

# Abstracts

## Oils and Fats

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THE LIPIDS OF DIATOMS. H. T. Clarke and Abraham Mazur. *J. Biol. Chem.* 141, 283-9 (1941). The lipids of freshly collected marine diatoms contain a very high % of free fatty acid, apparently irrespective of species. When a suspension of diatoms is allowed to stand for 6 months the content of free acids falls markedly, and the content of hydrocarbon may rise.

MOISTURE CONTENT OF SOYBEAN OIL MEALS. A. C. Beckel and T. H. Hopper. *Ind. Eng. Chem.* 33, 1448-52 (1941). Soybean oil meal resulting from oil processing does not absorb so much moisture as unprocessed meal when both have been allowed to come to equilibrium under the same conditions of temperatures and humidity. The changes in moisture-absorbing ability brought about by processing may be stepwise. Certain oil meals undergo oxidation when heated at 130° C. in an air oven, while some other undergo decomposition. The moisture of soybean oil meal may be satisfactorily determined by heating for 5 to 7 hours at 105° C. under a vacuum of less than 5 mm.

VITAMIN B COMPLEX AND FAT METABOLISM. J. C. Forbes. *J. Nutr.* 22, 359-4 (1941). The administration of thiamine, riboflavin, pyridoxine, nicotinic acid and calcium pantothenate to rats on a fat-free-10% casein, high carbohydrate diet led to the production of fatty livers contg. quite a high concn. of cholesterol. When nicotinic acid was absent from this diet the animals developed fatty livers whose cholesterol content, though elevated, was low in comparison with that obtained when nicotinic acid was also fed. Addn. of choline to the diet exerted a definite lipotropic action under all conditions studied. However, its effect as a whole was less pronounced in those animals receiving nicotinic acid than in the others.

THE EFFECTS OF BIOTIN UPON FAT SYNTHESIS AND METABOLISM. Gertrude Gavin and E. W. McHenry. *J. Biol. Chem.* 141, 619-25 (1941). Impure solutions of biotin from several sources and pure biotin, given to rats in conjunction with thiamine, riboflavin, pyridoxine, and pantothenic acid, caused fatty livers similar to those produced by feeding a fraction from beef livers. The fatty livers were characterized by a high content of cholesterol. The effect of biotin was prevented by simultaneously feeding egg white, lipocaine, or inositol. It is concluded that beef liver fraction owes its activity to its content of biotin. Biotin had, also, an additive effect upon body weight, similar to that ascribed to factor W.

WEIGHT AND QUALITY OF THE YOLKS OF EGGS OF CHICKENS FED DIETS CONTAINING VEGETABLE OILS. Burt W. Heywang and Harry W. Titus. *Poultry Science*, 20, 483-89 (1941). There were no significant differences among the groups in average yolk weight, average ratio of yolk weight to egg weight or average yolk to index as a result of including the several oils in the diets. Apparently laying chickens that are fed a diet of low fat content can produce yolks of average size and quality, for there were no significant differences in size or quality of yolk between the group that received the basal diet of low fat content and any of the other groups. The yolks from the different groups were quite similar in color, but those from

the group that received refined cottonseed oil were of a slightly darker color than those from the other groups. Eggs from the different groups were stored for approximately six months. At the end of this period there were only minor differences in yolk weight and yolk quality among the seven groups other than the one that received cottonseed oil in its diet. The yolks from the latter group had deteriorated to such an extent in storage that it was possible to obtain measurements on only a few of them.

## PATENTS

METHOD OF MAKING ACTIVATED CARBON. N. D. Griswold (Cliffs Dow Chemical Co.). *U. S.* 2,257,907.

REACTIVATION OF SPENT HYDROGENATION CATALYSTS. Victor E. Wellman (B. F. Goodrich Co.). *U. S.* 2,253,835. A process for reactivating spent massive metal hydrogenation catalysts contaminated with organic materials comprises subjecting the spent catalyst to electrolytic anodic oxidation in an aq. soln. contg. at least 2% alkali hydroxide together with at least 1% alkali carbonate, and having a pH above 13.5.

PRESERVING MATERIALS. T. Sabalitschka and E. Bohm (Heyden Chemical Corp.). *U. S.* 2,255,191. In the stabilization of high-molecular fatty acids, animal and vegetable fats and oils and fish oils subject to autoxidation with the formation of peroxides, the process comprises adding to such a material a small quantity, not substantially exceeding 1% by weight, of a low molecular ester of gallic acid selected from a group consisting of the methyl, ethyl, propyl, and butyl esters of gallic acid.

