ABSTRACTS

R. A. REINERS, Editor. ABSTRACTORS: N. E. Bednarcyk, J. E. Covey, J. G. Endres, J. Iavicoli, S. Kawamura, F. A. Kummerow, E. G. Perkins, and R. W. Walker

• Fats and Oils

REDUCTION IN REFINING COSTS AND IMPROVEMENT OF THE DIETETIC VALUES OF FATS. E. Kellens. *Oleagineux* **25**, 607–9 (1970). A discussion of various processing steps which can be taken to improve both the yield and the quality of fats and oils. The crude oil should be protected from oxygen as much as possible. Low temperature neutralization minimizes saponification of the glycerides as well as oxidation. Steam refining following bleaching gives an even better quality oil that can be hydrogenated without secondary reactions.

USE OF CITRIC ACID IN THE PRODUCTION OF MARGARINE WITH THE STRUCTURE OF BUTTER. N. I. Kozin (G. V. Plehanov Inst. of the National Economy, Moscow). *Izv. Vysshikh Uchebn. Zavedenii, Pishchevaya Tekhnol.* **1970**(5), 73–6. Margarine having the structure of butter was made through use of the milk proteins to form the oil in water type emulsion. The pH must be adjusted to between 5.2 and 6.0 in order to achieve optimum results. Citric acid was used in addition to culturing to bring the milk serum to this pH. The citric acid also exerted a synergistic effect in delaying oxidation during storage of the margarine. (Rev. Franc. Corps Gras)

GAS CHROMATOGRAPHY OF THE FATTY ACIDS OF SUNFLOWER SEEDS DURING MATURATION. V. G. Scerbakov *et al. Izv. Vysshikh Uchebn. Zavedenii, Pischevaya. Tekhnol.* **1970**(5), 26–9. During maturation of sunflower seeds, the relative amount of C-18 acids increases continuously as the amount of short chain acids decreases. This change is clearly seen in the mitochondrial fraction of the cells. In this fraction, the content of palmitic acid decreases in proportion to the increase in C-18 acids. Linoleic acid increases many times faster than oleic acid while the stearic acid decreases again at the end of maturation. (Rev. Franc. Corps Gras)

EFFECT OF TOCOPHEROLS ON THE OXIDATIVE STABILITY OF SOYBEAN OIL. R. H. Hafizov *et al. Izv. Vysshikh Uchebn. Zavedenii, Pishchevaya Tekhnol.* **1970**(5), 30–3. Soybean showed the best oxidative stability at tocopherol concentrations of 50–70 mg/100 g. At greater concentrations, the tocopherols exerted a pro-oxidative effect. Since the natural concentration of tocopherols in soybean oil is above the optimum, the excess can be removed without decreasing the stability. At the end of the induction period, a significant amount of tocopherols were found to be still in the oil. (Rev. Franc. Corps Gras)

EFFECT OF DIFFERENT TYPES OF COOLING ON THE CRYSTALLINE CHARACTER OF MILK FAT. L. S. Ivanovskaja *et al. Izv. Vysshikh Uchebn. Zavedenii, Pishchevaya Tekhnol.* **1970**(5), 59–62. As the rate and the extent of cooling is increased, the length of the crystal formations and the melting point of the glycerides decreases. Under all cooling conditions studied, the glycerides stabilized in the β' formation with a double chain length. No β crystals or single chain length structures were detected. (Rev. Franc. Corps Gras)

COMPOSITION OF THE GLYCERINE WATER FROM THE NON-CATALYTIC HYDROLYSIS OF FATS. L. I. Janova *et al. Izv. Vysshikh Uchebn. Zavedenii, Pishchevaya Tekhnol.* **1970**(5), 80–2. Thin-layer chromatography on alumina was used to establish the presence of mono- and dicarbonyls, aldo and keto acids, and two unidentified types of carbonyl compounds in the glycerine water. (Rev. Franc. Corps Gras)

4-METHYL STEROLS IN THE UNSAPONIFIABLE FRACTION FROM VEGETABLE OILS. J. Sawicki and F. Mordret (Ecole Sup. d'Appl. des Corps Gras, Paris). *Rev. Franc. Corps Gras* **17**, 685–8 (1970). The presence of methyl sterols, intermediates in the biosynthesis of phytosterols from squalene, was demonstrated in the unsaponifiable fraction of rapeseed, sunflower seed and olive oils. A combination of thin-layer and gas-liquid chromatography was used. These compounds are normal constituents of the unsaponifiables and may be useful for detecting mixtures of oils.

