

• Detergents

SPRAY DRIED DETERGENT COMPOSITIONS. V.R. Loureiro and A. Greenberg. *U.S. 3,816,352*. The compositions comprise alpha-olefin sulfonate, linear alkyl benzene sulfonate, starch hydrolysate, magnesium sulfate, sodium chloride, and a sulfate filler in certain relative proportions.

METHOD OF WASHING FABRICS. S.H. Sharman and M. Danzik (Chevron Research Co.). *U.S. 3,816,353*. The fabrics are contacted with an aqueous solution containing, as the detergent active material, 0.01–0.10% of polysulfonated alkylphenols produced by sulfonating C₁₆–C₂₂ monoalkylphenols of not more than 20 mol percent para alkyl content with a sulfonating agent to incorporate an average of 1.5 sulfonic acid groups into the molecule. The product is then neutralized.

ALKYL AROMATIC POLYSULFONATE SURFACTANTS. R. Stechler, J.M. Folliot and M.J. Warren (Alcolac Inc.). *U.S. 3,816,354*. Mixed diphenylalkanes, obtained as by-products in the process of alkylating benzene with olefins or partially chlorinated paraffins, are converted into low cost biodegradable surfactants by sulfonation with oleum, sulfur trioxide, or chlorosulfonic acid. Neutralization with a basic material follows sulfonation to yield a hazy or cloudy heterogeneous liquid. The liquid is converted into a clear solution by the addition of a lower alkyl alcohol, lower alkyl ketone, glycol, diacetone alcohol, or dioxane. The surfactants thus obtained are useful in the preparation of emulsion or suspension homo- and copolymers that are resistant to polyelectrolytes and possess excellent mechanical stability and shear resistance.

POLYESTER SALTS CONTAINING QUATERNARY AMMONIUM GROUPS. E. Schmadel (Henkel & Cie). *U.S. 3,816,378*. The salts are obtained by polycondensation of N-alkyl-dialkanolamines with dicarboxylic acids, particularly maleic acid, and quaternization of the polyester with a haloacetic acid. Additional sulfonic acid groups can be introduced into the polyester molecule by reaction with an alkali metal hydrogen sulfite. The polyester salts are used as soil suspension agents in washing compositions.

DETERGENT FORMULATIONS. C.Y. Shen (Monsanto Co.). *U.S. 3,817,863*. The formulations comprise a surfactant and tetrasodium or tetrapotassium tetrahydrofuran-2,2,5,5-tetracarboxylate or its hydrates as a builder.

DISHWASHER DETERGENT COMPOSITION. C.R. Ries and G.C. Smith, Jr. (Procter & Gamble). *U.S. 3,817,869*. The composition comprises an ionizable salt as a major component, an alkali metal silicate, a chlorine-yielding bleach, and water soluble synthetic organic nonionic detergent. The ionizable salt is selected from the group consisting of alkali metal sulfates and the alkali metal salts of acetic acid and propionic acid. The composition, although sequestrant-free, cleans well and is nonfilming and nonspotting.

LAUNDERING COMPOSITIONS. R.H. Weiss. *U.S. 3,817,870*. The compositions contain a detergent surfactant and, as a builder, an alkali metal or ammonium salt of malic or citric acids. Sodium metasilicate is an optional ingredient. Phosphates are not needed.

SURFACTANTS FOR SOLVENT/WATER SYSTEMS AND TEXTILE TREATING COMPOSITIONS. K.W. Graff (ICI America Inc.). *U.S. 3,817,871*. The compositions comprise a cationic surfactant, an anionic surfactant, water, and an organic liquid. Also disclosed is a textile treating composition comprising a blend of a textile softening agent and the surfactant composition.

HEAVY DUTY MULTI-PURPOSE CLEANER. J. Bazan. *U.S. 3,817,875*. The cleaner contains the following active ingredients: (a) 75% of a combination of ammonium oxalate, hexachlorophene, 2,2-methylene-bis-(3,4,6-Trichlorophenol) and ammoniumethylene diamine tetraacetate in the approximate ratio of 6:1.5:1, with a minor amount of ammonium orthophenylphenate; (b) 20% of a tertiary N- higher alkyl-dimethylbenzyl ammonium chloride combined with anhydrous sodium metasilicate in the ratio 2:3; and (c) approximately 5% water. When these ingredients are combined with other

inert and known ingredients, a creamy composition results. This composition has a higher cleaning effectiveness than the sum of the active components.

