of a reaction product of 1,3-dioxolane with a water-insoluble hydrophobic organic oxygenated compound, which prior to the addition of the 1,3-dioxolane group contained a reactive hydrogen atom, and from 40-45% sulfonated higher fatty alcohols, soaps, Turkey-red oil, saponin, aliphatic sulfonic acids or aromatic sulfonic acids.

NEUTRAL SOAPS. Einar Kolle. *Norwegian 63,892.* Soaps are stabilized and kept neutral by adding thereto of 2-3% of alginic acid. (*Chem. Abs. 40,* 754.)

FLOATING SOLID SKIN CLEANSER. Johannes Pfanner (Cirine-Werke Bohme & Lorenz). *Ger. 743,504.* The cleanser is compounded of synthetic washing agents and waxes or waxlike substances or solid paraffinic hydrocarbons. The content of the latter is 55-90% by weight. (*Chem. Abs. 40,* 684.)

SULFONATED DETERGENT. Colgate-Palmolive-Peet Co. *Canadian 428,368.* A detergent composition comprises 40-60% of a water soluble soap, about 40-50% of a neutralized sulphonate obtained by extracting mineral oil with a solvent and sulphonating the extract while it is dissolved in liquid SO_2, and about 10-40% of a water soluble salt of a H_3PO_4, e.g. Na salt of the tetraphosphoric, pyrophosphoric or metaphosphoric acid.

SAPONIFICATION OF SYNTHETIC FATTY ACIDS. Sabine Hirsch. *U. S. 2,391,019.* A synthetic fatty acid soap is prepared by heating a high molecular weight hydrocarbon until liquefied, and reacting with an oxidation catalyst and a persalt of an alkaline reacting cation in an emulsion.

AMINO CAPILLARY ACTIVE AGENTS. Winfrid Hentrich and Heinz-Joachim Engelbrecht and Erik Schirm (Alien Property Custodian). *U. S. 2,394,307.* Compounds such as N-(3-lauroyl-amino-benzol sulphonyl)-benzamide or 3-lauroyl-amino-benzol benzolsulphimide have surface active properties. Method of preparation is given.

Abstracts

Drying Oils

Edited by
HOWARD M. TEETER

HEAT BODIED OILS. H. Feinberg (Baltimore Club). *Official Digest Fed. Paint and Varnish Prod. Clubs 254,* 112-121 (1946)—A review.

RECENT ACHIEVEMENTS IN OIL UTILIZATION FOR COATINGS. J. L. Boyle. *Paint Manuf. 16,* 50-51 (1946). A review of developments in alkyd resins, conjugation of oils, and separation of polymerized fatty acids.

LALLEMANTIA OIL. A Steger and J. van Loon (Lab. Technol. Öle u. Fette tech. Hochschule, Delft, Netherlands). *Fette u. Seifen 51,* 1-2 (1944). Constants for the oil from the seeds of *Lallemantia iberica* (from South Russia) are given. The seeds weighed an average of 4.23 mg. and are 4-5 mm. long and 1-2 mm. thick. Extraction with petroleum ether yielded 31.8% of a bright-green oil. The residual meal contained N 5.36 (= 33.5 crude protein), ash 9.1, crude fiber, carbohydrates, etc. 44.9 and water 2.5%. The bright-yellow cold-pressed oil had the following constants: n_D^{20} 1.4837, n_D^{70} 1.4645, d_4^{20} 0.9303, d_4^{75} 0.8917, Wijs I number 202.8, thiocyanogen number 125.1, saponification number 189.0, acid number 1.2, acetyl value 7.1, Reichert-Meissl number 0.86, Polenske value 0.49, diene number 1.3 and viscosity 43.5 centipoises at 20° C. The oil contained fat acids soluble in petroleum ether 95.1, unsaponifiable 0.5, glycerol residue 4.2 and volatile and insoluble matter 0.2%. Constants given for oil extracted by petroleum ether are: n_D^{20} 1.4830, n_D^{70} 1.4641, Wijs I number 197.0, saponification number 189.2 and acid number 3.1. Fat acid composition of the cold pressed oil is: saturated acids 8.9, 9-oleic acid 1.4, 9,12-linoleic acid 36.4, and 9,12,15-linolenic acid 5.33%. (*Chem. Abs. 40,* 1332.)

