

# SUBJECT INDEX

## INDUSTRIAL AND ENGINEERING CHEMISTRY

### ANALYTICAL EDITION

VOLUME 14—1942

#### A

- Acid-Base Indicator, Sodium Salt of Quinizarin-6-sulfonic Acid as. J. H. Green.....  
 Acid Microdetection by New Procedure. Fritz Feigl and P. E. Barbosa (*See also kind of acid.*)  
 Adsorption Analysis, Chromatographic Type of. H. H. Strain.  
 Adsorption of Gases Studied by New Technique. James Coull, H. C. Engel, and Joseph Miller.  
 Agar-Agar as Barium Sulfate Coagulant. E. J. Bogan and H. V. Moyer.....  
 Agitation. *See* Stirring.  
**ALCOHOLS**  
 Aliphatic, Determination of Limitations and Sensitivity of Komarowsky Color Reaction for. H. W. Coles and W. E. Tournay.....  
 Zerewitinoff Determination Applied to Lower Series of. William Hollyday and D. L. Cottle.....  
 Copper and Iron Microdetermination in Distilled Liquors by Photometric Method. Louis Gerber, R. I. Claassen, and C. S. Boruff.....  
 Ethyl  
 Determination in Distilled Liquors, by Volume. Sources of Error. L. C. Cartwright.....  
 -Methanol-Water System, Analysis of. John Griswold and J. A. Dinwiddie.....  
 Microdetermination in Blood and Urine by Diffusion. Theodore Winnick.....  
 Identification by Optical Properties of Carbanilic Acid Esters. B. T. Dewey and N. F. Witt.....  
 Aldehyde Reagent of Schiff for Free Aldehyde Group in Aldoses. W. C. Tobie.....  
 Aldoses. *See preceding item.*  
 Aliphatic Alcohols. *See* Alcohols.  
 Alkali Determination in Water Supplies, Slide Rule for. A. A. Hirsch.  
 Alkaloids from Cinchona and Their Salts. Optical Activity in Water-Ethanol Mixtures. J. C. Andrews.....  
 Alkaloids. Ergometric-Ergometricine Separation by Immiscible Solvents, Graphical Method for. L. F. Knudsen and D. C. Grove.  
 Alkoxy Microdetermination in Cellulose Ethers. E. P. Samsel and J. A. McHard.....  
**ALLOYS**  
 Bronze with Aluminum and Manganese Contents, Determination of Aluminum in. A. C. Holler and J. P. Yeager.....  
 Dental, Gold Detection in, by Electrography Method. J. A. Calamari, Robert Hubata, and P. B. Roth.....  
 of Indium Analyzed. C. W. Hopkins.....  
 of Magnesium, Aluminum Determined in, by Gravimetric Benzoate-Oxine Method. V. A. Stenger, W. R. Kramer, and A. W. Beshgetoor.....  
 of Nickel-Based Electrical Heat-Resisting Type Analyzed for Silicon, Manganese, Chromium, Iron, and Copper. Louis Silverman.....  
 Tin-Base Bearing Metal Analysis. Antimony and Copper by Permanganate and Iodometric Methods. J. R. Andrews and A. J. Bender.....  
 Titanium and Similar Metals Determined in, by Mercury Cathode Method. M. H. Steinmetz.....  
 Aluminum Determination in Bronzes with Manganese and Aluminum Contents. A. C. Holler and J. P. Yeager.....  
 Aluminum Determination in Magnesium Alloys by Gravimetric Benzoate-Oxine Method. V. A. Stenger, W. R. Kramer, and A. W. Beshgetoor.....  
 Amalgam Reductors, Liquid, Simplified Technique in Use of. G. F. Smith and L. T. Kurtz.....  
 4-Amino-2-methyl-1-naphthol. *See* Vitamin K.  
**AMMONIA**  
 -Copper Color System, Stability of. J. P. Mehlig.....  
 Determination by Conductometric Method. R. H. Hendricks, M. D. Thomas, Myron Stout, and Bion Tolman.....  
 Determination by Diffusion Method. A. N. Prater, E. J. Cowles, and R. P. Straka.....  
 Microvolatilization, Effect of Formaldehyde on. G. J. Benoit, Jr., and E. R. Norris.....  
 for Nickel Determination by Colorimetric Spectrophotometric Method. J. P. Mehlig.....  
 -Nitrous Oxide Mixture. Microanalysis of Gases. R. N. Smith and P. A. Leighton. (*See also* Kjeldahl under Nitrogen.)  
 Amperometric Research with Polarograph. O. H. Müller.....  
 Amperometric Titrations. Phosphate with Uranyl Acetate. I. M. Kolthoff and Gunther Cohn.....  
 Amytal Derivatives, Optical Crystallographic Study of. M. E. Hultquist, C. F. Poe, and N. F. Witt.....  
 Andrews Procedure. *See* Iodine Monochloride.  
**ANILINE POINT DETERMINATIONS**  
 with Dark-Colored Oils. Circulating Test Tube. A. A. Williams and E. W. Dean.....  
 of Dark Petroleum Oils. B. B. Carr and M. S. Agruss.....  
 for Hydrocarbon Solvents. Mixed Aniline Points. B. H. Shoemaker and J. A. Bolt.....  
 Animal Tissues, Nicotinic Acid Extraction and Assay from. Comparison of Micromethods. V. H. Cheldelin and R. R. Williams. (*Correction*, 822).

- Anthraquinone-1,8-disulfonic Acid Microestimation in Presence of 1,5-Isomer and Anthraquinone  $\beta$ -Sodium Sulfonate in Presence of  $\alpha$ -Isomer. William Seaman, A. R. Norton, and Charles Maresh.....  
 Anthraquinone  $\beta$ -Sodium Sulfonate. *See preceding item.*  
 Antifreeze. Ethanol-Methanol-Water System, Analysis of. John Griswold and J. A. Dinwiddie.....  
 Antimony Determination by Dichromate-Ferrous Sulfate Method. R. B. Neill.....  
 Antimony Determination by Permanganate and Iodometric Methods. Analysis of Tin-Based Bearing Metal. J. R. Andrews and A. J. Bender.....  
 Arc, Spectrographic, Electrical Ignition of. F. G. Brockman and F. P. Hochgesang.....  
**ARSENIC MICRODETERMINATION**  
 after Arsenic Evolution, by Colorimetric Method. E. B. Sandell.....  
 by Arsine-Molybdenum Blue Colorimetric Method. M. B. Jacobs and Jack Nagler.....  
 in Biological Material by Polarographic Method. Karl Bambach.....  
 in Organic Compounds by Iodometric Semimicromethod. H. A. Sloviter, W. M. McNabb, and E. C. Wagner.....  
 in Tissue. Emily Cahill and Louise Walters.....  
 Arsine. *See* Arsenic.  
 Ascorbic Acid. *See* Vitamins.  
**ASH**  
 Determination in Coals Unusually High in Calcite and Pyrite. O. W. Rees and W. A. Selvig.....  
 Magnesium Acetate as Ashing Agent in Fluorine Analysis. W. E. Crutchfield, Jr.....  
 in Oils, Reduced with Boric Acid. E. T. Scafe, K. F. Hayden, and V. A. Kalichevsky.....  
 Asphalt Consistency Determined in Rotary Viscometer. R. N. Traxler, J. W. Romberg, and H. E. Schweyer.....  
 Asphalt. Oxidation Stability of Road Asphalts Measured. A. P. Anderson, F. H. Stross, and A. Ellings.....  
 Azotometer. *See* Nitrogen.

#### B

- Balance, Automatic Recording. Philip Ewald.....  
 Balance for Film Research in Biological and Food Analysis. G. E. Boyd and W. D. Harkins.....  
 Barbiturates. Amytal, Pentobarbital, and Dial Derivatives, Optical Crystallographic Study of. M. E. Hultquist, C. F. Poe, and N. F. Witt.....  
 Barium Carbonate Decomposition Temperature. M. L. Nichols and R. H. Lafferty, Jr.....  
 Barium Sulfate, Agar-Agar as Coagulant for. E. J. Bogan and H. V. Moyer.....  
 Base Detection in Slightly Soluble Materials. Fritz Feigl and C. P. J. da Silva.....  
 Baths of Hot Water, Constant-Level Device for. B. W. Pocock.....  
 Beakers, Micro-. Heating Device for. C. R. Noller.....  
 Bedding, Cotton Filling in. Detection of Second-Hand Material. C. M. Jephcott and W. H. H. Bishop.....  
 Beer. *See* Beverages, Alcoholic.  
 Bellows Pump. *See* Pump.  
 Benzaldehyde Assay with Hydroxylammonium Sulfate and Aqueous Sodium Hydroxide. Marcell Schubert and J. G. Dinkelspiel. (*Correction*, 313).  
 Benzene Determination in Presence of Cyclohexane. B. B. Corson and L. J. Brady.....  
 Benzo Fast Yellow 5GL, a Dye Sensitive to Copper. E. I. Stearns.....  
 Benzoquinomine for Copper Microtitration by Amperometric Method. Alois Langer.....  
**BEVERAGES, ALCOHOLIC**  
 Beer, Copper Traces Determined in. Irwin Stone.....  
 Distilled Liquors, Alcohol Determination in, by Volume. Sources of Error. L. C. Cartwright.....  
 Distilled Liquors, Copper and Iron Microdetermination in, by Photometric Method. Louis Gerber, R. I. Claassen, and C. S. Boruff.....  
 Bile Preparations, Carbonyl Determination in. A. E. Light.....  
**BIOLOGICAL AND FOOD RESEARCH, NEW ANALYTICAL TOOLS FOR, Symposium**  
 Chromatographic Adsorption Analysis. H. H. Strain.....  
 Film Balance. G. E. Boyd and W. D. Harkins.....  
 High-Vacuum Still in Medicine. K. C. D. Hickman.....  
 Noyons Thermic Diaferometer Modified for Respiratory Gas Analysis. T. M. Carpenter and V. S. Coropatchinsky.....  
 Polarograph. O. H. Müller.....  
**BIOLOGICAL MATERIAL**  
 Arsenic Microdetermination in, by Polarographic Method. Karl Bambach.....  
 Pentachlorophenol Estimation in. Wilhelm Deichmann and L. J. Schafer.....  
 Phosphorus Determination in, by Colorimetric Method. R. A. Koenig and C. R. Johnson.....  
 Phosphorus Microdetermination in, by Indirect Polarographic Method. Adolf Stern.....  
 Riboflavin Microdetermination in, Preparation of Samples. F. M. Strong and L. E. Carpenter. (*See also* kind of biological material.)