COATED DETERGENT COMPOSITIONS. R.H. Pierce and E.W. Vessey (Philadelphia Quartz Co.). *U.S. 3,819,526*. The process for making an improved detergent composition consists in spraying a slurry of some ingredients onto other ingredients which have been pre-dried. Specifically, a hydrous alkali metal silicate or hydrous blend of silicate and other alkaline component is coated with a solution or slurry of other ingredients. The composite is then dried to give a free-flowing detergent. The resulting composition is very stable, contains a low concentration of insoluble material, and resists formation of insoluble material on storage.

STABILIZED AQUEOUS ENZYME COMPOSITIONS. J.S. Berry (Procter & Gamble). *U.S. 3,819,528*. The compositions comprise water, amylolytic enzyme, a water soluble calcium salt, an organic co-stabilizing agent selected from aliphatic glycols and 1,3-propanediol and, optionally, a nonionic or zwitterionic detergent. The compositions are useful in starch degrading applications.

ENVIRONMENTALLY COMPATIBLE LAUNDRY DETERGENT. J.C. Little, A.S. Teot and R.F. Harris (Dow Chem. Co.). *U.S. 3,819,538*. Surface active ingredients in the detergent have the formula RO—((CH₂CH₂O)_n—CH₂)_x—CHR'COOM. R is a hydrocarbon radical with 12–22 carbon atoms, R' is H or lower alkyl, n is an integer from 1 to 8, x is 0 or 1, and M is an alkali metal, amine, or ammonium radical. The detergents are highly effective, readily biodegradable, and especially responsive to nonphosphate builders.

PREPARATION OF DETERGENT COMPOSITIONS. M. Bloch and A. Koebner (Rewo Chemische Fabrik). *U.S. 3,819,539*. A non-irritating, tertiary amine-free detergent mixture comprises, as the active constituents, a quaternized tertiary amine and the corresponding tertiary amine N-oxide. In the process, a tertiary amine is reacted with a quaternizing agent to produce a mixture of the free tertiary amine and the quaternized tertiary amine. This mixture is then oxidized, thereby converting the free tertiary amine to the amine oxide.

SULFONATE DETERGENTS. S.C. Paviak (Gulf Res. & Dev. Co.). *U.S. 3,819,540*. The aqueous composition contains sodium alkene sulfonates or sodium hydroxy alkane sulfonates and a partially or fully neutralized copolymer of methyl vinyl ether and maleic anhydride in an amount sufficient to cause a viscosity increase.

LINEAR ALKYL GEMINAL DISULFONATES AS PHOSPHATE-FREE ACTIVES. V.P. Kurkov and S.H. Sharman (Chevron Res. Co.). *U.S. 3,819,691*. Heavy duty detergent active materials comprise organic geminal disulfonates of the formula, XO₃S—CY(R)—SO₂X, where R is a linear alkyl group of 14–29 carbon atoms, X is H or water soluble, salt forming cation, and Y is H, C(O)H, or —CH₂—OH.

SKIN MOISTURIZERS. II. THE EFFECTS OF COSMETIC INGREDIENTS ON HUMAN STRATUM CORNEUM. M.M. Rieger and D.E. Deem (Warner-Lambert Res. Inst. 170 Tabor Rd., Morris Plains, N.J. 07950). *J. Soc. Cosmet. Chem.* 25, 253–62 (1974). Elastic modulus, relaxation function, water absorption and water vapor transmission have been used to study the effect of typical cosmetic ingredients on human stratum corneum. The elastic modulus and the stress relaxation modulus are useful measures of the ability of various cosmetic materials to alter the viscoelastic behavior of stratum corneum. It

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was demonstrated that typical cosmetic humectants increase the rate of transepidermal water loss in vitro. An attempt is made to explain this phenomenon.

