

PRESSURE EXTRACTION OF OIL. Y. Bagot. *Oleagineux* 4, 339-46(1949). Pressure and solvent methods of extracting oils are discussed. Olier expeller and Bonotto solvent extractor are described.

NOW CASTOR OIL BY SOLVENT EXTRACTION. *Chem. Inds.* 64, 926-9(1949). The oil losses in the solvent extraction of all seeds other than soybeans may be prevented by grinding the seeds with solvent and centrifuging rather than by flaking the seeds.

ON THE MECHANISM OF ENZYME ACTION. XXXVIII. EFFECT OF DIFFERENT NAPHTHOQUINONES ON THE FAT FORMATION IN *Fusarium lini* BOLLEY. S. Weiss, J. V. Fiore, and F. F. Nord (Fordham Univ., New York). *Arch. Biochem.* 22, 314-22(1949). Various naphthoquinones, when added to a growing non-pigment producer, FLB, cause a decrease in the fat coefficient, showing that they affect the enzyme systems involved in the conversion of carbohydrate to fat.

FATTY AND ROSIN ACIDS, SOAPS, AND THEIR MIXTURES. CONDUCTOMETRIC AND POTENTIOMETRIC ANALYSIS. S. H. Maron, I. N. Ulevitch, and M. E. Elder (Case Inst. Tech. Cleveland, Ohio). *Anal. Chem.* 21, 691-5(1949). Potentiometric methods of analysis in the isopropyl alcohol-water medium have only limited applicability. They may be employed for the determination of the acid contents of fatty or rosin acids, and possibly for the analysis of fatty acid soaps, but they are either unsatisfactory or unsuitable for the determination of the acid and soap contents of commercial rosin acids, soaps, and soap solutions. Furthermore, the potentiometric titrations are slower, more tedious, and less versatile than the corresponding conductometric procedures. It is evident that conductometry is readily applicable to the direct determination by titration with base of the acid contents of fatty and rosin acids, soaps, and soap solutions. The soap contents of fatty and rosin soaps and of their solutions can readily be obtained by direct titration with acid. In the course of the former titrations the presence of any free strong acid can be detected and estimated from the shape of the titration curves, while during the latter titrations presence of free alkali can be detected but not determined.

THE NON-SAPONIFIABLE MATTER OF SHEA NUT FAT. PART IV. A NEW TETRACYCLIC DIETHENOID ALCOHOL, BUTYROSPERMOL. S. I. Heilbron, E. R. H. Jones, and P. A. Robins (Imperial College of Science and Technology, London, S.W. 7). *J. Chem. Soc.* 1949, 444-9. The determination of the structure of the tetracyclic alcohol, basseol, isolated from alleged shea nut fat in 1934 and subsequently shown to be cyclized easily to  $\beta$ -amyirin, is thus of considerable importance. In order to obtain fresh supplies of basseol, the non-saponifiable portion of shea nut fat has been re-examined with the result that the acetate of an isomeric alcohol, butyrospermol, has been isolated from the fractions of the acetylated material which should have contained basseol acetate. Butyrospermol, like basseol, is a secondary alcohol containing 2 ethylenic linkages, one of which is extremely readily hydrogenated but, in sharp contrast, it cannot be converted into  $\beta$ -amyirin, and on ozonolysis it gives acetone as

the volatile fragment instead of the formaldehyde obtained from basseol.

THE SURFACE TENSION OF OILS. A. Halpern (Duquesne Univ., Pittsburgh, Pa.). *J. Phys. Colloid Chem.* 53, 895-7(1949). The surface tension of 9 fixed oils was determined by means of the capillary-rise and the drop-weight methods over a temperature range from 20°-130°C. The surface tension of these oils decreased with the increase in temperature.