2,2'-Bipyridyl for Iron Determination by Colorimetric Method. M. L. Moss with M. G. Mellon.....	862	Determination of Small Amounts of Combined Sulfur. C. J. Malm and L. J. Tanghe.....	940
Bismuth Determination as Caffeine Tetraiodobismuthate (III) by Volumetric Method. R. S. Beale and G. C. Chandee.....	43	Deterioration by Fungi Determined. G. A. Greathouse, D. E. Klemme, and H. D. Barker.....	614
Bismuth. Lead Microdetermination by Dithizone with Improved Lead-Bismuth Separation. Karl Bambach and R. E. Burkey.....	904	Semimicrodetermination in Raw Cotton Fiber. J. H. Kettering and C. M. Conrad.....	432
<b>BLOOD</b>		Cellulose Ethers, Alkoxy Microdetermination in. E. P. Samsel and J. A. McHard.....	750
Bromide Microestimation in, as Pentabromorosaniline. W. J. Turner.....	599	Cement, Portland, Nomograph for Computing Compound Composition of. Benjamin Janer.....	550
Determination in Packing-House By-products. Raymond Reiser and G. S. Fraps.....	851	Centrifuge, Super-, in Colloidal-System Fractionation. Selection of Operating Conditions. George Fancher, S. C. Oliphant, and C. R. Houssiere, Jr.....	552
Divinyl Ether Analysis in. W. L. Ruigh.....	32	Centrifuge Tubes, Micro-, Heating Device for. C. R. Noller.....	834
Ethanol Determination in, by Microdiffusion. Theodore Winnick.....	523	Ceramics, Gold Coating Thickness Measured on. K. H. Ballard.....	868
Nitrate Determination in, by Polarographic Method. E. W. Scott and Karl Bambach.....	136	<b>CEREALS</b>	
Separation from Serum, Flask for. F. E. Holmes and Barbara Johnson.....	62	Nicotinic Acid Content of, by Microbiological Assay. J. S. Andrews, H. M. Boyd, and W. A. Gortner.....	663
Boiler Water. <i>See</i> Water.		Riboflavin Microbiological Analysis of. J. S. Andrews, H. M. Boyd, and D. E. Terry.....	271
Bomb, Rotating, for Determination of Critical Temperatures. V. N. Ipatieff and G. S. Monroe.....	171	Riboflavin Microbiological Determination in, Preparation of Samples. F. M. Strong and L. E. Carpenter.....	909
Bomb, Rotating, for Determination of Gas Solubilities at High Temperatures and Pressures. V. N. Ipatieff and G. S. Monroe.....	166	Ceric Sulfate for Hydrazine Determination with Ferricyanide. C. J. Dernbach with J. P. Mehlig.....	58
Boric Acid for Ash Reduction in Residual Oils. E. T. Scafe, K. F. Hayden, and V. A. Kalichevsky.....	923	Ceric Sulfate in Iron Determination, Using Molybdisilicic Acid Method. A. C. Titus and C. W. Sill.....	121
Bromate Determination in Presence of Cupric Salts. E. H. Swift and T. S. Lee.....	466	Cerium Determination with Ozone. H. H. Willard and L. L. Merritt, Jr.....	486
<b>BROMIDE DETERMINATION</b>		Chloride, Bromide Estimation in Presence of. Marvin Lane.....	149
in Foods Fumigated with Methyl Bromide. Total and Inorganic Bromide. S. A. Shrader, A. W. Beshgetoor, and V. A. Stenger.....	1	Chloride Determination in Crude Oil. C. A. Neilson, J. S. Hume, and B. H. Lincoln.....	464
Micro-, as Pentabromorosaniline. W. J. Turner.....	599	Chlorine Determination in Organic Halogen Compounds. P. J. Elving and W. B. Liggett.....	449
in Presence of Chlorides. Marvin Lane.....	149	Chlorophylls <i>a</i> and <i>b</i> Determined in Plant Extracts. C. L. Comar, Hixson and A. H. Tenney.....	877
in Presence of Other Halides. P. L. Kapur, M. R. Verma, and B. D. Khosla.....	157	Chlorosulfonic Acid Purification, Distillation Apparatus for. A. W. Hixon and A. H. Tenney.....	345
by Titration with Mercuric Nitrate Solution, Using Diphenyl Carbazide Indicator. H. R. McCleary.....	31	Choline Determination by Photometric Modification of Beattie's Method. M. H. Thornton and F. K. Broome.....	39
Bromine Determination in Organic Halogen Compounds. P. J. Elving and W. B. Liggett.....	449	Chromatographic Adsorption Analysis. H. H. Strain.....	245
Bromine, Organic, Decomposition by Lime-Fusion Quantitative Micromethod. W. M. MacNevin and G. H. Brown.....	908	Chromatographic Tubes, Removal of Adsorbents from. John Turkevich.....	792
Bromometric Titrations, Fluorescein as Indicator in. F. L. Hahn.....	571	Chromic Acid, pH of Solutions Measured by Glass Electrode. W. H. Hartford.....	174
Bronze. Aluminum Determination in Manganese and Aluminum Bronzes. A. C. Holler and J. P. Yeager.....	719	Chromium Analysis in Nickel-Base Alloys. Louis Silverman.....	554
<b>BURET</b>		Chromium Steels, Titanium Determined in, by Routine Colorimetric Method. Louis Silverman.....	791
Glass Assembly. T. F. Lavine.....	739	Cinchona Alkaloids and Salts. Optical Activity in Water-Ethanol Mixtures. J. C. Andrews.....	543
Microcalibration Apparatus for. W. R. Thompson.....	268	Cinchonidine, Cinchonine. <i>See preceding item</i> .	
Micro-, Evaporation of Standard Solution from Tips of. A. A. Benedetti-Pichler and Sidney Siggia.....	662	Citric Acid Determination in Milk and in Pure Solutions by Penta-bromoacetone Method. E. F. DeSeyher and G. E. Holm.....	4
Butadiene Analysis, Automatic Leveling Bulb Lifter for. W. R. Atwater.....	954	Citrus Juice, Vitamin C Determination in, by Potentiometric Method. J. B. Ramsey and E. L. Collichman.....	319
Butane, Ethylene Analysis in Presence of. J. J. Eberl.....	853	Cloud Point of Varnish-Resins in Drying Oils. P. O. Powers.....	387
cis-2-Butene Vapor Pressure, Boiling Point, and Olefin Content. Micromethod for Identification of Volatile Liquids. S. W. Benson.....	189	<b>COAL</b>	
Butter, Salt Distribution in, by Volumetric Micromethod. C. L. Ogg, I. B. Johns, W. H. Hoecker, and B. W. Hammer.....	285	Ash Determination in, Containing Large Amounts of Calcite and Pyrite. O. W. Rees and W. A. Selyig.....	209
<b>C</b>		Fusain Determination in Illinois Coal. Chemical and Petrographic Methods. B. C. Parks, G. W. Land, and O. W. Rees.....	303
Cadmium, Pyrophosphate Determined by Precipitation with. Gunther Cohn and I. M. Kolthoff.....	886	Moisture Determination in, with New Equipment. O. W. Rees and K. F. Bursack.....	729
Caffeine Tetraiodobismuthate (III), Bismuth Determination as, by Volumetric Method. R. S. Beale and G. C. Chandee.....	43	Sulfur Determination in, by Volumetric Method. S. S. Tomkins.....	141
<b>CALCIUM</b>		<b>COBALT</b>	
Determination in Presence of Magnesium by Standard Soap Solution, Titration Method. J. W. Polksky and E. C. Feddern.....	644	Determination by Colorimetric Method. R. J. DeGray and E. P. Rittershausen.....	858
Determination without Reprecipitation, by Accurate Method in Presence of Aluminum, Iron, Magnesium, Manganese, Phosphorus, Sodium, and Titanium. W. H. McComas, Jr., and William Riceman III.....	929	Determination in Presence of Manganese by Photometric Methods. Louis Waldbauer and N. M. Ward.....	727
Strong Ion Determination in Presence of. P. B. Stewart and K. A. Kobe.....	298	Microdetermination with <i>o</i> -Nitrosophenol by Colorimetric Method. Georg Cronheim.....	
Calcium Carbonate in Water Supplies. Slide Rule for Equilibrium Problems in Corrosion Control. A. A. Hirsch.....	178	Separation from Iron by Phosphate. Victor North and R. C. Wells.....	445
Calcium Phosphate, Di-, Activated for Carotene Determination by Chromatographic Method. L. A. Moore.....	707	Coconut Carbons, Gas-Adsorbing Qualities Evaluated by Heats of Wetting. H. W. Stone and R. O. Clinton.....	859
Calibration Microapparatus for Pipets, Volumetric Flasks, and Burets. W. R. Thompson.....	268	Coke, Sulfur Determination in, by Volumetric Method. S. S. Tomkins.....	141
Cannabinol Compounds in Marijuana Resin, Analytical Classes of. C. C. Fulton.....	407	Colloids, Fractionation of Systems of. Operating Conditions for Supercentrifuge. George Fancher, S. C. Oliphant, and C. R. Houssiere, Jr. (Correction, 781).....	552
Carbanilic Acid Esters, Alcohol Identification by Optical Properties of. B. T. Dewey and N. F. Witt.....	648	<b>COLOR</b>	
<b>CARBON</b>		Indicators, End Point of Microtitrations with. A. A. Benedetti-Pichler and Sidney Siggia.....	828
Activated, for Adsorption of Gases, Studied by New Technique. James Coull, H. C. Engel, and Joseph Miller.....	459	of Opaque Objects Recorded. M. E. Stansby and J. A. Dassow.....	13
from Coconut. Gas-Adsorbing Qualities Evaluated by Heats of Wetting. H. W. Stone and R. O. Clinton.....	131	Photoelectric, for Petroleum-Product Description and Measurement. I. M. Diller, R. J. DeGray, and J. W. Wilson, Jr.....	607
and Hydrogen Semimicrodetermination in Gas-Fired Furnace. H. A. Pagel.....	764	<b>COLUMNS</b>	
Microdetermination in Iron and Steel of Low Carbon Content. Low-Pressure Combustion Method. L. A. Wooten and W. G. Guldner.....	835	Flow Divider of Tilting Arc Type for Reflux Ratio Control. Samuel Palkin and S. A. Hall.....	901
Semicromicdetermination Using Van Slyke-Folch Oxidation Mixture. R. M. McCready and W. Z. Hassid.....	805	Head for Distillation. Amos Turk and Alfred Matuszak.....	72
Carbon Dioxide Generator. J. A. Johnston.....	943	Oil Manometer-Manostat to Control Throughput of. S. A. Hall and Samuel Palkin.....	652
Carbonate Determination in Water Supplies. Slide Rule for Carbonate Equilibria and Alkalinity. A. A. Hirsch.....	42	Rectifying, for Low-Temperature Work. E. O. Ramler and J. H. Simons.....	430
Carbonyl Determination in Bile Preparations. A. E. Light.....	635	for Stripping Solvents from Extracted Oils. F. H. Smith and E. Hawkins.....	255
Carboxyl Estimation in Starches Modified by Oxidation. L. H. Elizer. Carotene. <i>See</i> Vitamins.	391	for Terpene Fractionation. W. D. Stallcup, R. E. Fugitt, and J. E. Hawkins.....	503
Carotenoid Assay for Provitamin A. G. Mackinney, S. Aronoff, and B. T. Bernstein.....	798	for Vacuum Fractionation, Concentric Tube Type. S. A. Hall and Samuel Palkin.....	807
Carotenoid Determination in Corn Grain by Spectrophotometric Method. J. W. White, Jr., A. M. Brunson, and F. P. Zscheile.....	872	Concentration Apparatus for Dialysis and. C. C. Smith and C. D. Stevens.....	348
Casein Determination in Skim Milk by Refractometric Method. J. G. Breerton and P. F. Sharp.....	585	Concentration Apparatus for Solution under Reduced Pressure. B. L. Davis.....	548
Catalase Determination in Simplified Apparatus. R. R. Thompson.....	109	Condensers of Reflux Type, Support for. E. J. Benne.....	264
Cathode of Mercury for Determining Titanium and Similar Metals in Alloys. M. H. Steinmetz.....	202	<b>COPPER</b>	
<b>CELLULOSE</b>		-Ammonia Color System, Stability of. J. P. Mehlig.....	903
from Cotton. Viscosity Determination in Dimethyl Dibenzyl Ammonium Hydroxide. W. W. Russell and L. N. Hood, Jr.....	292	Cupric, Iodate and Other Oxidizing Agents Determined in Presence of. E. H. Swift and T. S. Lee.....	466
Derivatives		Determination in Nickel-Base Alloys. Louis Silverman.....	554
Analysis of Cellulose Mixed Esters by Partition Method. C. J. Malm, G. F. Nadeau, and L. B. Genung.....	292	in Oxidized Form. R. S. Young and D. G. M. Graham.....	787
Determination of Free Hydroxyl Content. C. J. Malm, L. B. Genung, and R. F. Williams, Jr.....	935	by Permanganate and Iodometric Methods. Analysis of Tin-Bearing Metal. J. R. Andrews and A. J. Bender.....	713
		with 8-Quinoliniccarboxylic acid. J. R. Gilbreath and H. M. Haendler.....	866
		Reduced by Sugars. Ceric Sulfate as Volumetric Reagent. A. H. Best, A. H. Peterson, and H. M. Sell.....	145