BUNDLE TESTING. J.F. Pacheco, P.P. Carfagno, and D.S. Corliss (FMC Corp.). *Soap/Cosmetics/Chemical Specialties* 50(6), 29-34 (June, 1974). The use of bundle testing as a practical, realistic method for evaluating detergents is described. The Terg-O-Tometer method contains many limitations, especially when attempts are made to apply the results to field situations. Bundle testing involves actual family use of selected items followed by laundering under controlled conditions and evaluation of the results. The procedure used at FMC is described in detail. While bundle testing overcomes some of the problems of the Terg-O-Tometer procedure, such as the nature of the soil and its application, it has limitations of its own. Some of these restrictions are a limit to two comparisons at a time, with cross-comparisons not statistically possible, a minimum of 5 weeks per test, and a moderately high cost in terms of money and manpower. Although bundle testing is not suitable for screening, it can be of great value as a step between screening and actual field testing.

DETERGENT COMPOSITIONS. V. Lamberti (Lever Bros. Co.). *U.S. 3,821,115*. Low scum-forming detergent compositions are obtained when salts of C₁₄ to C₂₀ 4-hydroxyalkanoic acids are used as the sole detergent or in combination with another surface active agent.

AUTOMATIC DISHWASHING COMPOSITIONS. P.A. Finck (Colgate-Palmolive Co.). *U.S. 3,821,118*. A composition particularly adapted for washing dishes, glasses and silverware in an automatic dishwasher contains as the essential ingredients 1-20% sucrose, 0.5-10% of an enzyme and 40-95% of at least one water soluble organic and/or inorganic builder salt. The composition is free of halide bleaching compounds and reduces spotting and filming on the dishes, glasses and silverware.

SILICATED SODA ASH. R.E. Temple (Diamond Shamrock Corp.). *U.S. 3,821,119*. A method for preparing a particulate detergent builder comprises admixing liquid sodium silicate with anhydrous soda ash having a particle size of less than 200

microns at a temperature between 21C and 51C, passing the resultant wetted granules through an 8-mesh screen, and rapidly heating the screened material to over 100C.

PREPARATION OF WOOL WAX ALCOHOL PRODUCT. P.L. Julian. *U.S. 3,821,121*. A dispersing and emulsifying agent derived from wool grease is made by separating cholesterol from the unsaponifiables and replacing the cholesterol with β -sitosterol.

DETERGENT AND SHAMPOO COMPOSITIONS. H. Dixon (Beecham Group Ltd.). *U.S. 3,821,124*. Anionic detergent compositions for shampoos and household use have, as essential components, a synergistic combination of an iodate and an amine. The iodate is preferably sodium, potassium, or ammonium iodate, and the detergent is preferably sodium, potassium, ammonium, or an alkanolamine sulfated fatty alcohol having 1-3 ethylene oxide units per mole. The metal iodate preferably constitutes 0.25-0.5% of the composition. The anionic detergent is a nonsoap, nonsulfonate compound, and its synergistic action with the metal iodate is unrelated to the liberation of iodine.

COMPOSITION FOR IMPARTING NONPERMANENT SOIL RELEASE CHARACTERISTICS TO FABRICS. R.E. Dickson (Colgate-Palmolive Co.). *U.S. 3,821,147*. The composition comprises a polycarboxylate polymer having an acid equivalent weight of 110-175, and a water soluble amine. A preferred polymer is a copolymer of 2/3 methacrylic acid and 1/3 ethylacrylate. The composition is particularly useful for applying a soil release finish in the rinse cycle of a home laundry process.

BLEACHING PROCESS AND COMPOSITIONS. R.E. Montgomery (Procter & Gamble). *U.S. 3,822,114*. A process for activation of peroxygen bleaching agents comprises conjointly dissolving in aqueous solution certain peroxygen bleaching agents, certain aldehyde or ketone bleach activators, and buffering compounds. Concentrated dry bleach compositions containing these compounds are also disclosed.

FABRIC SOFTENING. M. Liebowitz, N.M. McHugh and H.D. Cross, III (Colgate-Palmolive Co.). *U.S. 3,822,145*. Poly-lower alkenes, such as polyethylene, are applied to tumbling fabrics to be softened. The polyethylene is emulsified into a stable foam which is dispensed from a pressurized container onto damp wash in a clothes dryer.

FISHERMAN'S SOAP. La V.N. Morton (American Leisure Products, Inc.). *U.S. 3,822,211*. The composition consists of soap, anise oil, mulberry juice and cinnamon. The soap may be used to wash bait for preventing excessive human scent from remaining on the bait and for rendering the bait more attractive to fish. The fisherman may also wash his hands with the soap to prevent human scent from being transferred to the bait.