DETERMINATION OF ISOTHIOCYANATES AND VINYLTHIOOXAZOLIDONE IN RAPESEEDS AND RAPESEED MEAL. A. Prevot, C. Bloch and C. Barbati (Inst. Corps Gras, Paris). *Rev. Franc. Corps Gras* **17**, 677–84 (1970). This paper contains a report of interlaboratory correlation trials aimed at choosing a simple, reproducible method for determining ITC and VTO. Three methods were evaluated: the first one used GLC and uv absorption (Youngs and Wetter); the second one used liquid-liquid partition and uv absorption (Appelqvist); and the third, an ISO draft standard, used volumetric analysis and uv absorption. The results were incomplete and no conclusions concerning the methods could be drawn. However, the simple and rapid method of Youngs and Wetter gave the best reproducibility, especially for the ITC determination. Detailed descriptions of each of these methods are given.

ON THE AUTOXIDATION OF METHYL LINOLEATE IN WATER III: CHROMATOGRAPHIC SEPARATION OF WATER-SOLUBLE REACTION PRODUCTS. H. Esterbauer (School of Biochemistry, Univ. Graz, Austria). *Fette Seifen Anstrichmittel* **70**, 1–4 (1968). From the water-soluble reaction products which are formed by the autoxidation of methyl-9,12-linoleate in water, 20 substances were isolated in pure form with the help of adsorption column chromatography. The conditions employed in the isolation of these substances are given in detail.

ON THE AUTOXIDATION OF METHYL LINOLEATE IN WATER IV: ISOLATION AND IDENTIFICATION OF 4-HYDROXY-OCTENAL AND METHYL HYDROXYCAPRYLATE. E. Schauenstein and H. Esterbauer *Ibid.*, 4–8. From the water soluble reaction product formed by the autoxidation of methyl-9,12-linoleate, methyl hydroxycaprylate and 4-hydroxy-2,3-octen-1-al were isolated and from these the ester of 4,4′-nitroazobenzolcarboxylic acid and 2,4-dinitrophenylhydrazones, respectively, were prepared.

FORMATION OF KETONES AND ALDEHYDES DURING THE OXIDATION OF SATURATED TRIGLYCERIDES AT HIGH TEMPERATURES. C. Franzke, J. Strobach and B. Schilling (Humboldt Univ., Berlin). *Fette Seifen Anstrichmittel* **72**, 629–35 (1970). Ketones and aldehydes which are formed during the oxidation of tricaprin and tripalmitin were isolated as 2,4-dinitrophenylhydrazones, separated by thin-layer chromatography and quantitatively analysed by UV-spectrometry.

STUDIES ON TBA-TEST I: ITS RELATIONSHIP TO TEMPERATURE AND APPLICATION TO OXIDATION PRODUCTS OF FATS OBTAINED BY VACUUM DISTILLATION. R. Marcuse (Schwedisches Forschungsinstitut für Lebensmittelkonservierung, SIK, Göteborg). *Fette Seifen Anstrichmittel* **72**, 635–40 (1970). Few conditions involved in the procedure for carrying out TBA-test were investigated in order to determine its scope and limitations. Regarding the development of color for measurement at 530 nm, it was found, that heating at 95C should be preferred to that at a lower temperature in order to avoid the interference due to extinction at 450 nm. As regards the isolation of oxidation products, it was observed that TBA reactive condensates whose extinctions at 530 nm agree well with the course of oxidation, can be obtained by vacuum distillation for 30 min.