in Steels by Electrodeposition. Louis Silverman, William Goodman, and Dean Walter.....	236	Preparation of Diphenylthiocarbazide and. Oliver Grummitt and Ralph Stickle.....	953
in Wort, Beer, and Yeast. Irwin Stone.....	479	Divinyl Ether. <i>See</i> Ether.....	
Dye (Benzol Fast Yellow 5GL) Sensitive to Presence of. E. I. Stearns.....	568	Doctor Solution, Thiosulfate Determination in, after Use. Karl Uhrig and Harry Levin.....	547
Microdetermination		Drop Reactions for Orthophosphate Microdetection. P. W. West and Thomas Houtman.....	597
in Distilled Liquors by Photometric Method. Louis Gerber, R. I. Claassen, and C. S. Boruff.....	364	Drugs of Sulfa Type. Sulfanilamide, Sulfapyridine, Sulfathiazole, Sulfaguanidine, and Sulfadiazine Assayed, Differentiated, and Identified. J. A. Calamari, Robert Hubata, and P. B. Roth.....	534
Separation from Lead and Zinc with Salicylaldoxime. L. P. Biefeld and W. B. Ligett.....	359	Dryer with Temperature and Humidity Control for Chemical Engineering Laboratory. R. M. Schaffner and James Coull.....	590
Titration with Benzoinoxime by Amperometric Method. Alois Langer.....	283	Drying Rates of Thin Films Determined. George Rieger and C. S. Grove, Jr.....	326
<b>CORN</b>		Dumas Method. <i>See</i> Nitrogen.....	
Carotenoid Determination in Yellow Corn Grain by Spectrophotometric Method. J. W. White, Jr., A. M. Brunson, and F. P. Zacheile.....	798	Du Pont Nitrometer. <i>See</i> Nitrometer.....	
Frozen, Determining Maturity of. Method for Whole Kernels. F. A. Lee, Domenic DeFelice, and R. R. Jenkins.....	240	Dye, Benzol Fast Yellow 5GL, Sensitive to Copper. E. I. Stearns.....	568
Oil. Column for Stripping Solvents from Extracted Oils. F. H. Smith.....	255	Dyestuff Indicators for Iodate-Iodine Monochloride Procedures of Andrews. G. F. Smith and C. S. Wilcox.....	49
Sugar '70" or '80", Moisture Determination in. J. E. Cleland and W. R. Fetzer.....	124		
<b>CORROSIVE-LIQUID DISTILLATION APPARATUS</b>	345		
Purification of Chlorosulfonic Acid. A. W. Hixson and A. H. Tenney.....			
<b>COTTON</b>			
Cellulose Semimicrodetermination in Raw Fiber. J. H. Kettering and C. M. Conrad.....	432	<b>E</b>	
Filling for Bedding and Upholstery. Detection of Second-Hand Material. C. M. Jephcott and W. H. H. Bishop.....	400	Egg Solids Determined with Enzymes by Refractometric Method. W. M. Urbain, I. H. Wood, and R. W. Simmons.....	231
Viscosity Determination in Dimethyl Dibenzyl Ammonium Hydroxide. W. W. Russell and L. N. Hood, Jr.....	202	<b>ELECTRODES</b>	
Crucibles of Porcelain Cleaned. J. E. D. Carwardine.....	533	of Carbon, for Spectroscopic Analysis, Cutting Device for. E. S. Hodge.....	260
Crystalline Solids. Diffraction Data for Cubic Isomorphs. L. K. Frevel.....	687	Dropping Mercury	
Crystalline Solid Surfaces, Vapor Adsorption by. D. M. Gans, U. S. Brooks, and G. E. Boyd.....	396	Calibration Simplified. J. J. Lingane.....	655
Crystallization, Apparatus for Filtration and, at Low Temperatures. F. W. Quackenbush and H. Steenbock.....	736	Construction of. G. J. Kahan.....	549
Crystallization. Apparatus for Repeated Crystallizations from Solvents. J. D. Piper, N. A. Kerstein, and A. G. Fleiger.....	738	for Oxygen Dissolved in Sewage. R. S. Ingols.....	256
Cupric Salts. <i>See</i> Copper.....	189	for Polarographic Analysis. R. C. McReynolds.....	538
Cutter for Spectroscopic Electrodes. E. S. Hodge.....	531	of Glass, for pH of Chromic Acid Solutions. W. H. Hartford.....	174
Cyclobutane Vapor Pressure, Boiling Point, and Olefin Content. Micromethod for Identification of Volatile Liquids. S. W. Benson.....		of Glass, as Reference Electrode in Electrometric Titrations. Louis Lykken and F. D. Tuemmler.....	67
Cyclohexane, Benzene Determination in Presence of. B. B. Corson and L. J. Brady.....		Electrolytes, Water Wave Elimination in Polarographic Analyses at Relatively High Indifferent Concentrations of. I. M. Kolthoff and E. F. Orlemann.....	
<b>D</b>		Electronic Relays. Sutton Redfern. (Correction, 502)	321
<b>DAIRY PRODUCTS</b>		End Point on Titration Curves Located. Alois Langer and D. P. Stevenson.....	64
Butter, Salt Distribution in. Volumetric Micromethod. C. L. Ogg, I. B. Johns, W. H. Hoecker, and B. W. Hammer.....	285	Enzyme Catalase Determined in Simplified Apparatus. R. R. Thompson.....	770
Casein Determination in Skim Milk by Refractometric Method. J. G. Brereton and P. F. Sharp.....	872	Enzymes for Egg-Solids Determination by Refractometric Method. W. M. Urbain, I. H. Wood, and R. W. Simmons.....	585
Oxygen Dissolved in, Measured by Voltammetric Method. G. H. Hartman and O. F. Garrett.....		Ergot Alkaloid Separation by Immiscible Solvents Studied by Graphical Method. Ergometrine and Ergometrinine. L. F. Knudsen and D. C. Grove.....	231
Decomposition Temperatures of Analytical Precipitates. Barium Carbonate. M. L. Nichols and R. H. Lafferty, Jr.....		Ether, Divinyl, Analysis in Blood. W. L. Ruigh.....	32
Densitometer, Electromagnetic. A. R. Richards.....		Ethylene Analysis in Presence of Butane. J. J. Eberl.....	853
Density. <i>See</i> Specific Gravity.....		Evaporation, Micro-. Apparatus for. L. T. Kurtz.....	191
Dental Alloys, Gold Detection in, by Electrographic Method. J. A. Calamari, Robert Hubata, and P. B. Roth.....		Explosives, Semimicrotrometer for Determinations on. P. J. Elving and W. R. McElroy.....	84
Developers for Photographs, Iodide Determination in. R. M. Evans, W. T. Hanson, Jr., and P. K. Glase.....	535	<b>EXTRACTION APPARATUS</b>	
Dextrose, Moisture Determination in. J. E. Cleland and W. R. Fetzer.....		of Large Capacity. Edward Smallwood.....	903
Diagerometer for Respiratory Gas Analysis, of Modified Noyons Thermal Type. T. M. Carpenter and V. S. Corpachinsky.....		for Large Volumes of Solution by Continuous Method. Ralph Hossfeld.....	118
Dial Derivatives, Optical Crystallographic Study of. M. E. Hultquist, C. F. Poe, and N. F. Witt.....	872	Soxhlet, for Oil Content of Seed and Plant Materials. M. H. Neustadt.....	431
Dialysis, Apparatus for Concentration and. C. C. Smith and C. D. Stevens.....	641		
Dicalcium Phosphate. <i>See</i> Calcium Phosphate.....		<b>F</b>	
Diethylstilbestrol Assay by Semimicromethod. C. W. Sontern and Clarence Burson.....	481	Fabrics. <i>See</i> Textiles.....	
Diethylstilbestrol Determination by Colorimetric Method. Manuel Tubia and Albert Bloom.....	595	Fermentation, Micro-, for Thiamine Estimation. E. S. Josephson and R. S. Harris.....	755
Diffraction of Cubic Isomorphs Tabulated. L. K. Frevel.....	687	Fermentation of Yeast for Vitamin Bi Determination. Fermentometer Design. A. S. Schultz, Lawrence Atkin, and C. N. Frey.....	35
Diffusion Cell for Ammonia Determination. A. N. Prater, E. J. Cowles, and R. P. Straka.....	703	Ferrocyanide for Hafnium Separation from Zirconium. W. C. Schumb and F. K. Pittman.....	512
Dihydroquinidine. <i>See</i> Quinidine.....		Ferrous Sulfate-Potassium Dichromate Method for Antimony. R. B. Neill.....	955
Dimethyl Dibenzyl Ammonium Hydroxide, Cotton Viscosity Determination in. W. W. Russell and L. N. Hood, Jr.....	202	Fertilizers, Potash Determination in, Using 95 and 80 Per Cent Alcohol and Acid-Alcohol. O. W. Ford and C. W. Hughes.....	217
Dimethylamine. <i>See</i> Methylamines.....		<b>FIBERS</b>	
Dinitrobenzene. <i>See</i> Nitrobenzene.....		of Cotton. Quantitative Semimicrodetermination of Cellulose in Raw Fiber. J. H. Kettering and C. M. Conrad.....	432
Diphenylthiocarbazole and -carbazone (Dithizone) Prepared. Oliver Grummitt and Ralph Stickle.....		Identification Stain for. H. L. Davis and H. J. Rynkiewicz.....	472
<b>DISTILLATION APPARATUS</b>		of Wool. Length Distribution in Samples Cut by Cylindrical Tube Borings. Irving Michelson, Louis Tanner, and H. J. Wollner.....	949
Adapters for Fraction Collection under Vacuum. J. W. Patterson and R. W. VanDolah.....	511	Film Balance as Biological and Food Research Tool. G. E. Boyd and W. D. Harkins.....	496
for Corrosive Liquids. Purification of Chlorosulfonic Acid. A. W. Hixson and A. H. Tenney.....	345	Films, Thin, Drying-Rate Determination of. George Rieger and C. S. Grove, Jr.....	326
Pressure-Measuring Device for Moderate Vacua. E. R. Kline.....	542	<b>FILTRATION APPARATUS</b>	
for Range of Distillation at Reduced Pressures. C. E. Watts, J. A. Riddick, and Fred Shea.....	506	for Crystallization and Filtration at Low Temperatures. F. W. Quackenbush and H. Steenbock.....	736
Still Heads		Pyrex Brand Glass Wool as Filtering Medium in Microanalyses. G. B. Heisig.....	766
for Batch Fractionation in Laboratory Columns. Vapor Take-off System. A. R. Richards.....	649	for Viscosity Tubes. S. J. Hetzel.....	288
of Immersion Type for Low-Pressure Distillation of Organic Mixtures. A. J. Bailey.....	71	Fish Fillets, Recording Color of. M. E. Stansby and J. A. Dassow.....	13
for Molecular Distillation. A. J. Bailey.....	177	<b>FLASKS</b>	
Still of High-Vacuum Type in Medicine. K. C. D. Hickman.....	250	Micro-, Heating Device for. C. R. Noller.....	834
Stopcock, Leakproof, for Regulation of Take-off. M. S. Newman for Tar, Cleaned by Automatic Method. William Pechenick.....	902	for Serum Separation from Blood. F. E. Holmes and Barbara Johnson.....	62
Kjeldahl, without Absorbing Acid. J. A. Bradley.....	344	for Stirring at High Speed. A. A. Morton, Bradford Darling, and John Davidson.....	734
(See also Columns and Fractionation.)	705	Flavone Determination in Klett-Summerson Photoelectric Colorimeter. C. W. Wilson, L. S. Weatherby, and W. Z. Bock.....	425
Distilled Liquors, Alcohol Determination in, by Volume. Sources of Error. L. C. Cartwright.....	237	Flour, Soybean, Determined in Sausages and Other Meat Products by Protein Separation Method. John Bailey.....	776
<b>DITHIZONE</b>		<b>FLOW</b>	
Lead Microdetermination by, with Improved Lead-Bismuth Separation. Karl Bambach and R. E. Burke.....	904	Divider of Tilting Arc Type for Reflux Ratio Control. Samuel Palkin and S. A. Hall.....	901
for Metal Microextraction from Aqueous Solutions. Lead. L. P. Biefeld and T. M. Patrick.....	275	Equation of Reiner Confirmed by High-Speed Rotational Viscometer. Henry Green.....	576
		of Gases in Small Quantities Determined by Soap-Bubble Method. Leslie Silverman and R. M. Thomson.....	928
		Meters	
		for Fluids, of Visual Type with Straight-Walled Tubes. R. C. Kintner.....	261