STALE FLAVOR COMPONENTS IN DRIED WHOLE MILK. I. THE DISTRIBUTION OF STALE FLAVOR BETWEEN FRACTIONS OF RECONSTITUTED STALE WHOLE MILK POWDER. R. McL. Whitney and P. H. Tracy (Univ. Illinois, Urbana). *J. Dairy Sci.* 32, 383-90(1949). In all determinations made on the whole milk, cream, washed cream, butter, and butter oil, the stale-flavor component appears to be distributed between these fractions according to their milk-fat content and therefore is concentrated in the milk-fat phase.

HEAT STABILITY OF FAT PEROXIDES. D. B. Watt, J. L. Hall, D. L. Mackintosh, and G. E. Vail (Kansas Agr. Exper. Sta., Manhattan, Kansas). *Food Tech.* 3, 206-7(1949). Extracted fat peroxides decomposed with increasing rapidity as the temperature was raised to 80°C. Higher values for peroxide were found in extracts of rancid sausage made at room temperature than in extracts made with the boiling solvent (ethylene chloride). Fat peroxide seemed slightly more stable in ethylene chloride than in chloroform when stored at 5°C.

ON THE EFFECTS OF METALS ON BUTTER IN COLD STORAGE. C. I. Kruisheer, P. C. Den Herder, W. Werker, and J. G. Van Ginkel (Govt. Dairy Station, Leyden). *Netherlands Milk and Dairy J.* 3, 25-36(1949). The investigation comprises the report of some storage experiments on a laboratory scale of butter to which metallic salts had been added and a statistical research on the analytical data for 111 samples of unsalted butter, taken from lots stored in commercial cold storage houses. The influence of the addition of 1,000  $\gamma$  copper (as lactate) per kg. butter on peroxide formation and on the appearance of the cold storage defect was obvious. This was in accord with the result of the statistical investigation. The addition of ferrous lactate (2,500  $\gamma$  iron per kg. butter) had practically no effect on peroxide formation and on the appearance of flavor defects. In the experimental tests with manganese lactate (up to 1,500  $\gamma$  manganese per kg.) no influence on the peroxide formation or on the development of the cold storage defect was observed.

THE PROOXIDANT EFFECT OF ASCORBIC ACID AND CYSTEINE IN AQUEOUS FAT SYSTEMS. D. A. Scarborough and B. M. Watts (Syracuse Univ., N. Y.). *Food Tech.* 3, 152-5(1949). An artificial system for testing antioxidants is described whereby extensive and uniform contact between an aqueous phase and fat is obtained. Aqueous solutions of ascorbic acid or cysteine accelerate oxidation of lard containing no added primary inhibitors. The addition of ascorbic acid or cysteine to hemoglobin preparations causes further acceleration over that produced by the hemo-

globin alone. The accelerating effect of ascorbic acid is not obtained in the absence of the aqueous phase. In the presence of .01% or more of added  $\alpha$ -tocopherol, ascorbic acid inhibits oxidation in aqueous fat systems.

THE EFFECT OF COPPER, IRON, AND MANGANESE SALTS ON THE FLAVOR AND THE KEEPING QUALITY OF BUTTER. H. Mulder *et al.* (State Agr. Exper. Sta., Hoorn), *Netherlands Milk and Dairy J.* 3, 37-51(1949). In all the cases in which the Fe content of the butter exceeded 50  $\gamma$ /kg., a metallic sour flavor could be found as distinctly in fresh butter as in cold-storage butter. Ferrous salts caused a greater defect in flavor than did ferric salts. The defect in flavor is located in the serum of the butter and not in the fat. The keeping quality of the samples of butter which only contained the natural amount of metal was good. Butter containing more than the natural amount of Cu showed in all cases examined a trainy cold-storage defect after 3 months; even the addition of very small amounts of Cu (60 $\gamma$ /kg.) had a detrimental effect. When Cu was added the peroxide value of the butterfat increased during cold storage, while the color of the fat became paler.

