EFFECT OF THYROXINE ON THE NEUTRAL FAT AND CHOLESTEROL CONTENT OF THE BODY AND LIVER OF RATS. J. C. Forbes. Endocrinology *35*, 126-9 (1944). Young rats on a high-carbohydrate, low-protein, fat-free moderate-choline diet had livers of lower cholesterol and neutral fat content and skins and carcasses of lower fat plus cholesterol concn. when given 1 mg. thyroxine per 100 g. diet than did untreated controls. When choline was omitted, liver fat was high; hence its presence is essential for this lipotropic action of thyroxine. (*Chem. Abs.*)

DECREASE IN THE QUANTITY OF PROTEINS FED TO SWINE AND ITS EFFECT ON THE DEPOSITION OF FAT. H. Bünger, E. Fissmer, H. Schmidt and A. Naegelsbach. *Z. Tierernähr. Futtermittelk 6*, 222-51 (1943). The expts. indicate that protein-poor feed resulted not only in a smaller increase in the quantity of meat, but also of fat. Decreasing the quantity of proteins in the feed retarded the growth and resulted in an insufficient assimilation of the feed and nutritive substances. The smaller increase in the quantity of fat was caused chiefly by the smaller assimilation of carbohydrate feeds. Decreasing protein feeding did not affect the increase in fat if the normal consumption of the feed was not disturbed thereby. (*Chem. Abs.*)

INFLUENCE OF DIET ON THE PRODUCTION OF TUMORS ON THE LIVER BY BUTTER YELLOW. E. L. Opie. *J. Exptl. Med. 80*, 219-31 (1944). The presence of fat in the diet accelerates the production of hepatic tumor by *p*-dimethylaminoazobenzene (Butter Yellow) (I) and when its quantity is very small, few are produced. (*Chem. Abs.*)

PATENTS

PHOSPHORIC ACID ESTERS OF GLYCEROL ETHERS AND THEIR MANUFACTURE. A. Grün (J. R. Geigy, A.-G.). *U. S. 2,361,286.*

AMINO DERIVATIVE OF ORGANIC ACIDS FOR RUBBER COMPOUNDING SURFACE ACTIVATION, ETC. E. A. Van Valkenburgh (Amino Products Corp.). *U. S. 2,360,-913.* The new products are homogeneous mixts. resulting from the neutralization of at least 1 fat acid with NH_3 and an aromatic amine, said mixt. contg. an appreciable amt. of free fat acid, free amine and a fat acid-amino neutralization product.

ARTIFICIAL DRYING OIL. H. L. Gerhart (Pittsburgh Plate Glass Co.). *U. S. 2,361,018.* A liquid coating compn. having the air drying characteristics of a drying oil consists essentially of the product obtained by cooking a drying oil sol. resin and a liquid conjoint polymerization product of a heated mixt. consisting essentially of cyclopentadiene and an unsatd. glyceride oil.

PRODUCTION OF BLOWN FATTY MATERIALS. R. E. Porter and J. Wolfson (National Oil Products Co.). *U. S. 2,361,793.* A process for the production of a highly hydroxylated blown oil comprises blowing a mixt. of a semi-drying oil and water with an O_2-contg. gas at a temp. between about 30° and about 50°, and in the presence of an oil-sol. emulsifying agent. The product is used for fat-liquoring leather.

TREATMENT OF TEXTILE FIBER WITH WATER REPELLENCY AGENTS. L. Collins *et al.* (duPont). *U. S. 2,361,270.* In the process of surface treatment of cellulosic fabric with stearamido-Me-pyridinium chloride whereby to impart thereto a water-repellent fin-