IMPROVEMENTS IN OR RELATING TO THE PRESERVATION OF ANIMAL FLESH PRODUCTS. Musher Foundation Inc. *Bri.* 515,481. A process for protecting meat, fish and poultry against rancidity and putrefaction which comprises covering the entire surface thereof with a liquid crude soya bean or oat oil is described.

APPARATUS FOR MEASURING PLASTICITY. P. S. Roller. *U. S.* 2,259,491. The apparatus is adapted for work on creams, greases, shortenings, clays, putties, etc.

PRINTING MACHINE FOR MARGARINE OR THE LIKE. K. G. Heft. E. J. Rapp, and L. D. Dority. (Morris Packaging Equipment Co.) *U. S.* 2,258,288. Mechanical features of a machine for forming prints of margarine, butter, lard or like products are described.

PURIFICATION OF HYDROGENATED FATTY OILS. Arthur U. Ayres (The Sharples Corporation). *U. S.* 2,259,540. In the separation of free fatty acid from refined hydrogenated fatty oil, the process comprises mixing the oil with an alkaline solution containing an amount of alkali at least seven times the amount required to neutralize the free fatty acid content of the oil and thereafter subjecting the resulting mixture of oil and soap to prompt centrifugation to remove the soap from the oil.

REFINING OF FAT-SOLUBLE VITAMIN CONTAINING MATERIALS. L. O. Buxton (National Oil Products Co.). *U. S.* 2,258,671-3. Medicinal fish oils are rendered substantially odorless and tasteless by heating to about 100-200° in the presence of sugar, an aldehyde of 2 carbon atoms or an edible gum.

**METHOD OF DECOLORIZING OILS.** Carl N. Andersen (Lever Bros. Co.). *U. S. 2,259,968*. In a process of refining glyceride oils, a step comprises decolorizing the oil with a small amount of reducing P compd. selected from the group consisting of hypophosphorous acid and its salts, while the oil is at an elevated temperature and in a substantial absence of air.

**IMPROVEMENTS IN AND RELATING TO THE PRODUCTION OF ARTIFICIAL EDIBLE FATS.** D. Hildisch. *Brit. 524,594*. A mixt. of milk 78, salt 8, egg yolk 3, and glycerine 11% plus lecithin vitamins, color, etc., is marketed for mixing with a fat to make margarine.

**ETHERS OF POLYGLYCEROLS.** B. R. Harris. *U. S. 2,258,892*. Ethers of polyglycerols wherein at least one hydroxyl hydrogen of the polyglycerols is replaced by a lipophile radical of at least six carbon atoms, said ethers having at least one free polyglycerol hydroxy group are described.

**PREPARING FATTY ACID COMPOUNDS.** J. Ross and H. George Kirschenbauer (Colgate-Palmolive-Peet Co.). *U. S. 2,255,230*. The method of preparing relatively pure stearic acid and monochlorinated palmitic acid from a mixture contg. stearic acid and palmitic acid comprises treating such a mixture with a chlorinating agent in a quantity just sufficient to monochlorinate substantially all of the palmitic acid in the mixture, and then separating the monochloropalmitic acid from the stearic acid.

**PROCESS OF HYDROLYZING GLYCERIDES.** Edward A. Nill (H. A. Montgomery Co.). *U. S. 2,254,109*. The process of hydrolyzing fatty glycerides comprises proportionally admixing the glyceride in liquid condition with a treating liquor contg. sulphuric acid and sulphonated mineral oil hydrocarbons of the ichthyol type, substantially impounding the admixt., and controlling the discharge of the mixt. of liquid, so that only a thin continuous film is permitted to escape across a swiftly moving surface.

**EGG COMPOSITION.** M. Katzman (Emulsol Corp.). *U. S. 2,243,867*. A product consisting essentially of egg material and contg. a proportion of a reaction product of meta-phosphoric acid with an alcohol corresponding to the alcohols derivable from triglyceride oils, fats, waxes, and higher fatty acids is described.

**CAKE.** M. Katzman (Emulsol Corp.). *U. S. 2,243,868*. A nonshortening-contg. cake of the angel food type contg. flour, beatable protein, sugar, moisture, and a proportion of a reaction product of meta-phosphoric acid with an alcohol corresponding to the alcohols derivable from triglyceride oils, fats, waxes, and higher fatty acids is described.