PREPARATION AND PROPERTIES OF TRIDECANOIC ACID CONTAINING C<sup>14</sup> IN THE CARBOXYL GROUP. E. Hines and A. Germant (The Detroit Edison Co.). *Science* 110, 19(1949). The tridecanoic acid was prepared from lauryl bromide and carbon dioxide by the Grignard reaction. The purified acid crystallized as white plates, having a melting point of 39.5°-41.5°C. The refractive index was found to be 1.427  $n_D$  at 60°C.

THE POLYMORPHISM OF 2-MYRISTYLDISTEARIN, 2-MYRISTYLDIPALMITIN, 1-STEARYLDIMYRISTIN, AND 1-PALMITYLDIMYRISTIN. F. L. Jackson and E. S. Lutton (Procter & Gamble Co., Ivorydale, Ohio). *J. Am. Chem. Soc.* 71, 1976-80(1949). In each case 3 of the 4 diffraction patterns of Malkin, *et al.*, were observed. They are properly associated with Malkin's first (lowest), second, and fourth m.p.s., respectively. Careful search has failed to reveal a pattern for the "vitreous" form of Malkin supposedly associated with the lowest m.p. level (actually the  $\alpha$  m.p.). From somewhat limited evidence it appears that most saturated diacid triglycerides have 3 polymorphic forms, each with a characteristic melting point.

$\alpha$ -MONOSTEARIN AND SODIUM STEARATE AS EMULSIFYING AGENTS. H. H. G. Jellinek and H. A. Anson (The Lyons Labs., London, W. 14). *J. Soc. Chem. Ind.* 68, 108-14(1949). Interfacial tensions of the following systems have been measured at 70°C. by a capillary height method: (a) Water-white oil containing  $\alpha$ -monostearin against water; (b) Water-white oil against water containing Na stearate; (c) Water-white oil containing  $\alpha$ -monostearin against water containing Na stearate. It was ascertained that  $\alpha$ -monostearin gives W/O emulsions, but that the addition of Na stearate to the water phase leads to the formation of O/W emulsions. The amount of Na stearate needed to bring about the inversion is only slightly dependent on the concentrations of  $\alpha$ -monostearin in the range of concentrations investigated. A combination of both emulsifying agents gives more stable emulsions than equivalent amounts of each emulsifying agent alone. The mechanism of inversion is discussed. The appearance of the emulsions has been characterized microscopically.

MILK LIPASE SYSTEM. II. COMPARISON OF SOLVENT EXTRACTION AND CHURNING METHODS FOR OBTAINING FAT FROM MILK FOR FREE FATTY ACID MEASUREMENT. B. C. Johnson and I. A. Gould (Maryland Agr. Exper. Sta., College Park). *J. Dairy Sci.* 32, 435-46 (1949). A method for the removal of fat from milk products which involves the use of ethanol, Et ether, and Skellysolve F was developed. The application of this solvent extraction method to rancid milk yielded fat averaging 30% higher in acidity than fat obtained by churning and resulted in better recovery of the fat. The solvent method was superior to the churning method for recovery of pure fatty acids from cream, particularly the lower acids, butyric and caproic. This is emphasized by the fact that many samples of fat which were solvent-extracted from milk exhibited a rancid flavor, whereas churned fat from the same source did not. However, even with the solvent method, butyric acid recovery was low as determined by titration.

MILK LIPASE SYSTEM. III. FURTHER STUDIES OF THE SOLVENT EXTRACTION PROCEDURE FOR OBTAINING FAT FROM MILK FOR TITRATION. B. C. Johnson and I. A. Gould (Maryland Agr. Exper. Sta., College Park). *J. Dairy Sci.* 32, 447-51(1949). Results are presented of 2 attempts to modify the solvent extraction procedure for the obtaining of fat in lipase studies so as to increase the efficiency of recovery of the lower fatty acids. The 2 modifications studied were: the saturation of the milk with salts (MgSO<sub>4</sub> and NaCl) before extraction, and the acidification of the milk to pH 2 with H<sub>2</sub>SO<sub>4</sub> before extraction. Of these modifications, only the acid adjustment of the milk or cream was found to yield sufficient improvement in recovery to warrant its adoption as a part of the solvent extraction procedure.