DISTILLATIVE DEACIDIFICATION OF FATS AND OILS. H. A. Liebing (GHH-M A. N-Technik, Essen). *Fette Seifen Anstrichmittel* **72**, 640–50 (1970). Based on the general principles of steam distillation, a method and diagrams for calculating the consumption of stripping steam in the distillative deacidification of various types of fats and oils are given. With the example of distillative deacidification of palm oil, it is shown as to how the minimum consumption of stripping steam is obtained in a two-step process. Subsequently, the corresponding determinations for palm kernel, coconut, peanut and rapeseed oils are shown. The operational scheme of a continuous plant for distillative deacidification and deodorization are included.

THE DIMERIZATION OF OLEIC ACID WITH A MONTMORILLONITE CATALYST I: IMPORTANT PROCESS PARAMETERS; SOME MAIN REACTIONS. M. J. A. M. den Otter (Lab. of Chem. Tech., Tech. Univ. Eindhoven, The Netherlands). *Fette Seifen Anstrichmittel* **72**, 667–73 (1970). Some important process parameters, e.g. amount of catalyst, water content, stirring intensity, reaction time and pH of the catalyst were studied in the dimerization of oleic acid using montmorillonite as catalyst. A yield limit seems to exist at about 60% (dimers and trimers). The remaining 40% of the reaction mixture (monomers) contain only small amounts of cis- and trans-

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mono-unsaturated fatty acids, the rest of it being unidentified products, which can hardly be dimerized and can not be hydrogented with palladium on carbon. Infrared spectra of these monomers reveal also the presence of small amounts of γ-stearolactone and an increase in the number of methyl groups, which is probably the result of skeletal isomerization, although structures like $-CH=C(CH_3)-$ are absent. The results indicate that a fairly large amount of saturated fatty acids is formed, most likely by hydrogen transfer. According to this assumption, dienoic acids must also be formed, which are readily dimerized to cyclic dimers. Thus the common assumption, that the dimers of oleic acid obtained by this process are non-cyclic, becomes improbable.

A MICRO METHOD FOR SPECIFIC DETERMINATION OF GLYCERIDES IN LIPID EXTRACTS. U. B. Seiffert. *Mikrochim Acta* **1969**, 456–62. Triglyceride, diglyceride and monoglyceride in extracts from serum or tissue can be estimated specifically by a micromethod. Following extraction with chloroform/methanol, the lipid is separated by thin-layer chromatography, the lipid is taken off the plates by suction with special filter funnels and eluted with dry diethyl ether. The purified lipid is determined by enzymatic glycerol estimation. (World Surface Coat. Abs. No. 341)

ABSORPTION OF REACTANTS ON CATALYST IN THE HYDROGENATION OF FATS. J. W. E. Coenen and H. Boerma (Unilever Res. Lab., Vlaardingen, Netherlands). *Fette Seifen Anstrichmittel* **70**, 8–14 (1968). The selective hydrogenation of fatty oils containing polyenoic fatty acids was studied. In the initial stage of hydrogenation the catalyst surface is predominently occupied by the polyenoic acids. At that stage the monoenoic acids are hardly hydrogenated and the isomerization of the monoenoic acids is largely suppressed. Analysis of the monoenoic acids formed from linoleic acid shows that the reaction product is so composed as if an equimolecular mixture of 9-cis,11-trans- and 10-trans,12-cis isolinoleic acids were taken as starting material. Obviously, the catalyst surface is occupied by the conjugated polyenoic acids.

DETERMINATION OF LIPID CLASSES BY A GAS-CHROMATOGRAPHIC PROCEDURE. W. W. Christie, R. C. Noble and J. H. Moore (The Hannah Dairy Res. Inst., Ayr, Scotland). *Analyst* **95**, 940–4 (1970). Gas chromatography of the component fatty acids with added internal standard was used to determine a wide variety of neutral and polar lipids, after separation by thin-layer chromatography, taking precautions to minimise losses. Results can be expressed in terms of the relative amounts of fatty acids contained by the lipids or the actual weights and molar amounts of the lipid classes can be calculated by applying readily derived factors. The procedure is at least as accurate as others in current use and has the additional merit of allowing simultaneous determination of lipid and fatty acid composition.