LALLEMANTIA IBERICA AS AN OIL CROP. H. P. Kaufmann (Inst. Pharm., U. Chem. Technol. Univ. Münster i. W., Germany). *Fette u. Seifen 51,* 2-5 (1944). Results of a cooperative investigation of 50 seed samples of *Lallemantia iberica* by different labs are given. Tabulations are presented which give growth and fertilizer conditions for each sample. Pulfrich photometer measurements are given for oil samples extracted with ether and petroleum ether. Color data are plotted for 3 samples of yellow-brown, yellow, and green oils (wave length vs. percentage transmission). Ranges of analytical values reported for the samples are: weight of 1000 seeds 2.8-5.9 g., fat (dry basis) 8.5-35.8%, water 5.6-10.3%, acid number 0.1-39.9 iodine number 167.9-209.2, and n_D^{20} 1.48242-1.48343. A systematic analysis (reported by Bredemann) on pressed *Lallemantia* oil gave: saturated acids 7.6, oleic acid 5.6, linoleic acid 35.5, linolenic acid 46.4, and glycerol residue 4.5%. The oil had the following constants: I number 195.2, thiocyanogen number 121.1, acid value 4.9, saponification number 194.1, Reichert-Meissl number 0.17, and unsaponifiable 0.5%. The fat acids gave: iodine number 203.0, thiocyanogen number 126.0, acid value 199.1, and saponification 199.1. The drying properties of *Lallemantia* oil make it satisfactory for paint and varnish manufacture. Data are given for weight increase with time of thin films of the oil heat-bodied for various periods at temperatures ranging from 150° to 250°. (*Chem. Abs. 40,* 1332.)

REFINING OF OILS. J. van Loon (Lab. Technol. Öle u. Fette tech. Hochschule, Delft, Netherlands). *Verfkaoniek 17/18,* 103-4, 109-10 (1945). Drying and boiling processes for the purifying of linseed, train, soy, and wood oils are reviewed. Preparation of stand oils, their combination with wood oils, etc., blown oils and stand oils, sulfurized oils, uviol oils (polymerized by exposure to the quartz lamp), voltol oils, stand-oil extracts, distillation of stand oils, dehydration of castor oil, synthetic wood oils, activation of fat acids with isolated double bonds, hydrogenation of oils and combinations of oils with resins are also discussed. (*Chem. Abs. 40,* 1324.)

CHANGES IN WOOD OIL AND TUNG OIL ON PROLONGED STORAGE. G. Eisenschiml (Scientific Oil Compounding Co.). *Am. Paint J. 30,* (28), 76, 78, 80 (1946). Wood oil can be stored for at least 4 years in most parts of the United States without suffering appreciable damage. Size and location of tanks are immaterial. Tung oil can be stored also for considerable periods in large quantities. Amounts less than 17,000 gallons should be stored inside in completely filled tanks. Gel formation may be avoided by blanketing with inert gas or by frequent transfer from one tank to another.

UNION OF GASEOUS OXYGEN WITH METHYL OLEATE, LINOLEATE, AND LINOLENATE. F. D. Gunstone and T. P. Hilditch (Univ. Liverpool). *J. Chem. Soc. 1945,* 836-41. The autoxidation of methyl oleate in diffused daylight at temperatures between 20° and 130° has been followed by the changes in its peroxide and I values; some of the autoxidized products have been further examined. The process is very slow at 20° and somewhat faster at 50° but from 80° and above it becomes very rapid and apparently differs in character from the oxidation at lower temperatures. At the higher temperatures there is development of considerable free acidity, which was shown to be due mainly to oxidative breakdown at the unsaturated group and consequent production of mono and dicarboxylic acids (including those of the C_8 and C_9 series). Autoxidation of methyl linoleate at 20°, 50°, and 80° proceeds with increasing rapidity, but the temperature coefficient appears to be more constant in this case than with methyl oleate. In all three experiments and in the autoxidation of methyl linolenate at 20°, the development of conjugated diene unsaturation to a maximum and its subsequent decline was observed to be parallel with the formation of peroxides. The relative rates of autoxidation of the 3 esters at 20° were 1-12 to about 25, the presence of the system —CH:$CHCH_2$CH:CH—causing a marked increase in ease of union with O_2. (*Chem. Abs. 40,* 1142).

SPECIFIC HEATS OF VEGETABLE OILS FROM 0° TO 280°. P. E. Clark, C. R. Waldeland, and R. P. Cross (Washington and Jefferson College). *Ind. Eng. Chem. 38,* 350-3 (1946). The specific heats of hydrogenated cottonseed, castor, soybean, tung, linseed, and perilla oils, between 0° and 280°, fall within the range of 0.40-0.70 calories/g./°C. Specific heat-temperature curves are similar and are displaced toward lower values as the iodine numbers of the oils increase. Some differences between the observed values and previously reported values are noted.

PATENT

PROCESS FOR MODIFYING FATTY OILS. L. Auer. *U. S. 2,396,670.* The fatty oil is heated with 1-30% of fluorescein at 200-350°. An improvement in drying characteristics is reported.