for Lime Soaps. *Soap*, XI, 1, 55 (January, 1935).—It has been found that sodium pyrophosphate, as well as sodium metaphosphate, has the property of dissolving lime soaps. Tests were made with the following compounds: Prestab V, Igepon T and Gardinol WA. They were found to be very soluble in hard water. Calgon and sodium pyrophosphate, though less soluble, are still sufficiently soluble to resist the hardest water used in practice.

The same processing agents were next tested for the property of dispersing or dissolving lime soaps. Nekat BX, Prestab V, soluble pine oil, and Gardinol WA were of little value in preventing the formation of calcium soap. Sulfonated castor oil was as good as Igepon between 80 and 100° C., but below 80° it proved to be of little value as a dispersing agent for calcium soap.

Calgon is reported to consist of 90% of sodium hexametaphosphate and 10% of sodium pyrophosphate. The efficiency of Calgon seems to drop off below 60° C.

Igepon T is the most effective of the organic lime soap inhibitors tested. Sulfonated castor oil proved considerably more lime-resistant in soap.

Lime Soap on Washed Materials. *Perfumery and Essential Oil Record*, 26, 1, 33 (January, 1935).—The deposition on washed fabrics of lime soap from imperfectly softened water is still a fruitful source of trouble to launders in spite of the more general adoption of water-softening processes and the use of "sour." If the washed goods are not properly rinsed, they may, moreover, retain a small amount of alkali soap in addition to any deposited alkaline earth soap, and it is not easy to separate the two types of soap from the fabric and from one another. Dr. B. H. Gilmore, of the Mellon Institute of Industrial Research, Pittsburgh has studied this problem and in a recent report to the Northern New England Section of the American Association of Textile Chemists and Colorists describes a process in which the mixed soaps are completely removed from the fabric by extraction with a mixture of benzene and absolute alcohol and

the calcium-content of the soap extract then determined in the usual way. Benzene and carbon tetrachloride are found to be equally good solvents of calcium oleate but the harder calcium stearate is not completely soluble in either solvent and it is very important that in the benzene-alcohol mixture recommended the alcohol shall be absolute. Copies of the report may be obtained by application to the Mellon Institute of Industrial Research.

Bleaching of Glycerol. *Vuigovskii and Yurkov-Masloboino-Zhirovov Delo*, 1933, No. 7, 19-20.—Glycerol can be bleached satisfactorily by the combined treatment with ferrous sulfate and activated carbon. By using a 2% solution of ferrous sulfate, the consumption of carbon can be considerably reduced. (*Soap*, XI, 1, 61, January, 1935.)

PATENTS

Soaps. French 767,931, July 27, 1934. Paul J. Beyer. The oil used is saponified in the cold by a NaOH lye of 10-15° Baume, then by a KOH lye which is added some seconds after the NaOH lye, the theoretical amount of the lyes being about 40% of NaOH and 10% KOH and the saponification lasting about 10 minutes. Refining lyes of NaCl and Na₂CO₃ are added afterward. (*C. A.*, 29, 2, 630, January 20, 1935.)

Emulsifying Agents Suitable for Use with Oils, Etc. U. S. 1,981,292, November 20, 1934.—Wm. Todd and Anthony J. Hailwood (to Imperial Chemical Industries, Ltd.). A protective colloid such as glue is used with a heterocyclic quarternary ammonium salt containing an acyclic C chain having at least 10 C atoms, such as pyridinium octadecyl bromide or the like. (*C. A.*, 29, 2, 522, January 20, 1935.)

Borates of Alcohols Added to Soap. Japanese Patent 102,004.—Borates of alcohols, such as borneol, or of phenols, are added to ordinary soap. When the soap is mixed with warm water, free alcohol or phenol and alkali borate are produced. (*Soap*, XI, 1, 61, January, 1935.)

Water Softener. Canadian Patent 346,202. Water containing an alkaline earth metal compound is softened by adding an alkali metal metaphosphate in an amount sufficient to suppress effectively the soap-consuming alkaline earth metal ion concentration. Hall Laboratories, Inc. (*Soap*, XI, 1, 63, 1935.)

Soap. Antoine C. Gillet. Fr. 772,028, Oct. 22, 1934. Household soaps are obtained in a single operation and rapidly by using a starting alk. salt lye and by maintaining, during the whole operation, a biphasic system near to the monophasic system which allows a rapid combination of the soda with the fats.

Soap. Mohamed T. Khorassany. Fr. 772,415, Oct. 29, 1934. See Austrian 138,923. (*C. A.* 29, 951^a).

Soap compositions. Adolf Welter. Ger. 606,366, Nov. 30, 1934 (Cl. 23e. 2). Soap, preferably liquefied, is mixed with one or more salts, and the mixt. is extruded through a nozzle to form filaments of less than 1.5 mm. diam. The filaments become brittle when dried, and can then be broken up into small rods. Suitable salts are K₂CO₃ and the bicarbonates, sulfates, phosphates, silicates, borates, acetates, nitrates and aromatic sulfonates of Na and K. The proportion of salt may be between 5 and 30%, but must be below the proportion at which salting-out would occur. Specific processes and compns. are described.

Soaps, creams, etc. Henkel & Cie. G. m. b. H. Fr. 773,246, Nov. 14, 1934. Superfatted soaps, creams, polishes, etc., are made by adding to such compns., at any point of their manuf., aliphatic or hydroaromatic compds., of high mol. wt., contg. free or substituted hydroxyaryl groups. Such compds. include decyl-, tetradecyl and dodecyl-phenols and -cresols, hydroxyphenyl and hydroxytolyl undecyl ketones, as well as the nonyl, tridecyl and pentadecyl compds. Cf. *C. A.* 28, 4260^o.