for Gas Rates under Pressure. L. J. Brady and B. B. Corson.....	656
with Precision-Bore Interchangeable Capillaries. F. C. Croxton.....	69
Fluids of Dangerous Type, Attachment for Pipets for Precise Transfer of. W. R. Thompson.....	73
Fluid Flowmeters of Visual Type, with Straight-Walled Tubes. R. C. Kintner.....	261
Fluorescein as Indicator in Bromometric Titrations. F. L. Hahn.....	571
Fluoride Interference in Molybdenum Blue Reaction Eliminated. L. T. Kurtz.....	855
<b>FLUORINE DETERMINATION</b>	
in Glass-Dish Crucibles. W. K. Ergen and R. E. Heath.....	399
Magnesium Acetate as Ashing Agent in. W. E. Crutchfield, Jr.....	57
in Organic Halogen Compounds. P. J. Elving and W. B. Ligett.....	449
Foamy Material, Stirrer of Anchor Type for. R. E. Forrest.....	56
Foods, Bromide Determination in, Fumigated with Methyl Bromide. S. A. Shrader, A. W. Beshegeetor, and V. A. Stenger.....	1
(See also Biological and Food Research)	
Formaldehyde in Microvolatilization of Ammonia, Mono-, Di-, and Trimethylamines. G. J. Benoit, Jr., and E. R. Norris.....	823
<b>FRACTIONATION</b>	
of Colloidal Systems. Operating Conditions for Supercentrifuge. George Fancher, S. C. Oliphant, and C. R. Houssiere, Jr. (Correction, 781).....	552
Semiautomatic, by Rapid Method. Bassett Ferguson, Jr.....	493
of Terpenes, Distillation Column Performance in. W. D. Stallcup, R. E. Fuguit, and J. E. Hawkins.....	503
under Vacuum, Column for. Concentric Tube Type. S. A. Hall and Samuel Palkin.....	807
(See also Columns and Distillation.)	
Fruits, Ascorbic Acid Determination in, Fresh, Frozen, or Dehydrated. H. J. Loeffler and J. D. Ponting.....	846
Fungi as Cellulose-Deterioration Cause Determined. G. A. Greathouse, D. E. Klemme, and H. D. Barker.....	614
Fungicides, Sulfur Microdetermination in. G. L. Mack and J. M. Hamilton.....	604
$\beta$ -Furfuraldoxime, Palladium Determination with. J. R. Hayes and G. C. Chandlee.....	491
Furnace, Gas-Fired, for Semimicrodetermination of Carbon and Hydrogen. H. A. Pagel.....	764
Fusain Determination in Coals from Illinois. Chemical and Petrographic Methods. B. C. Parks, G. W. Land, and O. W. Rees.....	303
Fusel Oil Determination. Limitations and Sensitivity of Komarowsky Color Reactions. H. W. Coles and W. E. Tournay.....	20
Fuzz Detector for Glass Weighing Vessels in Organic Quantitative Microanalysis. D. F. Hayman and Wilhelm Reiss.....	357