• Biochemistry and Nutrition

FAT METABOLISM IN CHILDREN. Jeanette C. Gorman, S. J. Ritchey, R. P. Abernathy, and M. K. Korslund (Dept. of Human Nutr. and Foods, Virginia Polytechnic Inst., Blacksburg, Va.). *J. Am. Dietetic Assoc.* **57**, 513–6 (1970). Fifteen healthy girls, 7–9 years old, were given one of four diets differing in the amounts of protein and calcium, for a period of 30 days. The levels of protein and calcium intake for the diets were: 26 g and 259 mg, 25 g and 618 mg, 46 g and 260 mg, and 46 g and 622 mg, respectively. Feces were collected daily and analyzed for fat content, and blood samples were taken at the beginning and end of the experimental period. The blood was analyzed for serum total and free cholesterol, lipid phosphorus, and triglycerides. The apparent digestibility of the fat and the amount of fecal fat were not influenced by the low to moderate levels of dietary calcium and protein, and no significant changes were observed in the serum lipids which could be attributed to the dietary variables.

EXCRETION OF FAT BY NORMAL, FULL-TERM INFANTS FED VARIOUS MILKS AND FORMULAS. S. J. Fomon, E. E. Ziegler, L. N.

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Thomas, R. L. Jensen and L. J. Filer, Jr. (Dept. of Pediatrics, Univ. of Iowa, Iowa City, Iowa). *Am. J. Clin. Nutr.* 23, 1299–1313 (1970). The present report concerns excretions of fat during 364 3-day metabolic balance studies with 50 infants fed the following milks or formulas ad libitum: processed human milk, homogenized, or evaporated cow's milk, or commercially available or experimental formulas containing butterfat or vegetable oils. Excretions of fat were unexplainably high by infants receiving an experimental soy isolate-based formula with fat provided as a mixture of corn and coconut oils. Otherwise, with few exceptions, excretions of fat by infants fed human milk or formulas with fat supplied as vegetable oils were less than 1 g/kg per day. Excretions of fat by infants fed homogenized cow's milk were in many instances greater than 2 g/kg per day and rarely less than 1 g/kg per day, whereas infants fed evaporated milk without added carbohydrate or a formula with butterfat generally excreted between 1 and 2 g/kg per day. It is suggested that a diagnosis of fat malabsorption in infancy may be established by demonstrating excretions of fat greater than 2 g/kg per day during ad libitum feeding of diets that offer no more than 40% of calories from butterfat or no more than 50% of calories from vegetable oils. It seems inadvisable to feed homogenized milk without added carbohydrate during the early months of life.

DEPRESSION OF RESPIRATORY ACTIVITIES BY FATTY ACIDS IN LIVER MITOCHONDRIA FROM DIABETIC RATS AND HORMONAL REGULATION OF MITOCHONDRIAL FATTY ACIDS. T. Matsubara and Y. Tochino (Shionogi Res. Lab., Shionogi & Co., Ltd., Fukushima-ku, Osaka). *J. Biochem.* (*Tokyo*) 68, 731–36 (1970). Liver mitochondria were prepared from normal, adrenalectomized, thyroidectomized or hypophysectomized rats and the respiratory activities were measured polarographically. The oxidative phosphorylation (P/O ratio) and the respiratory control were not greatly disturbed in the hormone-deficient rats, although the respiratory rates, both in states 3 and 4, were markedly decreased in the thyroidectomized and hypophysectomized rats. By in vivo administration of alloxan to normal rats, the mitochondrial content of non-esterified fatty acids was greatly increased and uncoupling of respiration was elicited, whereas the administration of alloxan to the hormone-deficient rats produced neither hyperlipemia nor fatty liver even in the presence of hyperglycemia, and the free fatty acid content of the liver mitochondria was within the normal range. The respiratory patterns of mitochondria from the hormone-deficient rats were normal even after the administration of alloxan. The efficiency of oxidative phosphorylation and the ratio of respiratory control of mitochondria from these animals were also not altered by the administration of alloxan *in vivo*. These results seem to support the view that the disturbance of respiratory activity of liver mitochondria in diabetic rats may be caused by the elevation of the content of non-esterified fatty acids, and that the fatty acid content in turn may be regulated by the hormones secreted from the adrenal, thyroid and pituitary glands.