**OIL FROM HYDROXYLATED FATTY ACIDS.** A. E. Rheineck and J. S. Long (Devoe & Reynolds Co.). *U. S. 2,256,353*. A method of producing a synthetic drying oil which comprises preparing the hydroxylated compound of a drying oil acid have at least 2 hydroxyl groups and esterifying such hydroxylated compound with at least 2 molecules of drying oil acid for each molecule of such hydroxylated compound while maintaining the double bonds of said last specified drying oil acid molecules substantially unsaturated is described.

**STEROL DERIVATIVES AND PROCESS OF FORMING SAME.** R. E. Marker (Parke Davis & Co.). *U. S. 2,255,072*.

**STERYL MAGNESIUM HALIDE AND PROCESS FOR PRODUCING THE SAME.** R. E. Marker (Parke Davis & Co.). *U. S. 2,255,073*.

**STEROL DERIVATIVES AND PROCESS OF FORMING SAME.** R. E. Marker (Parke Davis & Co.). *U. S. 2,255,074*.

**INSECT REPELLENT CONTAINING ALIPHATIC ALCOHOLS.** A. W. Ralston and J. P. Barrett (Armour & Co.). *U. S. 2,254,665*. This invention relates to repellents for insects such as mosquitoes, flies, and gnats and more specifically to repellents comprising aliphatic alcohols containing from 10 to 14 carbon atoms. The alics. are fat derivs.

**PREPARATION OF SYNTHETIC DRYING OILS.** H. S. Rothrock (E. I. du Pont de Nemours & Co.). *U. S. 2,252,333*. A process for making synthetic drying oils comprises subjecting aliphatic open-chain conjugated diolefinic hydrocarbons to a polymerizing temperature under pressure in the presence of any organic carbonyl compd. selected from the group consisting of the aldehydes and ketones and in the presence of a copper salt of weak acid.

**PRODUCTION OF DRYING OILS.** F. Christmann (General Aniline & Film Corp.). *U. S. 2,253,323*. A process for the production of drying oils from unsaturated hydrocarbons comprises condensing liquid products rich in unsaturated aliphatic hydrocarbons obtained from carbonaceous substances contg. at least about 13.5 gms. of hydrogen for each 100 gms. of carbon by treatment with a substance selected from the group consisting of metal halides of the Friedel-Crafts type and boron halides, together with from 10 to 35%, calculated on the wt. of the products rich in unsaturated hydrocarbons, of a halide selected from the class consisting of phosgene and thionyl chloride, to form unsaturated hydrocarbons of higher molecular weight.

**PREPARATION OF STEARATES AND PALMITATES.** M. H. Bigelow (Plaskon Co., Inc.). *U. S. 2,252,658*. A method of preparing zirconium, titanium, and cerium salts of stearic acid and palmitic acid substantially free from the acid comprises adding to a sulfuric acid soln. of a salt of the metal a substance selected from the group consisting of barium carbonate, barium hydroxide, barium oxide, and barium sulfide, and then mixing the resulting soln. with a soln. of a soap of the acid.

**TEXTILE OIL.** A. C. Goodings, H. B. Marshall, and H. W. Lemon. *U. S. 2,238,882*. A textile oil comprising about 94% of a mineral base oil having a viscosity within the approx. range of 50 to 250 seconds. Sqy-bolt Universal at 100° F., about 3% of a liquid neat's-foot oil acid diester of glycerol and about 3% of a neat's-foot-lactic diester of glycerol is described.

**SOLUBLE OIL.** E. W. Adams and F. H. MacLaren (Standard Oil Co.). *U. S. 2,243,994*. An emulsifiable composition, having improved emulsifying and wetting properties comprising an oil and a chlorinated oil-soluble soap of sulfonic acid, is described.

**VEGETABLE OIL.** W. W. Ginn (Vegetable Oils Spec. Corp.). *U. S. 2,260,140*. The method of making a varnish of linseed oil, which approximates the properties of a China-wood oil varnish, comprises cooking linseed varnish oil in the presence of approximately 1/8 to about 2 1/2% of castor oil.

**PROCESS FOR RESOLVING PETROLEUM EMULSIONS.** L. T. Monson and W. W. Anderson (Petrolite Corp. Ltd.). *U. S. 2,259,704*. The demulsifying agent is an acylated amino-ether in which the acyl radical is a fat acid.