**G**

<b>GASES</b>	
Adsorption with Activated Carbons Studied by New Technique. James Coull, H. C. Engel, and Joseph Miller.....	459
Adsorption by Coconut Carbons, Heats of Wetting for Evaluation of. H. W. Stone and R. O. Clinton.....	131
Flow of Small Quantities Determined by Soap-Bubble Method. Leslie Silverman and R. M. Thomson.....	928
Flowmeter with Interchangeable Precision-Bore Capillaries. F. C. Croxton.....	69
Hydrocarbons, Olefin Determination in. B. R. Stanerson and Harry Levin.....	782
Hydrocarbons, Unsaturates Determined in, by Hydrogenation Method. R. F. Robey and C. E. Morrell.....	880
Microanalysis. Nitric Oxide-Hydrogen, Nitric Oxide-Nitrogen, and Nitrous Oxide-Ammonia Mixtures. R. N. Smith and P. A. Leighton.....	880
Oxygen Determination in, at Low Concentrations. J. A. Shaw.....	758
Respiratory Analysis in Modified Noyons Thermic Diaferometer. T. M. Carpenter and V. S. Copropatchinsky.....	891
Solubility Determined at High Temperatures and Pressures by Rotating Bomb. V. N. Ipatieff and G. S. Monroe.....	159
Gasoline Doctor Solution, Thiosulfate Determination in, after Use. Karl Uhrig and Harry Levin.....	166
Geissler Tube. See Tubes.	547
Germanium Determination in Silicate Rocks. Anna-Greta Hybbinette and E. B. Sandell.....	715
<b>GLASS</b>	
Buret System of. T. F. Lavine.....	739
Electrode. See Electrodes.	
Fuzz Detector for Glass Weighing Vessels in Organic Quantitative Microanalysis. D. F. Hayman and Wilhelm Reiss.....	357
Grinding Mill of. D. B. Pall.....	346
Pyrex Brand Wool as Microfiltering Medium. G. B. Heisig.....	766
<b>GOLD</b>	
on Ceramics, Thickness of Fired Coatings Measured. K. H. Ballard.....	868
Detection in Alloys and Plating by Electrographic Method. J. A. Calamari, Robert Hubata, and P. B. Roth.....	535
Determination with Stannous Chloride. C. G. Fink and G. L. Putnam.....	468
Grease. See Lubricants.	
Grinding Mill of Glass. D. B. Pall.....	346
Group I Cations, Detection and Semiquantitative Estimation of. S. S. Leikind, Robert Maurmeyer, and Milton Cutler.....	871
Growth Stimulants in Microbiological Assay for Riboflavin and Pantethenic Acid. J. C. Bauernfeind, A. L. Sotier, and C. S. Boruff.....	666

**H**

Hafnium Separation from Zirconium by Ferrocyanide Method. W. C. Schumb and F. K. Pittman.....	512
Halides, Bromide Estimation in Presence of. P. L. Kapur, M. R. Verma, and B. D. Khosla.....	157
Halogen Determination in Organic Compounds. P. J. Elving and W. B. Ligett.....	449
Heating Device for Microbreakers, Flasks, and Centrifuge Tubes. C. R. Noller.....	834
Heavy Water. See Water.	
Hemp, Marijuana Resin from, Analytical Classes of Cannabinol Compounds in. C. C. Fulton.....	407
Humidity. See Water.	
Hydrazine Determination by Cerimetric-Ferricyanide Method. C. J. Dernbach with J. P. Mehlig.....	58
<b>HYDROCARBONS</b>	
Critical Temperatures Determined by Rotating Bomb. V. N. Ipatieff and G. S. Monroe.....	171
Gaseous Olefin Determination in. B. R. Stanerson and Harry Levin.....	782
Solubilities Determined at High Temperatures and Pressures by Rotating Bomb. V. N. Ipatieff and G. S. Monroe.....	166
Unsaturates Determined in, by Hydrogenation Method. R. F. Robey and C. E. Morrell.....	880
Liquid Volatile, Identified by Micromethod. Vapor Pressure, Boiling Point, and Olefin Content of Cyclobutane and <i>cis</i> -2-Butene. S. W. Benson.....	189
Mixtures. Qualitative and Quantitative Microanalysis by Raman Spectra. D. H. Rank, R. W. Scott, and M. R. Fenske.....	816
in Oils, Type Analysis of. R. M. Deaneley and L. T. Carleton Polymerization Determined in Solution by Turbidimetric Method. Bassett Ferguson, Jr., and M. D. Snyder.....	220
Solvents for Paints, Determination of Mixed Aniline Points of. B. H. Shoemaker and J. A. Bolt. (See also Organic Compounds, Petroleum, and kind of hydrocarbon.)	135
<b>HYDROGEN</b>	
and Carbon Semimicrodetermination in Gas-Fired Furnace. H. A. Pagel.....	764
-Nitric Oxide Mixture. Microanalysis of Gases. R. N. Smith and P. A. Leighton.....	758
-Sodium Geissler Tube. F. M. Goyan.....	60
Hydrogen-Ion Concentration of Chromic Acid Solutions, Glass Electrode Measurements of. W. H. Hartford.....	174
Hydrogen Sulfide Generator. B. W. Pocock, L. Scholten, and P. J. Erickson.....	575
Hydrogenation, Catalytic, Microapparatus for. C. R. Noller and M. R. Barusch.....	907
Hydrol, Moisture Determination in. J. E. Cleland and W. R. Fetzer.....	127
Hydrometer for Particle Size Studies. H. E. Schweyer.....	622
Hydroxybenzalrohanines, Analytical Possibilities of. A. W. Scott and T. E. Robbins.....	206
Hydroxyl Determination in Cellulose Derivatives, in Free State. C. J. Malm, L. B. Genung, and R. F. Williams, Jr. (See also Cellulose)	935
Hydroxylammonium Sulfate in Benzaldehyde Assay. Marcelle Schubert and J. G. Dinkelpiel. (Correction, 313).....	154
8-Hydroxyquinoline, Magnesium Estimated with. Microtitration and Photometric Procedures. Louis Gerber, R. I. Claassen, and C. S. Boruff.....	658
Hygrometer, Electric, Study of. R. N. Evans and J. E. Davenport.....	507

## K

Kjeldahl Method. *See* Nitrogen.  
Komarowsky Color Reaction. *See* Alcohols, Aliphatic.

## L

Laboratories, Modern. Socony-Vacuum Oil Company. C. H. Schlesman  
Lamp, Fluorescent, for Microscope. L. H. Berkelhamer  
LEAD

Detection and Semiquantitative Estimation of Group I Cations. S. S. Leikind, Robert Maurmeyer, and Milton Cutler  
Determination in Steels by Polarographic Method. G. Haim and W. C. E. Barnes  
Determination in Sugars and Sugar Products. Adaptation of Diphenylthiocarbazone Reaction. T. D. Gray  
Microdetermination by Dithizone with Improved Lead-Bismuth Separation. Karl Bambach and R. E. Burkey  
Microextraction with Dithizone from Aqueous Solutions. L. P. Biefeld and T. M. Patrick  
Microseparation from Copper and Zinc with Salicylaldoxime. L. P. Biefeld and W. B. Ligett

Lead Arsenate Microanalysis in Polarograph, Reading Directly in Percentage. B. P. Caldwell and Solomon Reznick

Lecithin Determination by Choline Precipitation. M. H. Thornton and F. K. Broome

Lifter for Automatic Leveling Bulb in Butadiene Analysis. W. R. Atwater

Lipide Extracts, Phosphorus Microdetermination in, by Electrophotometric Method. W. M. Sperry

LIQUIDS

Density Determination in Closed Systems. G. H. Wagner, G. C. Bailey, and W. G. Eversole  
Density Measured in Electromagnetic Densitometer. A. R. Richards

Extractor for Large Volumes of Solution by Continuous Method. Ralph Hossfeld

Lithium, Determination of Potassium, Sodium, and, by Polarographic Method. Ignace Zlotowski and I. M. Kolthoff

Lithium Separation from Potassium and Sodium by Treatment of Chlorides with Higher Aliphatic Alcohols. E. R. Caley and H. D. Axilrod

Liver, Pantothenic Acid Microbiological Assay in. Eleanor Willerton and H. W. Cromwell

LUBRICANTS

Grease for Stopcocks, of Ether-Insoluble Type. B. L. Herrington and M. P. Starr

Oils

Color Measurement by Photoelectric Method. I. M. Diller, R. J. DeGray, and J. W. Wilson, Jr.  
Phosphorus Determination in. Harry Levin, F. P. Farrell, and A. J. Millendorf

Sulfur Determination in, in Free Form. Harry Levin and Ervin Stehr

## M

MAGNESIUM

Alloys, Aluminum Determined in, by Gravimetric Benzoate-Oxine Method. V. A. Stenger, W. R. Kramer, and A. W. Beshgetoor

Calcium Determination in Presence of, by Standard Soap Solution. J. W. Polksy and E. C. Fedder

Determination with Titan Yellow by Spectrophotometric Method. E. E. Ludwig and C. R. Johnson

Microestimation with 8-Hydroxyquinoline. Titration and Photometric Procedures. Louis Gerber, R. I. Claassen, and C. S. Boruff

Magnesium Acetate as Ashing Agent in Fluorine Analysis. W. E. Crutchfield, Jr.