DETERGENT COMPOSITION. R. Pettigrew and P. Tissington (Lever Bros. Co.). *U.S. 3,822,222*. A fabric-washing detergent composition incorporates, as a detergent builder, 5-70% of a water soluble or dispersible salt of a linear C₁₀ to C₂₀ alpha-hydroxy monocarboxylic acid.

CREAMY RINSING AGENT. T. Sato, M. Katsumi, O. Kojima and T. Hara (Kao Soap Co.). *U.S. 3,822,312*. Aqueous creamy rinsing agent compositions for wigs and hair comprise the following components: (1) 1-7% of a quaternary ammonium salt having two long chain alkyl groups with 16-22 carbon atoms; (2) 0.1-5% of an antistatic agent; (3) 0.5-10% of a compound selected from the group consisting of glycols having up to 3 carbon atoms, glycerol, sorbitol, nonionic surfactants containing no ethylene oxide units or up to 10 moles of ethylene oxide in the molecule, polyalkylene oxide compounds having a molecular weight greater than 4000, and lower alkyl esters of higher fatty acids; and (4) 0.05-1% of an inorganic or organic salt having electrolytic properties.

COSMETIC COMPOSITIONS CONTAINING ANIONIC SURFACE ACTIVE AGENTS CONTAINING MONO- OR POLYHYDROXYLATED MONO- OR POLYETHER CHAINS AND A TERMINAL ACID GROUP. G. Vanlerberghe and H. Sebag (L'Oreal, Paris). *U.S. 3,822,346*.

PRODUCTION OF POWDERED DETERGENT. M. Kame, H. Koda and H. Igehara (Nippon Oils and Fats Co.). *U.S. 3,823,090*. Powdered detergent is prepared by homogeneously mixing a hydrazine type enzyme with a nonionic surface active agent or a neutral or synthetic sizing agent and a detergent base.

TWO PART LIQUID CAR WASH SYSTEM. A.J. Lancz (Colgate-Palmolive Co.). *U.S. 3,823,094*. A liquid concentrate for automatic car wash machines is designed to be stored in two parts. One part contains 30-60% of K₂P₂O₇ and the

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(continued from page 648A)

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trisodium salt of nitrilotriacetic acid. The other part contains an ethoxylated nonionic surfactant, a hydrotrope, a viscosity controlling agent and monoethanolamine as a pH stabilizer. The two parts are mixed in a volume ratio of 1:2-2:1 with a quantity of water to produce a stock solution.

PRODUCTION OF VARIEGATED DETERGENT BARS. A. D'Arcangeli (Colgate-Palmolive Co.). *U.S. 3,823,215*. Detergent compositions of similar solubilities and temperatures but of different colors are extruded, cut, mixed, compacted and extruded into a variegated bar which may be subsequently pressed into cakes. Preferably, the base composition, e.g., a white soap, is plodded through a plurality of cylindrical tubes while a colored soap is plodded into a section of the variegating head surrounding the other tubes. The two soaps are then extruded at similar velocities into a mixing section wherein they are cut and whirled by a rotating cutter. The apparatus for producing the bars is also described.

PEROXYGEN BLEACH ACTIVATORS. F.F. Loffelman and T.E. Brady (American Cyanamid Co.). *U.S. 3,824,188*. Halogen substituted azine compounds selected from pyrimidine, pyrazine, quinoxaline and pyridine compounds, carrying as ring substituents at least one halogen selected from chlorine, bromine or fluorine and at least one substituent selected from halogen, cyano, nitro, lower alkyl and lower alkoxy groups, are effective as bleach activators for peroxygen bleaching compositions.

DETERGENT COMPOSITIONS. G. Borello. *U.S. 3,824,189*. Detergent compositions in extruded form and methods for producing them are disclosed.

PHENOLIC SYNTHETIC DETERGENT-DISINFECTANT. M.W. Winicov and W. Schmidt (West Laboratories, Inc.). *U.S. 3,824,190*. One component of the composition is an anionic detergent. The phenolic component consists of ortho phenylphenol in admixture with high and intermediate activity phenolics in ratios of 4:1 to 1.1:1. When diluted for use, the ortho phenylphenol is present at least at 450 ppm. The composition is effective against Staphylococcus, Salmonella, and Pseudomonas species in hard water.

