

Abstracts

Oils and Fats

Edited by
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A STUDY OF THE POLYMORPHISM OF THE UNSATURATED FAT ACIDS. C. G. B. Ravich, V. A. Volkova and T. N. Kuz'mina. *Acta Physicochim. U. R. S. S. 14*, 403-13 (1941). Crystn. curves for very low rates of cooling without supercooling show addnl. anomalous thermal effects which can be used as a criterion of purity. The slow-heating curves of oleic acid show reproducible anomalies at 20-1 and depend on the time factor and the temp. of the complex prior to heating. Photomicrographs in polarized light also indicate formation of a new modification. Eleven photographs of linoleic and linolenic acid crystals are shown. (*Chem. Abs.*)

THE EFFECT OF TREATED FATS ON VITAMIN A POTENCY. II. H. C. Dyme, et al, Iowa State Coll. *J. Sci. 15*, 189-212 (1941). Olive oil, lard (all types), corn oil, coconut oil, cod-liver oil, butter fat, cottonseed oil, palm oil, soybean oil, peanut oil (fresh and rancid) and hydrogenated lard were heated at 102-5° for 24 hrs. in thin layers. All heated fats and oils except one sample of coconut oil destroyed the vitamin A activity of butter. Only those fats and oils whose I no. classed them as drying or semi-drying inactivated cod-liver oil. The activity of cod-liver oil is more readily destroyed by finely divided solids than that of butter. Satd. fatty acids had no part in the inactivation. Autoclaved lard and stored and aerated fats and oils seldom destroyed vitamin A activity. Water in the ration did not protect vitamin A activity. Unheated fats were not toxic either when ingested or injected; heated fats were toxic when injected intraperitoneally. Baking did not destroy vitamin A activity in cookies. The inactivating properties of heated fats were not removed by fuller's earth, steam distn. or semicarbazide HCl though the last detoxified them. The inactivating potencies of heated fats are not strictly proportional to their peroxide values. (*Chem. Abs.*)

THE EFFECT OF CERTAIN FATS AND UNSATURATED FATTY ACIDS UPON THE UTILIZATION OF CAROTENE. W. C. Sherman. *J. Nutr. 22*, 153-165 (1941). Various natural oils were fed to vitamin A-deficient rats receiving controlled levels of carotene. Of the oils tested soybean oil gave the best growth. Cottonseed oil, linseed oil, corn oil, and wheat germ oil also had a beneficial effect upon the growth. Butterfat and coconut oil had no appreciable effect. Tests with methyl linolate and methyl linolenate revealed an antagonistic action when fed with low levels of carotene. When sufficient carotene was fed with the methyl linolate, this antagonism was overcome and the methyl linolate gave a definite growth stimulation. This antagonism was counteracted at the low level of carotene intake by the addn. of soybean oil and also by feeding the carotene and methyl linolate a few hours apart.

PRODUCTION OF SEBORRHEA IN RAT BY FEEDING WITH WHALE OIL. III. EFFECTS OF OXIDATION AND DISTILLATION OF WHALE OIL. Eiiti Somekawa and Takao Suzuki. *Sci. Papers Inst. Phys. Chem. Research (Tokyo) 38*, No. 1020, 304-11 (1941). The seborrhea-producing property of bottlenose-whale oil is destroyed by oxidation with chromic acid in glacial acetic acid. The neutral portion of the distillate of bottlenose-whale oil produced severer seborrhea than natural whale oil. This

property is diminished by saponification. The activity seems to run parallel with the I value of the oil. (*Chem. Abs.*)

PREPARATION OF VEGETABLE PHOSPHATIDES. Percy L. Julian and A. G. Enstrom (The Glidden Co.). *U. S. 2,249,002*. The process of recovering vegetable phosphatides from vegetable oil "foots" contg. phosphatides which comprises dissolving the "foots" in a vegetable oil, emulsifying the phosphatides in the soln. with water, sepg. the emulsion from the oil, and recovering the phosphatides from the emulsion.

METHOD FOR THE RECOVERY OF PHYTOSTEROL. F. H. Gayer and Charles E. Fawkes (Continental Research Corp.). *U. S. 2,248,346*.

SHORTENING STABILIZATION. Donald P. Grettie (Industrial Patents Corp.). *U. S. 2,251,485*. The method of stabilizing shortening comprises adding thereto and incorporating therewith a quantity of monobasic sugar acid.

PREPARATION OF MONOGLYCERIDES. Albert S. Richardson and Eddy W. Eckey (The Proctor and Gamble Co.). *U. S. 2,251,693*. An improved process for reacting triglyceride fats and oils with glycerol to form a product rich in monoglycerids, comprises boiling a mixt. of one molar proportion of said fat or oil, at least two molar proportions of glycerol, dioxene and a glyceroxide catalyst.

STABILIZATION OF LIQUIDS. A. W. Ralston and E. W. Hopkins (Armour & Co.). *U. S. 2,247,711*. This invention relates to filter mediums and processes of sterilizing liquids; more particularly it comprises processes wherein an amine or amine salt is adsorbed upon a solid filter material and the liquid to be sterilized is passed in intimate contact with the adsorbed amine or amine salt to effect sterilization. The amine salts are fat acid derivs.

PROCESS FOR THE REDUCTION OF FATTY ACIDS TO ALCOHOLS. Wilhelm Rittmeister (American Hyalcol Corp.). *U. S. 2,248,465*. Process for the reduction of fatty acids to alcohols which comprises mixing the fatty acids with alcohols, the boiling point of which is not more than 50° C. below that of the fatty acids used and hydrogenating the mixts. in the presence of hydrogenation catalysts, said alcohols being present in a quantity sufficient to form neutral esters with said acids is described.

DERIVATIVES OF POLYMERIZED ALKYLOLAMINES. Morris B. Katzman and Albert K. Epstein (The Emulsol Corp.). *U. S. 2,248,089*. Reaction products of citric acid with reesterification reaction products of polymerized alkylolamines contg. at least 2 N atoms and a member selected from the group consisting of triglyceride oils and fats, said reaction products having the property of enhancing the formation of oil-in-water emulsions, are described.

PROCESS FOR BREAKING PETROLEUM EMULSIONS. M. DeGrotte and B. Keiser (Petrolite Corp., Ltd.). *U. S. 2,250,404-8* Acylated compds. of azolidine, hydroxylated tertiary methylene diamine, tris (hydroxy-methyl) aminomethane, and certain amides are used to break petroleum emulsions. The acyl radical is derived from castor oil.