Abstracts

Soaps

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RAPID METHOD FOR THE DETERMINATION OF WATER AND FAT ACIDS IN SOAP. Aldo Picozzi. *Ann. chim. Applicata 32*, 51-3 (1943). Foaming during the detn. of water in the Marcusson app. is avoided by adding neutral $Pb(OAc)_2$ before distg. Water of crystn. is subtracted from the value found. Detn. of water: 10 g. powder or flake soap, 4 g. quartz sand, 10 g. neutral $Pb(OAc)_2$ and 150 cc. xylene are placed in a 500-cc. flask and well mixed in the cold. The condenser of the Marcusson app. is attached and the mixt. is heated to 170-80° in a paraffin bath, with occasional shaking; 1.4 cc. is subtracted from the water vol. in the buret. The remainder multiplied by 10 is the percentage of water in the soap. Time required: about 45 min.. Detn. of fat acids: Xylene is removed from the residue by heating in the paraffin bath at reduced pressure. The residue is then heated and shaken at reflux temp. with 100 cc. of 20% HCl for about 30 min. The fat acids formed are filtered off on moistened filter paper in a Buchner funnel, washed, dried by suction, and dissolved in Et_2O. The Et_2O soln. is washed 3 times with 10 cc. of water in a separatory funnel, transferred to a weighed flask, the Et_2O removed, and the residue dried at 100-105° and weighed; the wt. × 10 = % fat acids. (*Chem. Abs.*)

DETERMINATION OF THE TOTAL FAT ACIDS IN FILLED SOAPS. Stefan Schutzer. *Seifensieder-Ztg. 70*, 88 (1943). The finely cut soap is extd. with alc. in a Soxhlet app. In this manner only the soap is dissolved. After evapn. of alc. the residue is decompd. with HCl and extd. with petroleum ether. (*Chem. Abs.*)

SUITABLE SUPPLEMENTS TO SOAPS. Sidaly. *Seifensieder-Ztg. 70*, 102-4. The following substances can be used as supplements in the manuf. of soap: water glass, Silirone, pyrophosphate, Na_2HPO_4 Calgon, melts of K and metaphosphate, Na cholate $NaHCO_3$, clay, kaolin, $BaSO_4$, Prosulfan, bentonite, Tixoton, starch, urea, thioruea, Zewa powder and Dekol powder, Colloresin, Tylose, Relatin, Fondin, Zellfondin, Quellfondin SP, Tergina and water-sol. salts of polyacrylic acid. (*Chem. Abs.*)

DETERMINATION OF DETERGENCY. Marc Ringeissen. *Teintex 8*, 31-7 (1943). Detergency can be measured only by washing tests; such properties as surface tension or emulsifying capacity of the cleaning agent are not an accurate measure of detergency, because this depends not only on the cleaning agent, but also ish, the improvement consists of incorporating in the aq. impregnating bath from 0.1 to 0.5 part by wt. of

n-Bu-methacrylate polymer resin for each part by wt. of the stearamido-Me-pyridinium chloride.
on the grease removed, the duration of washing and the temp. of the bath. A method devised by R. utilized the Toussaint photocolorimeter. A soiled wool sample is washed for 15 min. at 70°. The dirt contained in benzene used for cleaning is taken as "standard soil." The cleaning agent is added in varying quantities to a 2% soda soln. (calcd. on anhyd. Na_2CO_3). (*Chem. Abs.*)

DRY CLEANING SOAPS. Andreas Treffler. *Soap 20*, No. 12, 36-8, 75, 77 (1944). Dry cleaning agents dissolve oil as well as water. The coupling of water to naphtha is accomplished by combinations of naphtha, fat acids, alc., soap and water; thus each ingredient is sol. in 2 others. With high moisture content in a wash, large amts. of alc. are required. The alc. also increases the soly. of the soap. The peptization of oil and water insol. particles is an important characteristic of these soaps. The vol. size of lamp black settlings was used as the criterion for measuring this characteristic. Addnl. alc. improved cleaners contg. stearates but not those contg. oleates and linoleates. The highest detergent value of a soap in dry cleaning as well as wet cleaning was near the border line of soly. and insoly. Fat acids and alc. without soap did not improve the settling of lamp black. At high temps. and in warmer climates high titre soaps are sol. and require less alc. and fat acids. Straight stearic acid soaps are not used as they require large amts. of alc. and a low titre fat acid as coupling agents. Six formulas are given. (*Chem. Abs.*)

NEW SOAP MAKING PROCESS. A REVIEW OF RECENT DEVELOPMENTS IN THE TECHNIQUE OF SAPONIFICATION. Leopold Safrin. *Soap 20*, No. 9, 25-28, 70 (1944). This article discusses the various methods of saponification which have been developed to improve soapmaking. The three basic principles are: acceleration of the Lauic reaction by means of heat, pressure, and emulsification, saponification of glycerides with nonalkalies and consecutive conversion to soap by sodium salts, other than caustic, and reesterification of glycerides, recovery of glycerine, and consecutive saponification of esters. The variations on these processes include anhydrous saponification, aqueous saponification at normal pressures, pressure saponification, the Sharples process and others.