PREPARATION OF OLIGOPEPTIDE DERIVATIVES USING GLYCIDYL ESTERS OF CARBOXYLIC ACIDS TO REACT WITH PROTEIN-DIAMINE AMINOLYZATES. H.W. Eckert and P. Nikolaus (Henkel & Cie). *U.S. 3,824,228*. The derivatives may be used in hair conditioning and cosmetic preparations.

BRIGHTENERS. A. Dorlars and O. Neuner (Bayer Ag.). *U.S. 3,824,236*. The preparation and use of stilbene derivatives as optical brighteners are disclosed.

PRODUCTION OF ALKYLENEGLYCOL ESTERS. W. Umbach and W. Stein (Henkel & Cie). *U.S. 3,824,263*. Alkylene glycol esters of organic carboxylic acids are produced by reacting higher organic carboxylic acids with an alkene oxide in the presence of an oxyalkylation catalyst and then recovering the ester. The improvement disclosed is the use of a high molecular weight amine-oxide or a diamine dioxide of the oxyalkylation catalyst in the reaction.

PREPARATION OF SALTS OF ETHER POLYCARBOXYLIC ACID. V. Lamberti (Lever Bros. Co.). *U.S. 3,824,279*. Salts of carboxymethyloxysuccinic acid are prepared by reacting in an aqueous alkaline medium an aldehyde and an alkaline earth metal or alkali metal cyanide and an alkali metal or alkaline earth metal salt of an unsaturated polycarboxylic acid at temperatures of 25-200C.

PREPARATION OF POLYACETYLALKYLENE DIAMINES. J.C. Grimelikhuisen and A. Schroeder (Lever Bros. Co.). *U.S. 3,824,286*. The process comprises reacting a compound having the general formula $H_2N-R-NH_2$ in which R represents an alkylene or substituted alkylene group having 2-6 carbon atoms in a straight chain connecting both nitrogen atoms, with acetic acid to obtain the diacetyl compound. The product thus obtained is directly suitable for further acetylation, preferably using acetic anhydride as the acetylating agent.

DISHWASHING DETERGENT COMPOSITION. T. Altenschopfer and H. Batka (Deutsche Gold- und Silber-Scheideanstalt vormals Roessler). *U.S. 3,825,498*. The composition consists of (a) 90-5% of a water soluble alkali silicate, and (b) 5-90% of a polyhydroxycarboxylic acid containing carboxyl or carboxylate groups and hydroxyl groups, as well as specified polymer units. The composition may contain various other ingredients.

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N-ACYLATED TETRAAZA-BICYCLO-NONADIONES AND COMPOSITIONS FOR ACTIVATING OXYGEN. D. Kuhling and H. Bloching (Henkel & Cie). *U.S. 3,825,543*. A method is disclosed for producing the title compounds and compositions containing them for activation of percompounds in aqueous solutions at temperatures below 70C.

UNSATURATED ZWITTERIONIC SURFACE ACTIVE COMPOUNDS. M.A. Barbera (Procter & Gamble). *U.S. 3,825,588*. The compounds have surface active properties which make them especially useful as detergent components.

• Fats and Oils

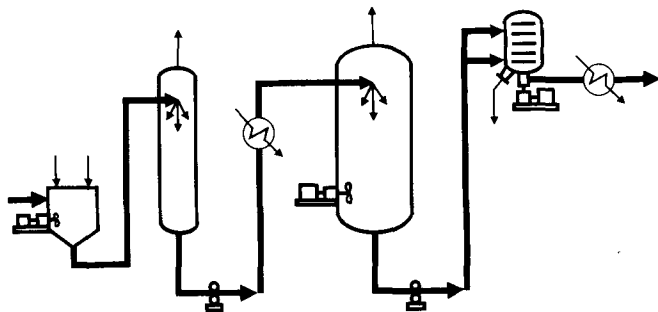
OIL/WATER EMULSION CONTAINING THE POLYCONDENSATION PRODUCT OF GLYCIDOL ON ALPHA DIOLS WITH FATTY CHAIN. G. Vanlerberghe and H. Sebag (L'Oreal, Paris). *U.S. 3,821,372*. The composition comprises an emulsifier, an oil selected from the group consisting of peanut oil, castor oil, paraffin oil, purellin oil and triglycerides of selected fatty acids, present in amounts of 10-60% of the composition, and water, present in amounts of 30-80%.