Maltose, Moisture Determination in. J. E. Cleland and W. R. Fetzer

Manganese Bronze, Aluminum Determination in. A. C. Holler and J. P. Yeager

MANGANESE DETERMINATION

in Nickel-Based Alloys. Louis Silverman  
with Ozone. H. H. Willard and L. L. Merritt, Jr.

in Presence of Cobalt by Photometric Methods. Louis Waldauer and N. M. Ward

Manganese Nitrate, Analytical Reactions Involving Ignition with. M. J. Preising, O. F. Slonek, and J. H. Reedy

Manometer Design Improved. W. G. Small and A. F. G. Drake

Manometer-Manostat with Oil as Control Liquid for Column Throughput. S. A. Hall and Samuel Palkin

Marijuana Resin, Analytical Classes of Cannabinol Compounds in. C. C. Fulton

Meat Products, Blood Determination in. Raymond Reiser and G. S. Fraps

Meat Products, Soybean Flour Determination in Sausages and. Protein Separation Method. John Bailey

Medicine, High-Vacuum Still in. K. C. D. Hickman

Menthol Determination in Peppermint Oil. Acetyl Chloride as Reagent. B. E. Christensen and Lloyd Pennington

Mercuric Nitrate for Bromide and Iodide Titration, Using Diphenyl Carbazide Indicator. H. R. McCleary

MERCURY

Azotometer for Organic Nitrogen by Micro-Dumas Method. R. G. Clarke and W. R. Winans

Cathode for Determining Titanium and Similar Metals in Alloys. M. H. Steinmetz

Detection and Semiquantitative Estimation of Group I Cations. S. S. Leikind, Robert Maurmeyer, and Milton Cutler

Electrode. *See* Electrodes

METALS

Cleaning Compounds, Evaluation of. O. M. Morgan and J. G. Lankler

Extraction from Oils. E. P. Rittershausen and R. J. DeGray

Microextraction with Dithizone from Aqueous Solutions. Lead. L. P. Biefeld and T. M. Patrick

Microidentification of Metallic Coatings. Howard Nechamkin and Alvin Sanders

Turnings, Oil Determination in. David Margolis

(See also kind of metal.)

Metaphosphate. *See* Phosphate

Methanol. *See* Alcohols

Methoxyl Assay, Apparatus for. A. J. Bailey

Methyl Bromide-Fumigated Foods, Determination of Total and Inorganic Bromide in. S. A. Shrader, A. W. Beshgetoor, and V. A. Stenger

Methylamines, Mono-, Di-, and Tri-, Effect of Formaldehyde on Microvolatilization of. G. J. Benoit, Jr., and E. R. Norris

Methylcyclohexane, Toluene Determination in Presence of. B. B. Corson and L. J. Brady

2-Methyl-1,4-naphthoquinone Determination by Quantitative Method. A. R. Menotti

Microchemistry of Organic Compounds Reviewed. L. T. Hallett

Microgram Samples, Qualitative Analysis of. General Technique and Confirmatory Tests. A. A. Benedetti-Pichler and Michael Cefola

Microscope Lamp, Fluorescent. L. H. Berkelhamer

MILK

Casein Determination in Skim Milk by Refractometric Method. J. G. Brereton and P. F. Sharp

Citric Acid Determination in, by Pentabromoacetone Method. E. F. Deysher and G. E. Holm

Oxygen Dissolved in, Measured by Voltammetric Method. G. H. Hartman and O. F. Garrett

Mill for Grinding, Made of Glass. D. B. Pall

Millwork. *See* Wood

Mineral Oils. *See* Petroleum

Moisture. *See* Water

Molasses, Blackstrap, Moisture Determination in. J. E. Cleland and W. R. Fetzer

Mold Resistance of Paints for Interiors Tested in Field. A. M. Pantasky

Molecular Still Heads. A. J. Bailey

Molybdenum Blue in Phosphate Determination by Colorimetric Method. Modification of A. O. A. C. Method. L. S. Stoloff

Molybdenum Blue Reaction, Fluoride Interference Eliminated in. L. T. Kurtz

Molybdisilicic (Silicomolybdic) Acid Method for Iron Determination with Ceric Sulfate. A. C. Titus and C. W. Sill

Monomethylamine. *See* Methylamines

Moore Method. *See* Iron

Mud in Rivers as Affecting Determination of B. O. D. of Supernatant Liquor. W. A. Moore and C. C. Ruchhoff

## N

Naval Stores. Oleoresin from Pine, *l*-Pimaric Acid Content of. E. E. Fleck and Samuel Palkin

Naval Stores Products, Photoelectric Photometer for Rapid Grading of. R. H. Osborn

Niacin. *See* Nicotinic Acid under Vitamins

NICKEL

Alloys with Electrical Heat-Resisting Properties, Analyzed for Silicon, Manganese, Chromium, Iron, and Copper. Louis Silverman

Determination with Ammonia by Colorimetric Spectrophotometric Method. J. P. Mehlig

in Steel Alloy. T. H. Williams

in Steel by Cyanide Titration. Louis Silverman, William Goodman, and Dean Walter

Nicotinic Acid. *See* Vitamins

Nitrate Determination in Blood and Urine by Polarographic Method. E. W. Scott and Karl Bambach

Nitric Oxide Mixtures with Hydrogen and Nitrogen. Microanalysis of Gases. R. N. Smith and P. A. Leighton

Nitrite Determination in Water. Discussion of Shinn Method. N. F. Kershaw and N. S. Chamberlin

Nitrobenzenes. Colorimetric Determination of Trinitrobenzene in Dinitrobenzene. M. L. Moss with M. G. Mellon

Nitrocelloose, Drying-Rate Determination of Thin Films of. George Rieger and C. S. Grove, Jr.

NITROGEN

Determination in Steel, in Combined Form. H. F. Beeghly

Distribution Study, Application of Ammonia Determination by Conductometric Method. R. H. Hendricks, M. D. Thomas, Myron Stout, and Bion Tolman

Dumas Micromethod. Organic Nitrogen Determined in Mercury Azotometer. R. G. Clarke and W. R. Winans

Dumas Micromethod Modifications. Automatic Apparatus Applicable for Combustion. G. L. Royer, A. R. Norton, and F. J. Foster

Kjeldahl Method

Digestion Using Perchloric Acid. L. P. Pepkowitz, A. L. Prince, and F. E. Bear

Distillation without Absorbing Acid. J. A. Bradley

Microdetermination by Diffusion Method. R. C. Hawes and E. R. Skavinski

Indicator and Improved Rapid Method for. T. S. Ma and G. Zuazaga

Loss of Nitrogen in Digestions with Perchloric Acid. L. F. Wicks and H. I. Firminger

without Titration Procedure. W. H. Taylor and G. F. Smith

by Wet Digestion. L. P. Pepkowitz and J. W. Shive

Nitric Oxide Mixture. Microanalysis of Gases. R. N. Smith and P. A. Leighton

Organic Compounds. Color Microreactions with Selenious Acid-Sulfuric Acid Solution. B. T. Dewey and A. H. Gelman

Organic Qualitative Microtechnique for Compounds Containing C. R. Garcia and Frank Schneider

Nitrogen Dioxide Concentration Determined in Photometer. Louis Harris and B. M. Siegel

Nitrometer, Semimicro-, of du Pont Type. P. J. Elving and W. R. McElroy

Nitro-o-phenanthroline in Iron Determination by Spectrophotometric Method. J. P. Mehlig and H. R. Hulett

*o*-Nitrosophenol in Colorimetric Analysis

Cobalt Microdetermination. Georg Cronheim

Divalent Iron Microdetermination. Georg Cronheim and William Wink

p-Nitrotoluene Oxidation in Flask Designed for High-Speed Stirring. A. A. Morton, Bradford Darling, and John Davidson

Nitrous Oxide-Ammonia Mixture. Microanalysis of Gases. R. N. Smith and P. A. Leighton

Nomograph for Cements, Portland. Computation of Compound Compositions. Benjamin Janer