NEW SOAP MAKING PROCESSES. II., Leopold Safrin. *Soap 20*, No. 10, 39-40 (October, 1944). This is the second article reviewing soap processes. This article discusses vacuum saponification and Lorentz's modification of it, and the Krebitz process for utilization of sodium carbonate. The substitution of conversion agents such as sodium sulfide, sodium silicate, sodium bicarbonate and sodium chloride in place of caustic is described. Ammonium soap conversion is listed as a possible means of producing soap, and the reesterification of glycerides is listed as a good method for using low grade fats and oils. In general, the new methods are aimed at a rapid, complete saponification and a quicker and better recovery of glycerine.

NEW METHODS AND MATERIALS. H. K. Dean. *Soap, Perfumery & Cosmetics 17*, 573-4 (1944). The batch and continuous methods of extraction and refining in the fats and oils and soap refining industries are reviewed, and advantages described. New soap materials such as babassu oil, sunflower seed oil and the saturated portions of drying and semidrying oils obtained by liquid-liquid extraction are suggested for the soap industry.

SWEATING OF SOAPS. PART II. Dr. M. N. Goswami, B. K. Ganguly, N. K. Murkherjie, P. K. Choudhury. *Indian Soap J. 9*, 44-53 (1944). Peanut protein, casein, talc, linseed cake, groundnut cake and lactose do not prevent sweating. Rosin, cane sugar, starch, Na_2SO_4, white oil, vaseline, napthylamine, napthol, castor seed protein, $Na_2S_2O_3$ and $NaHSO_3$ do not retard sweating. With hydroquinone the sweating gradually increases up to max. at 192 hrs. when it goes down.

WOOD PULP BY-PRODUCTS AND THE SOAP INDUSTRY. Karl B. Edwards. *Perfumery & Essential Oil Rec. 35*, 667-8 (1944). This article discusses the possibilities of obtaining synthetic detergents and washing agents from the by-products of the wood pulp industry. The two main processes of paper manufacture, the Sulphite Process and the Sulphate or Kraft Process yield different types of by-products. The solution from the Sulphite Process (acid) is brown in color, and possesses high wetting power. The Kraft Process by-products (alkaline) are a mixture of fatty and resin acids known as tallol. Soaps made from tallol are described and future possibilities from both these processes are described.

SOAPLESS DETERGENTS AND CREAM BASES. F. Atkins. *Pharm. J. 152*, 252-3 (1944). Sulfated fatty alcs. are discussed and classified into the lorol type made by the hydrogenation of the fat acids of coconut oil to give an alc. which is sulfated and the teepol type made by direct addn. of H_2SO_4 to an olefin. Merits and variation in purity of each are discussed. Emulsion bases are classified into self-emulsifying waxes requiring water only for vanishing cream, bases requiring both alkali and water to give a vanishing cream, and bases for the production of greasy creams. Triethanolamine substitutes are discussed. (*Chem. Abs.*).

PATENTS

SURFACE ACTIVE AGENT. Hillary Robinette, Jr. (Commercial Solvents Corp.). *U. S. 2,346,454.* A new class of wetting and deterging agents, the aminodioxanes, is described. They have the advantages of decomposing neither in hard water or solutions containing appreciable quantities of alkali, nor of foaming in aqueous solutions. They are particularly useful in textile operations.

WASHING AGENTS AND THE MANUFACTURE THEREOF. Richard Thoman and Conrad B. Brown (Lever Brothers & Unilever Ltd.). *British 551,616.* Water-sol. nonsoapy washing agents, particularly adapted for the washing of cotton goods, are prepd. from nonsoapy detergents of the class consisting of a Na salt of a sulfonated or sulfated fatty alc. or of an isethionic acid, taurine, sarcosine or metaniline condensation compd. with a primary or secondary alkyl or allyl radical or a fatty acid acyl radical. The NaCl and Na_2SO_4 which has a detrimental effect upon the washing of cotton goods, is removed from the detergents, and there is mixed with the de-salted detergent from 0.25-4 parts by wt. of an alkali metal carbonate, silicate or orthophosphate. *(Chem. Abs.)*