EMULSIFIER FOR FROZEN CONFECTIONS. I.A. MacDonald, R.R. Egan and S.B. Lampson (Ashland Oil, Inc.). *U.S. 3,821,442*. Frozen confections are improved with regard to whippability, texture, dryness and stiffness by using ethoxylated partial glycerol esters of C_{10} - C_{24} fatty acids as the emulsifier.

DEHULLING RAPESEED. L. Palyi. *U.S. 3,821,451*. Rapeseed is dehulled without oil being extracted from the kernels by a method comprising heating the seeds to 45C, cooling them with a current of cold air which causes the seeds to impact against a surface. The hulls are thus cracked and separated from the kernels.

PHOSPHORUS CONTAINING PRODUCTS. J.T. Patton, Jr., R.J. Hartman, and A.L. Austin (BASF Wyandotte Corp.). *U.S. 3,822,326*. Phosphorus containing products are prepared by

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PHOSPHATIDES. P.A. Seaberg and L.P. Hayes (A. E. Staley Mfg. Co.). *U.S. 3,823,170*. Modified lecithin products exhibiting improved emulsification properties are directly obtained from crude vegetable oils under an integrated and continuous process. The crude oils are initially treated with a small amount of aqueous acetic anhydride with the resultant acetylated wet gum being partitioned from the crude oil. The acetylated wet gum is then mixed with a base and dried to provide a dry modified lecithin product having an acid value of 10-25.

PROCESS FOR CONTINUOUS AND SELECTIVE PARTIAL HYDROGENATION OF UNSATURATED FATS AND OILS. G.M. Leuteritz. *U.S. 3,823,172*. The liquid oils are mixed with a catalyst and successively circulated through a multiple stage reactor. Each stage includes a reaction chamber through which the material flows in transverse direction and a circulation conduit containing a suction nozzle connected to the inlet of the conduit. The nozzle is connected to a chamber which supplies predetermined amounts of hydrogen under a predetermined pressure.

PREPARATION OF ETHYLENIC CARBOXYLIC ACIDS. L. Heslinga, H.J.J. Pabon, and D.A. van Dorp (Lever Bros. Co.). *U.S. 3,824,262*. Ethylenic acids of the structure RCH_2-R^1-COOH are disclosed. R is an aliphatic hydrocarbon radical containing 1-5 cis-ethylenic bonds and R¹ is ethylene or an ethylene group. The acids are prepared by selectively hydrogenating the acid $R_1CH_2CH=CHCOOH$ where R₁ contains 1 to 5 acetylenic or cis-ethylenic bonds. The resulting polyenoic acids, e.g., arachidonic acid, are useful as intermediates, especially in the preparation of prostaglandins.

• Biochemistry and Nutrition

SIMPLE ASSAY FOR MONOACYLGLYCEROL HYDROLASE ACTIVITY OF RAT ADIPOSE TISSUE. H. Tornqvist, L. Krabisch and P. Belfrage (Dept. of Physiological Chem., Med. Faculty, Univ. of Lund, Lund, Sweden). *J. Lipid Res.* 15, 291-4 (1974). A simple,

sensitive, and specific assay for monoacylglycerol hydrolase activity of rat adipose tissue is described. Monoacyl [³H] glycerols with different chain lengths (8-18 carbon atoms) and different degrees of unsaturation in mixed micellar solution with different detergents can be used as substrates. The [³H] glycerol that is produced is isolated in a one-step liquid-liquid partition procedure. For routine purposes monooleoyl [³H] glycerol was found to be the most suitable substrate. A simple method for the chemical synthesis and purification of this substrate in high yield is given. The assay allows rapid serial sampling of enzymatic activity with a high reproducibility.