IN VITRO CONVERSION OF 7α-HYDROXYCHOLESTEROL TO SOME NATURAL C_{24}-BILE ACIDS WITH SPECIAL REFERENCE TO CHENODEOXYCHOLIC ACID BIOGENESIS. Y. Ayaki and K. Kamasaki (Dept. of Biochem., Tottori Univ. Schl. of Med., Yonago). *J. Biochem* (*Tokyo*) 68, 341–46 (1970). 7α-Hydroxycholesterol-^{14}C was incubated with fortified rat mitochondria and the following C_{24}-bile acids were identified: 3β,7α-dihydroxychol-5-enoic acid, chenodeoxycholic acid and α-muricholic acid. From these and previous data the following new pathway of chenodeoxycholic acid biogenesis is proposed: cholesterol → 7α-hydroxycholesterol → 3β,7α-dihydroxychol-5-enoic acid → chenodeoxycholic acid.

COFACTOR REQUIREMENTS OF THE ENZYME SYNTHESIZING PROSTAGLANDIN IN BOVINE SEMINAL VESICLES. A. Yoshimoto, H. Ito and K. Tomita (Cen. Res. Lab., Ono Pharmaceut. Co., Sakurai, Honmachi, Mishimagun, Osaka-fu). *J. Biochem.* (*Tokyo*) 68, 487–99 (1970). The effects of various cofactors on prostaglandin formation from arachidonic acid by the microsomal enzyme of bovine seminal vesicles were studied. In addition to the known activators, reduced glutathione and hydroquinone, the enzyme system was found to be markedly stimulated by hemoglobin, myoglobin or hemin. From the

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specific effects of these cofactors on prostaglandin formation or oxygen uptake, or both, it seemed that heme compounds and hydroquinone were involved in the step in which molecular oxygen became attached to the unsaturated fatty acids, while reduced glutathione was involved in the subsequent step of reduction of the peroxide-type intermediate. The facts that hydroquinone could be replaced by ascorbate, and that the order of addition of reactants to the system markedly affected both the yield of prostaglandin and the rate of oxygen consumption suggested that a free radical was formed during prostaglandin biosynthesis.

• Drying Oils and Paints

RESINS FROM CARDANOL MODIFIED WITH VINYL MONOMERS. G. N. Tewari and J. S. Aggarwal (Regional Res. Lab., Hyderabad, India). *Paintindia* 20(11), 19–20 (1970). When one mole of cardanol was reacted with 2–3 moles of styrene, methyl methacrylate, methyl acrylate, or styrene-acrylamide mixture in the presence of a peroxide initiator, 90–95% of the monomer entered into the reaction. After treatment with hexamine, the resins generally were clear viscous or semi-solid products. Their films dried without tack in 15–30 minutes and were resistant to water, synthetic sea water and dilute solutions of alkalies and acids, but were very soft. Acrylonitrile and vinyl acetate were less reactive with cardanol under the same conditions.

STUDIES IN FISH OIL ALKYDS. 1. H. A. Bhatt and P. V. Tagdiwala (Dept. of Chem. Technol., Univ. of Bombay). *Paintindia* 20, 19–21, 28 (April, 1970). The performance of alkyds of varying oil lengths prepared from fish oil fatty acids was comparable or slightly superior to that of alkyds prepared from linseed oil fatty acids in terms of drying, adhesion, hardness, gloss, water resistance and flexibility. However, the color of the fish oil alkyds was darker than that of the linseed oil alkyds. The short and medium fish oil alkyds were free from objectionable odor whereas long fish oil alkyds gave a slightly fishy odor during baking. The baked films were odor-free after some ageing.

CHROMATOGRAPHIC SEPARATION OF CASHEWNUT SHELL LIQUID AND ITS PRODUCTS. R. D. Bhople, B. Y. Rao and C. V. N. Rao (Dept. of Chem. Technol., Nagpur Univ., Nagpur, India). *Paintindia* 20, 22–4, 28 (April, 1970). Cashewnut shell liquid and its products were separated on the bases of number of hydroxyl groups and also degree of unsaturation by using silica gel plates successively impregnated with boric acid and silver nitrate. The presence of an unknown compound which appears between cardanol and cardol was confirmed.