#### PATENTS

PROCESS FOR REFINING ANIMAL AND VEGETABLE OILS. F. J. Ewing (Refining, Uninc.). *U. S. Re* 23,118 of 2,288,441.

FISH OIL EXTRACT. R. F. Shropshire (Submarine Signal Company). *U. S.* 2,473,453. Ground fish liver and other parts are subjected to vibration in the lower audible frequencies which disrupts cell structure and allows easy separation of oil without use of chemicals or heat.

CATTLE FEED. C. W. August and M. R. S. Kleine. *U. S.* 2,472,663. This is a substitute for milk fat containing the glycerides of palmitic, stearic, and higher unsaturated fatty acids in the proportions found in milk.

ELECTRONIC DRYING OF FOOTS AND SOAPSTOCK. B. Clayton (Refining, Uninc.). *U. S.* 2,472,193. The material is spread in a thin layer and subjected to a high frequency alternating field under vacuum condition.

DRY SALAD DRESSING. M. H. Kimball, C. G. Harrel, and R. O. Brown (Pillsbury Mills, Inc.). *U. S.* 2,471,434. This dressing can be held in storage for long periods of time and can be mixed with an aqueous solution to produce a wet salad dressing. It consists of powdered egg yolk, powdered condiments, and dried powdered shortening consisting of fat globules encysted in gelatinized flour and sugar.

INGREDIENT FOR FOOD MIXES, ESPECIALLY SALAD DRESSINGS. *Ibid.* *U. S.* 2,471,435. Both powdered shortening and egg are encased in gelatin.

RUST PREVENTIVE COMPOSITIONS. P. R. McCarthy (Gulf Res. & Development Co.). *U. S.* 2,471,638. This consists essentially of a mineral oil containing petrolatum wax, an oil-soluble wetting agent, and blown soya oil.

RUST PREVENTIVE. M. A. Paliwoda and G. W. Duncan (Standard Oil Development Co.). *U. S.* 2,471,889. This consists of naphtha, pentaerythritol mono-stearate tri-acetate, and a non-volatile oily plasticizer.

WATER-SOLUBLE FUNGICIDES AND BACTERICIDES. A. Minich and M. Nowak (Nuodex Products Co. Inc.). *U. S.* 2,471,339. This comprises the reaction product of dodecylamine, lactic acid, and salicylic acid.

PROCESS FOR BREAKING PETROLEUM EMULSIONS. M. De Groot and B. Keiser (Petrolite Corp., Ltd.). *U. S.* 2,472,574. This consists of an oxyalkylated oxidized oiticica oil-castor oil condensate.

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## Drying Oils

Edited by  
ROBERT E. BEAL

ALKYD RESIN TECHNOLOGY. E. M. Beavers. *Paint Varnish Production Mgr.* 29, 129-32(1949).

STYRENATED ALKYDS. W. C. Norris. *Paint Varnish Production Mgr.* 29, 132-4(1949).

THE ANALYTICAL CHARACTERIZATION OF ALKYD RESINS. N. W. Hanson. *J. Oil & Colour Chemists' Assoc.* 32, No. 346, 137-47(1949). A discussion of methods.