Noyons Diaferometer. *See* Diaferometer

## OIL

Absorption by Pigments.	M. A. Azam	545	Inorganic Salts Determined in Crudes	C. A. Neilson, J. S. Hume, and B. H. Lincoln	464
Determination in Metal Turnings.	David Margolis	478	E. P. Rittershausen and R. J. DeGray	947	
Extracted, Column for Stripping Solvents from.	F. H. Smith	255	Metalliferous Constituents Extracted from.	E. P. Rittershausen and R. J. DeGray	806
Peppermint, Analysis of.	L. H. Baldinger	15	Type Analysis of.	R. M. Deaneley and L. T. Carleton	323
Peppermint, Method Determination in.	Acetyl Chloride as Reagent		Photocolorimetric Color of Products from, Described and Measured.	I. M. Diller, R. J. DeGray, and J. W. Wilson, Jr.	220
B. E. Christensen and Lloyd Pennington		54	(See also Asphalt, Hydrocarbons, Insulation, and Lubricants.)		607
Soybean, Acetone-Insoluble Material Determined Photometrically	in.	785	<i>o</i> -Phenanthroline in Iron Determination by Spectrophotometric Method.	J. P. Mehlin and H. R. Hulett	869
in.	C. A. Murray and E. B. Ober		1,10-Phenanthroline Derivatives, Color Reactions of.	M. L. Moss, M. G. Mellon and G. F. Smith	931
Soybean, Extraction from Flour in Soxhlet Apparatus.	M. H. Neustadt	431	Phenothiazine Determination by Colorimetric Method.	H. L. Cupples	53
(See also Insulation, Lubricants, and Petroleum.)		782	Phenothiazine Determination with Palladium Chloride by Colorimetric Method.	L. G. Overholser and J. H. Yoe	646
Olefin Determination in Hydrocarbon Gases.	B. R. Stanerson and Harry Levin		PHOSPHATES		
Oleoresin, <i>l</i> -Pimaric Acid Determination in.	E. E. Fleck and Samuel Palkin	146	in Cobalt Separation from Iron.	Victor North and R. C. Wells	859
Opaque Objects, Recording Color of.	M. E. Stansby and J. A. Dassow	13	Determination by Amperometric Titration with Uranyl Acetate.	I. M. Koithoff and Gunther Cohn	412
ORGANIC COMPOUNDS			Determination by Colorimetric Method. Modification of.	A. O. A. C. Molybdenum Blue Method.	636
Asarcine Semimicrodetermination in, by Iodometric Method.	H. A. Sloviter, W. M. McNabb, and E. C. Wagner	516	Meta- and Pyro-, Determined by Colorimetric Method. Iron Determination with Thiocyanate in Presence of Meta- and Pyrophosphate.	H. E. Wirth	722
of Bromine and Iodine Decomposed by Lime-Fusion Quantitative Micromethod.	W. M. MacNevin and G. H. Brown	908	Ortho-, Microdetection by Drop Reactions.	P. W. West and Thomas Houtman	597
Distillation of Mixtures at Low Pressure, Immersion Still Head for.	A. J. Bailey	71	Ortho-, Pyro-, Meta-, and Polyphosphates Estimated in Presence of One Another.	L. T. Jones	536
Fluorine and Other Halogens Determined in.	P. J. Elving and W. B. Ligett	449	Pyro-, Determination by Precipitation with Cadmium, and Polarographic Measurement of Cadmium in Precipitate.	Gunther Cohn and I. M. Kolthoff	886
Microchemistry Review for.	L. T. Hallett	956	Silica Determination in Presence of, by Photometric Method.	M. C. Schwartz	893
Microtechnique of Qualitative Analysis. Identification of Compounds Containing Nitrogen.	C. R. Garfas and Frank Schneider	94	<i>o</i> -Phosphoric Acid Assay by Acidimetric Method.	J. A. Calamari and Robert Hubata	55
of Nitrogen. Color Microreactions with Selenious Acid-Sulfuric Acid Solution.	B. T. Dewey and A. H. Gelman	361	PHOSPHORUS DETERMINATION		155
Solvents, Washing Apparatus for Solutions in.	A. L. LeRosen	165	in Biological Materials by Colorimetric Method.	R. A. Koenig and C. R. Johnson	
Sulfur Microdetermination in Compounds Containing Nitrogen and Halogen.	E. L. Brewster and William Rieman III	820	in Iron Ore by Colorimetric Method.	E. J. Center and H. H. Willard	287
Sulfur Semimicrodetermination in. Peroxide-Carbon Fusion Followed by Titration Using Tetrahydroxyquinone Indicator.	J. F. Mahoney and J. H. Michell	97	in Lubricating Oil.	Harry Levin, F. P. Farrell, and A. J. Millendorf	122
(See also Hydrocarbons.)			Microdetermination in Biological Material by Indirect Polarographic Method.	Adolf Stern	74
Orthophosphates. See Phosphates.			by Colorimetric Method, Improvements in.	C. P. Sideris	762
Ozazones, Crystalline, Sugar Identification by Microscopic Appearance of.	W. Z. Hassid and R. M. McCready	683	in Lipide Extracts by Electrophotometric Method.	W. M. Sperry	88
Oxalic Acid in Tin Determination by Volumetric Method.	H. H. Willard and T. Y. Toribara	716	in Soils by Colorimetric Method. Provision for Eliminating Interference of Arsenic.	M. S. Sherman	182
Oxidimetric Indicator, Ruthenium Dipyridyl as.	Joseph Steigman, Nathan Birnbaum, and S. M. Edmonds. (Correction, 404)	30	by Spectrophotometric Method.	D. T. Fontaine	77
OXYGEN DETERMINATION			Photographic Developers, Iodide Determination in.	R. M. Evans, W. T. Hanson, Jr., and P. K. Glasoe	314
in Dairy Products. Dissolved Oxygen by Voltammetric Method.	G. H. Hartman and O. F. Garrett	641	Photometer, Naval Stores Products Graded Rapidly by.	R. H. Osborn	572
in Gas, in Low Concentrations.	J. A. Shaw	891	Photometer for Nitrogen Dioxide Concentrations.	Louis Harris and B. M. Siegel	258
in Sewage. Dissolved Oxygen Recorded with Dropping Mercury Electrode.	R. S. Ingols	256	PIGMENTS		
Ozone as Analytical Reagent.	H. H. Willard and L. L. Merritt, Jr.	489	Grinding Mill for, Made of Glass.	D. B. Pall	346
Iodide Determination.		486	Mounts for Microscopy of.	R. P. Allen	92
Vanadium, Cerium, and Manganese Determination.			Oil Absorption by.	M. A. Azam	545
P			Specific Surface Measured by Water Vapor Adsorption.	Daniel Smith and Henry Green	382
PAINT			<i>l</i> -Pimaric Acid Determination in Oleoresin from Pine.	E. E. Fleck and Samuel Palkin	146
Mold-Resistant Properties of Interior Oil Paints Tested in Field.	A. M. Partiansky	527	Pine Oleoresin. See preceding item.		
Resinous Binder Isolated and Identified in Water Paints.	R. W. Stafford	694	PIPET		
Solvents. Determination of Mixed Aniline Points of Hydrocarbon Solvents.	B. H. Shoemaker and J. A. Bolt	200	Attachment for Precise Transfer of Dangerous Fluids.	W. R. Thompson	73
(See also Varnish.)		491	Micro-, Calibration Apparatus for.	W. R. Thompson	268
Palladium Determination with $\beta$ -Furfuraldoxime.	J. R. Hayes and G. C. Chandlee	646	Micro-, for Density Determinations in Heavy Water Analysis.	Fred Rosebury and W. E. van Heyningen	363
Palladium Chloride, Phenothiazine Determination with.	L. G. Overholser and J. H. Yoe	767	for Particle Size Studies.	H. E. Schweyer	622
Pantothenic Acid. See Vitamins.			PLANT MATERIAL		
Paraffin Waxes, Oil Determination of.	Russell Lee and V. A. Kalichevsky		Carotenoid Provitamin A Assays on.	G. Mackinney, S. Aronoff, and B. T. Bornstein	391
PARTICLE SIZE			Chlorophylls <i>a</i> and <i>b</i> Determined in Extracts of.	C. L. Comar	877
Concentration Analysis by Photoelectrometric Micromethod. Estimation of Anthraquinone $\beta$ -Sodium Sulfonate in Presence of $\alpha$ -Isomer and of Anthraquinone-1,8-disulfonic Acid in Presence of 1,5-Isomer.	William Seaman, A. R. Norton, and Charles Maresh	350	Potassium Determination in. Perchloric Acid Digestion and Chloroplatinic Acid Precipitation.	J. L. St. John and M. C. Midgley	301
Distribution Determined for Sizes between 40 and 1 or 2 Microns.	W. O. Hinkley. (Correction, 297)	10	Tissues, Nicotinic Acid Extraction and Assay from. Comparison of Micromethods.	V. H. Cheldelin and R. R. Williams. (Correction, 822)	671
Methods for Study of.	H. E. Schweyer	622	Plating. Microidentification of Metallic Coatings.	Howard Nechamkin and Alvin Sanders	913
of Pigments, Mounts for Microscopic Evaluation of.	R. P. Allen	92	POLAROGRAPHIC ANALYSES		
Specific Surface of Particulate Substances Measured by Water Vapor Adsorption.	Daniel Smith and Henry Green	382	Electrode of Dropping Mercury Type for.	R. C. McReynolds	586
Peas, Frozen, Determining Maturity of.	F. A. Lee	241	Polarograph		
Pentabromoacetone, Citric Acid Determination in Pure Solutions and in Milk by.	E. F. Deysher and G. E. Holm	4	Construction and Operation.	N. H. Furman, C. E. Bricker, and E. B. Whitesell	333
Pentabromorosaniline, Bromide Microestimation as.	W. J. Turner	599	with Percentage Scale Reading.	Microanalysis of Lead Arsenate.	187
Pentachlorophenol Estimation in Tissues and Water by Spectrophotometric Method.	Wilhelm Deichmann and L. J. Schafer	310	B. P. Caldwell and Solomon Reznik		99
Pentobarbital Derivatives, Optical Crystallographic Study of.	M. E. Hultquist, C. F. Poe, and N. F. Witt	219	Research with.	O. H. Müller	195
Peppermint Oil Analysis.	L. H. Baldinger	15	Quantitative Polarography, Factors in.	I. M. Kolthoff	
Peppermint Oil, Menthol Determination in.	Acetyl Chloride as Reagent	54	Water Wave Elimination in, at Relatively High Indifferent Electrolyte Concentrations.	I. M. Kolthoff and E. F. Orlemann	
B. E. Christensen and Lloyd Pennington		856	Polymer Solutions, Viscosity Determination of.	D. W. Young and E. H. McArdle	321
Perchloric Acid in Kjeldahl Digestion.	L. P. Pepkowitz, A. L. Prince, and F. E. Bear	760	Polymerization of Hydrocarbons in Solution Determined by Turbidimetric Method.	Bassett Ferguson, Jr., and M. D. Snyder	639
Perchloric Acid in Kjeldahl Microdigestions.	L. F. Wicks and H. I. Firminger	466	Porcelain Crucibles Cleaned.	J. E. D. Carwardine	135
Permanganate Determination in Presence of Cupric Salts.	E. H. Swift and T. S. Lee	952	Potash Determination in Fertilizers, Using 95 and 80 Per Cent Alcohol and Acid-Alcohol.	O. W. Ford and C. W. Hughes	533
Peroxidase Estimation, Quantitative Field Test for.	W. B. Davis		POTASSIUM		
PETROLEUM			Determination		
Oils			by Photometric Method.	I. W. Wander	471
Ash Content Reduced with Boric Acid.	E. T. Scafe, K. F. Hayden, and V. A. Kalichevsky	923	in Plant Material. Perchloric Acid Digestion and Chloroplatinic Acid Precipitation.	J. L. St. John and M. C. Midgley	301
Cloud Point of Varnish Resins in.	P. O. Powers	387	in Silicate Rock.	H. H. Willard, L. M. Liggett, and Harvey Diehl with Sodium and Lithium by Polarographic Method.	234
of Dark Color, Aniline Point Determination of		63	Ignace Zlotowski and I. M. Kolthoff		473
A. A. Williams and E. W. Dean		105	Lithium Separation from, by Treatment of Chlorides with Higher Aliphatic Alcohols.	E. R. Caley and H. D. Axilrod	242
B. B. Carr and M. S. Agruss		478	Microdetermination in Photoelectric Colorimeter. Adaptation of Indirect Method.	C. P. Sideris	821
Determination in Metal Turnings.	David Margolis				
Determination in Paraffin Waxes.	Russell Lee and V. A. Kalichevsky				