QUANTITATIVE ANALYSIS OF CHOLESTEROL IN 5 TO 20 μL OF PLASMA. T.T. Ishikawa, J. MacGee, J.A. Morrison and C.J. Glueck (Lipoprotein Res. Lab. and the General Clinical Res. Center, Basic Science Lab. of the Veterans Admin. Hosp., and the Depts. of Med. and Biological Chem., Univ. of Cincinnati, Coll. of Med., Cincinnati, Ohio). *J. Lipid Res.* 15, 286-91 (1974). A gas-liquid chromatographic micromethod for quantitation of cholesterol in 20 μl of plasma was developed using 5α-cholestane as an internal standard, saponification with tetramethylammonium hydroxide-isopropanol, and extraction with tetrachloroethylene-methyl butyrate. Cholesterol levels in plasma samples were calculated by comparing cholesterol-cholestane peak height ratios with those of preassayed reference plasma. Over a plasma cholesterol range of 44 to 468 mg/100 ml, the gas-liquid chromatographic micromethod and the automated ferric chloride colorimetric method gave nearly identical results (r = 0.99) in duplicate aliquots of 131 plasma samples.

QUANTITATIVE DETERMINATION OF LYSOLECITHIN AND SPHINGOMYELIN IN PHOSPHOLIPID MIXTURES BY THIN-LAYER CHROMATOGRAPHY AS APPLIED TO THE THYMUS OF THE FM3M MOUSE. L.M. Hoffman, W. Fok and L. Schneck (Dept. of Neurology of the Isaac Albert Res. Inst., Kingsbrook Jewish Med. Center, Brooklyn, N.Y. 11203). *J. Lipid Res.* 15, 283-5 (1974). Lysolecithin and sphingomyelin may be readily separated from other phospholipids on thin-layer plates impregnated with silver nitrate using the solvent system chloroform-methanol-concentrated ammonium hydroxide 65:35:8. Quantitation is carried out by determining the phosphorus content of the developed bands. The minimum amount of phospholipid that can be quantitatively determined is that which contains 0.7 μg of phosphorus. This method has been used for the determination of lysolecithin and sphingomyelin in the tissues of mice having foam-cell reticulosis.

A LIPID-SOLUBLE ANTIOXIDANT FROM POLYALLOMER CENTRIFUGE TUBES. C.E. Opliger, P.C. Heinrich and R.E. Olson (Dept. of Biochem., St. Louis Univ. Schl. of Med., St. Louis, Missouri 63104). *J. Lipid Res.* 15, 281-3 (1974). Santowhite, a commercial antioxidant used in the manufacture of polypropylene, contaminates 12-ml polyallomer tubes to the extent of 0.2-0.3 mg/tube. It is distributed through the plastic and appears as a microscopic dust on the tubes' surfaces. In the preparation of polysomes from rat liver by standard methods, approximately 15% of the antioxidant in previously water-washed tubes was removed by suspension of the polysome pellet with stirring in 1-2 ml of Tris buffer, pH 7.8. The polyallomer impurity has been shown to be identical with Santowhite, which is 4,4'-butylidene-bis (6-tert-butyl-m-cresol), by UV, mass and NMR spectra. It is not uniformly removed from polyallomer tubes by common detergents but is removed by washing with acetone, to which the plastic is resistant.

PERMEABILITY CHANGES INDUCED BY PEROXIDATION IN LIPOSOMES PREPARED FROM HUMAN ERYTHROCYTE LIPIDS. J.E. Smolen and S.B. Shohet (Div. of Hematology, Depts. of Med. and Lab. Med., Moffitt Hosp., Univ. of Calif., San Francisco Med. Center, San Francisco, Calif. 94143). *J. Lipid Res.* 15, 273-80 (1974). The diffusion of [²⁻¹⁴C]glucose out of liposomes prepared from extracted human erythrocyte lipids was examined. Increased glucose efflux was observed when the lipids were treated with hydrogen peroxide and CuCl₂ before liposome formation, and this phenomenon required both peroxide and metal. Peroxidation of these lipids also resulted in the destruction of polyunsaturated fatty acids and the generation of conjugated dienes, but neither of these processes appeared to be the sole cause of increased glucose efflux. Thin-layer chromatography and the effects of aqueous washes suggested that surface-active lysophosphatides or other lipid degradation products were responsible for the increased permeability of the treated liposomes. It is suggested that the behavior of this liposome model system may be relevant to the high permeability and fragility of vitamin E-deficient erythrocytes.