THE STUDY OF ISANO OIL AND ITS USE IN INDUSTRY. M. Fauve. *Peintures, pigments, vernis* 24, No. 5, 147-52(1948). The oil contains 15% oleic acid, 75% linoleic acid and 10% isanic acid and has the following constants: I number 227.5, saponification number 191.8, acetyl number 69.4, and diene number 17. It polymerizes readily and is explosive when heated. Methods are described for its use in paints and varnishes. *Ibid.* No. 6, 183-8. Isanic acid was shown by analysis to be 17-octadecene-9,11-diyonic acid. It may be hydrogenated to stearic acid and readily polymerized to resinous products. *Ibid.* No. 7, 209-14. Isano oil decreases in acid number and increases considerably in viscosity when heated at elevated temperatures but the I number changes very little. The oil thickens more rapidly than linseed oil when blown with O<sub>2</sub> at 90°. Blending the oil with raw linseed oil, raw sardine oil, grapeseed oil, peanut oil, or oil from olive husks allows it to be heated without danger and the products give strong, durable, very water-resistant films. *Ibid.* No. 8, 346-51. Boiling the oil with linseed, sardine, or grapeseed oils gives good drying products but with dehydrated castor oil or peanut oil the products are inferior. *Ibid.* No. 9, 281-4. Isano oil may be mixed with other oils at a constant temperature without the occurrence of gelation. (*Chem. Abs.* 43, 3629.)

THE THEORY OF CATALYSIS THROUGH POLAR MOLECULES AND ITS APPLICATION IN THE FIELD OF DRYING OILS. R. Jacquemain and J. Berger. (Translated from Official Report of the First International Paint Congress, Paris, 1947.) *Official Digest Federation Paint & Varnish Production Clubs* 292, 272-4(1949). The oxygen absorption curve for drying oils does not conform to the law of mass action. It is suggested that polar oxidation products act as catalysts for further oxidation and for C to C intermolecular linking.

SEBACIC ACID POLYESTERS IN SURFACE COATINGS. J. K. Aiken and H. Jones. *J. Oil & Colour Chemists Assoc.* 32, No. 346, 150-70(1949). Replacement of up to 50% of the phthalic anhydride in linseed oil alkyds by sebacic acid increased film flexibility and water and alkali resistance without undue loss of film strength.

## PATENTS

TUNG-OIL SUBSTITUTES. U. S. Varlamov. *U.S.S.R.* 67,921. Linseed or similar oil is polymerized to an I number of 84-94 and partially saponified with not over 30% of alkali. The unsaponified portion is salted out and decomposed with an acid and the free acids driven off. (*Chem. Abs.* 43, 3632.)

THERMOPLASTIC COMPOSITIONS COMPRISING CANDELLILLA WAX. H. B. Willis (Westinghouse Electric Corp., Pittsburgh, Pa.). *U. S.* 2,467,796. An elastic, thermoplastic composition for pattern making contains 12-44% of the reaction product of rosin glycerol and a drying or semi-drying oil in suitable proportions and 60-88% of candelilla wax.

MODIFIED DRYING OILS AND PROCESS OF MAKING SAME. J. B. Rust (Montclair Research Corp., Montclair, N. J.). *U. S.* 2,467,912. Oils are modified by 1-5% of an ester of an olefinic- $\alpha$ - $\beta$ -dicarboxylic acid and an unsaturated alcohol such as allyl, methallyl, crotyl, and propargyl alcohols.

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## Soap

Edited by  
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THE MONSAVON PLANT. E. T. Webb. *Soap, Perfumery & Cosmetics* 22, 483-6(1949). The actual construction and operation of the Monsavon plant is described. The three main units are the homogenizer, the washing tower, and the settling or "fitting" tank. Diagrams of the units and details of the operations are reviewed.

SURFACE-ACTIVE AGENTS. G. V. James. *Soap, Perfumery & Cosmetics* 22, 491-2, 512(1949). General review article covering classification of surface-active agents—anionic, cationic, and non-ionic—with examples of each type, methods of evaluation and identification, and uses.

SURFACE-ACTIVE SUBSTANCES IN THE LATEX INDUSTRY. Pierre Thirion. *Rev. gen. Caoutchouc* 26, 176-8(1949). A review of present development. (*Chem. Abs.* 43, 4884.)