STYRENATED RESIN: ITS UTILIZATION IN VARNISHES AND ALKYD RESINS. M. M. Shirsalkar and M. A. Sivasamban (Regional Res. Lab., Hyderabad-9, India). *Paintindia* 20, 25–8 (April, 1970). The styrenation of rosin was studied and its use in oleoresinous varnishes and as a partial replacement of phthalic anhydride in alkyd resins evaluated.

WATER-SOLUBLE LINSEED OIL CURING AGENT FOR CONCRETE. A. E. Rheineck and R. A. Heskin. *J. Paint Tech.* 42 No. 544, 299–307 (1970). A series of water-soluble, linseed oil-based, liquid curing membranes for application to wet, freshly poured concrete was evaluated for moisture retention characteristics as compared with polyethylene sheeting. A modified ASTM test was used to screen a number of coating compositions. Briquettes were coated with each vehicle immediately after setting. Tensile and moisture retention determinations run at 7 and 28 days showed a relationship between tensile tests and moisture retention. (World Surface Coat. Abs. No. 341)

PREPARATION OF CRYSTALLINE LINOLEATE HYDROPEROXIDE FOR DRYING OIL RESEARCH. W. J. Bailey and G. L. Barlow. *J. Paint Tech.* 42 No. 544, 287–98 (1970). Crystalline *p*-phenylphenacyl linoleate was prepared and oxidised and through crystallisation procedures 99% *p*-phenylphenacyl linoleate hydroperoxide was isolated and verified by I.R. and nuclear magnetic resonance spectral analysis and other analytical methods. A method is given for producing experimental quantities of this hydroperoxide for drier studies and reaction studies of oils and resins. (World Surface Coat. Abs. No. 341)

DIMER ACIDS IN COIL COATINGS. J. J. Raispis. *Am. Paint J.* 1970, 54 No. 46, 11–2. A report of a lecture in which the use of dimer acids in alkyds and polyesters designed for coil coating application was described. (World Surface Coat. Abs. No. 341)

• Detergents

DETERGENT MATERIALS FROM PETROCHEMICALS. G. Schneider. *Soap Chemical Specialties* 46(11), 56–64 (1970). Production and properties of various components of detergents are reviewed. These include alcohols, α-olefin sulfonates, and secondary alkane sulfonates.

THE STORY OF HEXACHLOROPHENE. *Soap Chemical Specialties* 46(10), 58–62, 118–19 (1970). A review of the action and uses of this antibacterial agent.

JAPANESE DETERGENT, SOAP OUTPUT. *Soap Chemical Specialties* 46(10), 66–8 (1970). Soap and detergent production is tabulated as well as consumption of various ingredients for the years through 1969.

WORLD SOAP, DETERGENT PRODUCTION. *Soap Chemical Specialties* 46(9), 40–4, 139 (1970). World production and consumption of soaps, detergents, and cleaning agents in 1969 is tabulated by country. The total increased by 4.3% over 1968 to 16.1 million metric tons. Soap output was off 0.8% as detergents rose by 9%.

PHARMACEUTICAL AND MEDICINAL SOAPS. R. Navarro (Klorane-Castres Labs.). *Rev. Franc. Corps Gras* 17, 673–6 (1970). The author briefly discusses the action, composition, development, and marketing of this type of soap.

PRESENT AND FUTURE FOR DETERGENT TOILET BARS AND SOAP-DETERGENT TOILET BARS. A. Uzzan (Documentation Service,

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Armour Has New Division

J. H. Gardner, president of Armour Industrial Chemical Company, recently announced that the Company has established a new division to develop application-oriented markets for industrial chemicals. K. M. Bierman, AICC vice president, became general manager of the new Performance Chemicals Division. He was formerly manager of all domestic operations of the Company.

G. F. Smitskamp, AICC vice president, under the new plan of organization is responsible for the Company's business in North and South America. He was formerly manager of all operations outside the United States.

The Performance Chemicals Division, Dr. Gardner said, will sell solutions to user problems, employing Armour Chemical technology and developing applications for Armour specialty chemicals.