SEQUESTERING AGENTS: THEIR USE IN TEXTILE PROCESSING. H. W. Zussman (Alrose Chemical Co., Providence, R. I.). *Am. Dyestuff Repr.* 38, 500-4(1949). Review of types and chemistry of such sequestering agents as polyphosphates and aminocarboxylic acids, and their applications in textile processing operations such as oxidation, detergency, and dyeing.

AN INVESTIGATION OF THE EFFECT OF THE ADDITION OF CELLULOSE-GLYCOLIC ACID TO DETERGENT SOLUTIONS. O. Viertel. *Melliand Textilber.* 28, 345-8(1947). A study was made of the effect of adding the Na salt of cellulose glycolic acid (I) to household washing formulas based on synthetic detergents. The foaming power of the washing solution was increased slightly at higher temperature (80°). Fabrics were washed in the solutions containing C black and street dust. The samples were lighter in color when I was present; this indicates an increased dispersing power. Sam-

ples which were artificially soiled with mixtures of C black and mineral oil were not washed to a higher degree of whiteness when I was present; this indicates that the cleansing power is not increased. Similar results were obtained with naturally soiled fabrics. The ash content of the fabrics was lower after they were washed in solutions containing I. The loss in tensile strength was not improved but the hand, appearance, and absorptive capacity of the fabrics were improved. The optimum concentration was found to be 0.75%. (*Chem. Abs.* 43, 4876.)

EFFECT OF VARIOUS SURFACE-ACTIVE AGENTS ON THE PENETRATING POWER AND STABILITY OF CALCIUM HYPOCHLORITE AND BLEACHING POWDER SOLUTIONS. *Am. Dyestuff Repr.* 38, 455-8(1949). Methods are described for preparing clear, aqueous solutions of maximum oxidizing power from commercial calcium hypochlorite and from bleaching powder. The effect of 130 commercial surface-active agents on the penetrating power and stability of the above-mentioned solutions was determined. The Draves-Clarkson test was used for the determination of penetrating power. In concentrated calcium hypochlorite solutions, 0.5% of Tergitol 08 or 1% Gardinol LS paste contributed satisfactory penetrating properties which were retained for 21 hours or longer. Neither showed any tendency to accelerate decomposition of the hypochlorite ion. In concentrated bleaching powder solutions, 1% of Tergitol 08, Naccosol A, Novonaceo or Aerosol MA contributed satisfactory penetrating properties which were retained for 21 hours or longer. When 2% or more of Ultrawet D-4, Sulfatate, or Alkanol S was used, they gave fairly satisfactory results.

SOAP-IN-OIL SYSTEMS. A. S. C. Lawrence. *J. Phys. & Colloid Chem.* 52, 1504-11(1948). The setting-point temperature of gels of pure metal salts in oils tends to be high for Ca, Ba, and Sr soaps, moderate for Mg and Al soaps, and low for Cu and Co soaps. The setting point may or may not represent a phase change. A true phase change does occur in these systems, from a paste or suspension of soap micro-crystals in oil to a plastic homogeneous soap-in-oil system. Soaps dispersed in oil are readily peptized by the addition of H<sub>2</sub>O, glycol, cresol, fatty acid, or other polar substances. Mutual peptization of soaps containing the same fatty acid but different cations is quite general. Interpretations are offered for certain phenomena observed in commercial grease manufacture. (*Chem. Abs.* 43, 4455.)

SOME PHYSICAL CHEMICAL PROPERTIES OF AQUEOUS SOLUTIONS OF SOAPS AND SOAPLESS DETERGENTS. Gopal S. Hattiangdi, William W. Walton, and James I. Hoffman (National Bureau of Standards, Washington, D. C.). *J. Research Nat. Bur. Standards* 42, 361-8(1949). A study has been made of the effect of concentration on the surface tension, electrical conductance, pH, opacity, and foam formation of aqueous solutions of 30 typical commercial soaps and 6 popular soapless detergents. The soaps included the following types: toilet, "medicated," glycerin, coco, washing (laundry), and shaving soaps. The results are explained on the basis of the colloidal nature of the solutions and the soap phases that have been found in the solid soaps by studies of x-ray diffraction and electron microscopy. The significance of

the results in terms of micelle formation and the relationship between micelles and detergent action are discussed.