The origins of Armour Industrial Chemical were in the early nineteen twenties, deriving from the development of the first continuous fractional distillation units for separating fatty acids and the first commercial production of nitrogen derivatives of fatty acids. Armour today is the world's largest producer of aliphatic nitrogen chemicals.

The Company's headquarters are at 111 East Wacker Drive, Chicago. Foreign affiliates and subsidiaries are located in the United Kingdom, Canada, Italy, Japan, Mexico and Belgium.

Deselex, New Detergent Base

Addition of a new patented chemical to a low cost detergent formulation produces equivalent results to the phosphate-built detergents according to the Guardian Chemical Corporation of Hauppauge, New York, the manufacturer of the product.

Deselex, a new detergent builder, increases the cleaning power of detergents and soaps, at comparable cost to the phosphates, without the nutrient value to algae or slimes which are causing damage to lakes and rivers.

Independent laboratory tests have shown that Deselex, diluted with large amounts of inexpensive sodium sulfate, produces the same results in laundry tests as detergents loaded with 50% of phosphates.

"These tests have demonstrated conclusively that Deselex is equal to the phosphates and superior to NTA in its action on a dollar for dollar basis," says A. R. Globus, Director of Research of Guardian Chemical Corporation. "We are now getting ready to make Deselex available on a commercial scale to the soap and detergent market."

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ITERG, Paris). *Rev. Franc. Corps Gras* 17, 667–72 (1970). In the late 1950's, the future of detergent toilet bars appeared quite promising, but this promise was not borne out. Although the detergent toilet bars have some advantages, many drawbacks and difficulties are present which limit their market. The author discusses these factors, describes some of the products on the market, and predicts the growth of this market in the 1970's.

ANALYTICAL CONTROL OF THE PROPERTIES OF TOILET SOAPS. J. P. Wolff (Wolff Labs., Paris). *Rev. Franc. Corps Gras* 17, 659–65 (1970). With gas chromatography it is possible to identify the fatty acids during manufacture of the soap and to explain the mechanism of blooming. The study of the short chain acids may yield valuable information about the quality of the raw material. In recent years, however, much emphasis has been placed on the study of the minor constituents. Examples of these studies are: trace metals, superfatting agents, bacteriocides and perfumes.

The Federal Trade Commission Discusses Enzymes in Detergents

Representatives of the Federal Trade Commission, the Special Assistant to the President for Consumer Affairs and the Commissioner of the Food and Drug Administration met January 25 with members of the detergent industry and discussed scientific studies to determine whether the presence of enzymes in detergents constitutes a health hazard.

It was agreed that the Food and Drug Administration would contract with the National Academy of Sciences/National Research Council to proceed with a comprehensive review of test data and other information regarding the safety of enzyme laundry products.

The industry's offer to pay for the review by the NAS/NRC was declined because NAS/NRC believed that such funding by private sources would be inappropriate.

FTC Chairman M. W. Kirkpatrick advised that the Commission's investigation of possible dangers to the public from using enzyme detergent was continuing, and he reaffirmed the position that any action the Commission might take based on its investigation would be independent of and unrelated to the present discussions with the industry.

The American Academy of Allergy in cooperation with the industry and FDA is continuing to develop a testing protocol designed to provide insight into whether there is any long-term hazard of consumer sensitization to enzymes through the use of enzyme detergents.

T. M. Welton Elected New SDA Chairman; Bueltman Succeeds Pattison as President; Vice Presidencies for Brenner, Singer

T. M. Welton, President of Calgon Corporation, was elected Chairman and chief executive officer of The Soap and Detergent Association, at the close of the SDA's 44th Annual Convention. He follows B. L. Flynn, Purchasing Vice President, Commodities and Materials, Lever Brothers Company, who had been Chairman for the past two years.

The SDA Board of Directors also announced the election of C. G. Bueltman as President and chief operational officer. He succeeds E. S. Pattison, who will retired from that post on January 31, after 20 years' service with the Association. Mr. Bueltman will also serve as the Association's Secretary.

Two staff members were elected as officers: T. E. Brenner, as Vice President and Technical Director, and R. C. Singer, as Vice President and Public Affairs Director.