X-RAY DIFFRACTION PATTERNS FOR THE IDENTIFICATION OF SURFACE-ACTIVE AGENTS. Thomas F. Boyd, J. Malcolm MacQueen, and Irving Stacy. *Anal. Chem.* 25, 731-2(1949). A method is given for determining x-ray diffraction patterns of surface-active agents. Data on the following compounds are presented: sorbitan monostearate, sodium salt of sulfonated ethyl methyl oleyl amide, sodium oleyl sulfate, stearyl amide of sulfonated sodium succinate, sodium salt of sulfonated ethyl oleate, sodium lauryl sulfate, sodium lauryl sulfoacetate, sodium *m*-octyl sulfate, dodecyl benzene sodium sulfonate, monobutyl phenyl phenol sodium monosulfonate, decyl benzene sodium sulfonate, sodium di-3,7-dimethyl octyl sulfosuccinate, monobutyl diphenyl sodium monosulfonate, dioctyl ester of sodium sulfosuccinate, diamyl sodium sulfosuccinate, dihexyl ester of sodium sulfosuccinate, sodium tetrahydronaphthalene sulfonate, dibutyl sodium sulfosuccinate and sodium *m*-nitrobenzene sulfonate.

#### PATENTS

SOAPS. G. Hanssens and R. Hanssens. *Belg.* 476,488. A saponified natural or synthetic fatty acid is combined with one or more of the following: a higher alkyl sulfonate, an aralkyl sulfonate, and aralkyl sulfate. The soap can be used for the removal of stains, for washing textiles, for washing in hard water, or in water containing sea salt or multivalent inorganic compounds. (*Chem. Abs.* 43, 4877.)

SOAP OF LOW FAT CONTENT. Meer Wainstain. *Fr.* 870,353. A light hydrocarbon fraction 60-80%, and alcohol from beeswax or wool fat 40-20%, are mixed (40 parts) with oleic acid 60 parts, and the mixture is added slowly to a 25° Bé. Na<sub>2</sub>CO<sub>3</sub> solution at 80°. A paste is formed which is reheated and an equal weight of Na<sub>2</sub>CO<sub>3</sub> added. The vigorous stirring and heating give a paste suitable for use as a soap. (*Chem. Abs.* 43, 4877.)

AMINO ACID DETERGENTS. Etablissements Bourgeois et Verdier-Dufour Reunis. *Fr.* 870,619. Proteins, such as gelatin and casein, are treated with alkali to give alkali salts of amino acids. (*Chem. Abs.* 43, 4877.)

BLEND OF WETTING AGENTS. Hans George Figdor (E. F. Houghton and Co.). *U. S.* 2,471,945. A blend of a water-soluble surface-active agent of the anionic, cationic, or non-ionic type and a diester of a polyethylene glycol has been found to result in a wetting agent having greatly improved properties.

DETERGENT. Louis J. M. Longchambon and Jean F. Longchambon. *Fr.* 871,352. Soap 7-30% is ground in a ball mill with kaolin or fuller's earth to give a powerful detergent; the soap forms a thin layer on the clay particles. In *Fr.* 871,353, water is added to the soap prior to the kaolin. (*J. Chem. Abs.* 43, 4877.)

DETERGENT RUBBER COMPOUND AND PROCESS OF PRODUCTION. William Romaine, Jr. *U. S.* 2,466,826. A sponge-like, resilient rubber product capable of exuding a detergent during use comprises a vulcanized synthetic rubber containing a detergent such as the sulfuric acid esters of fatty alcohols of alkyl aryl sulfonates homogeneously dispersed throughout the rubber.