Potassium Dichromate-Ferrous Sulfate Method for Antimony. R. B. Neill.....	955	Silicate Rock, Germanium Determination in. Anna-Greta Hybbinette and E. B. Sandell.....	715
Potentiometric Titrations. Review with Bibliography. N. H. Furman.....	367	Silicate Rock, Potassium Determination in. H. H. Willard, L. M. Liggett, and Harvey Diehl.....	234
Powder Diffraction Data for Cubic Isomorphs. L. K. Frevel.....	687	Silicomolybdic Acid. <i>See</i> Molybdisilicic Acid.....	554
Preservatives for Wood. <i>See</i> Wood.		Silicon Analysis in Nickel-Base Alloys. Louis Silverman.....	871
<b>PRESSURE APPARATUS</b>		Silver. Detection and Semiquantitative Estimation of Group I Cations. S. S. Leikind, Robert Maurmeyer, and Milton Cutler.....	148
Flowmeter for Laboratory. L. J. Brady and B. B. Corson.....	656	Silver Determination with 2-Thio-5-keto-4-carbethoxy-1,3-dihydro-pyrimidine by Colorimetric Method. J. H. Yee and L. G. Overholser.....	519
Glass Valve Regulator for. M. J. Caldwell and H. N. Barham.....	485	Silver Chromate Equilibrium Solutions with Ammonia for Acid Micro-detection. Fritz Feigl and P. E. Barbosa.....	127
Manometer Design. W. G. Small and A. F. G. Drake.....	244	Sirup, Refiners', Moisture Determination in. J. E. Cleland and W. R. Fetzer.....	178
for Measuring Pressure under Moderate Vacua. E. R. Kline.....	542	Slide Rule for Calcium Carbonate Equilibrium Problems in Corrosion Control of Water Supplies. A. A. Hirsch.....	943
Regulating and Indicating, for Vacuum Systems. Bassett Ferguson, Jr.....	164	Slide Rule for Carbonate Equilibria and Alkalinity in Water Supplies. A. A. Hirsch.....	558
Protein. Soybean Flour Determination in Sausages and Other Meat Products by Protein Separation. John Bailey.....	776	Soap Analysis and Sampling. Revised Standard Methods for Commercial Products. R. E. Divine, J. E. Doherty, C. P. Long, E. B. Millard, M. L. Sheely, H. P. Trevithick, and F. W. Smither.....	644
Pump of Bellows Type. B. B. Corson and W. J. Cerveny.....	899	Soap, Calcium Determination in Presence of Magnesium by Standard Solution of. J. W. Polksy and E. C. Feddern.....	192
Pump. Trap to Prevent Backflow from Suction Pumps. A. E. Meyer.....	505	Socony-Vacuum's New Engineering Building. C. H. Schlesman.....	127
Pycnometer, Semimicro-, for Heavy Water. B. J. Fontana and Melvin Calvin.....	185	<b>SODIUM</b>	178
Pyrex. <i>See</i> Glass.		Determination with Potassium and Lithium by Polarographic Method. Ignace Zlotowski and I. M. Kolthoff.....	473
Pyrophosphate. <i>See</i> Phosphate.		-Hydrogen Geissler Tube. F. M. Goyan.....	60
<b>Q</b>		Lithium Separation from, by Treatment of Chlorides with Higher Aliphatic Alcohols. E. R. Caley and H. D. Axilrod.....	242
Quebracho Determination in Boiler Waters. A. A. Berk and W. C. Schroeder.....	456	Sodium Chloride Determination in Crude Oils. E. P. Rittershausen and R. J. DeGray.....	947
Quercetinlike Substances Determined in Klett-Summerson Photoelectric Colorimeter. C. W. Wilson, L. S. Weatherby, and W. Z. Bock.....	425	Sodium Chloride Distribution in Butter. Volumetric Micromethod. C. L. Ogg, I. B. Johns, W. H. Hoecker, and B. W. Hammer.....	285
Quinidine, and Salts of. Optical Activity in Water-Ethanol Mixtures. J. C. Andrews.....	543	Sodium Hydroxide in Benzaldehyde Assay. Marcelle Schubert and J. G. Dinkelpiel. (Correction, 313).....	154
Quinizarin-6-sulfonic Acid, Sodium Salt of, as Acid-Base Indicator. J. H. Green.....	249	Sodium Nitrate Determination in Sodium Nitrite by Colorimetric Method. William Seaman, A. R. Norton, W. J. Mader, and J. J. Hugonet.....	420
8-Quinolinicarboxylic Acid, Copper Determination with. J. R. Gilbreath and H. M. Haendler.....	866	Sodium Nitrite. <i>See preceding item.</i>	840
<b>R</b>		Sodium Rhodizonate. Microanalyses with. Fritz Feigl and H. A. Suter.....	406
Radiography. <i>See</i> X-Ray.		Sodium Thiosulfate Solution, Stable Type of. Jacob Ehrlich.....	802
Raman Spectra for Hydrocarbon-Mixture Microanalysis. D. H. Rank, R. W. Scott, and M. R. Fenske.....	816	Sodium Thiosulfate Solutions in Hot Weather, Standardization and Stability of. S. O. Rue.....	182
Rat-Tissue Microanalysis for Ingested Vanadium by Spectrographic Method. E. P. Daniel, E. M. Hewston, and M. W. Kies.....	921	Soil, Phosphorus Microdetermination in, by Colorimetric Method. M. S. Sherman.....	454
Rectifying Column for Low-Temperature Work. E. O. Ramler and J. H. Simons.....	430	Solubility Determination by Residue Volume Method. T. H. Vaughn and E. G. Nutting, Jr.....	548
Reducing Agents. Amalgams in Liquid Form, Simplified Technique in Use of. G. F. Smith and L. T. Kurtz.....	264	Solution Concentration under Reduced Pressure in Continuous Apparatus. B. L. Davis.....	118
Refux-Condenser Support. E. J. Benne.....	439	Solution Extractor for Large Volumes of, by Continuous Method. Ralph Hossfeld.....	857
Refractive Index Micromeasurement at and above Melting Point of Solids. H. A. Frediani.....	64	Solvent, Volatile, Pressure Wash Bottle for. L. W. Charkey and D. V. Zander.....	548
Reich Test. <i>See</i> Sulfur Dioxide.	454	Soxhlet. <i>See</i> Extraction Apparatus.	182
Relays, Electronic. Sutton Redfern. (Correction, 502).....	694	SOYBEAN	454
Residue Volume Method of Solubility Determination. T. H. Vaughn and E. G. Nutting, Jr.....	387	Flour Determination in Sausages and Other Meat Products by Protein Separation Method. John Bailey.....	776
Resins as Binders in Water Paints. Isolation and Identification. R. W. Stafford.....	159	Oil	785
Resins for Varnish. Cloud Point Measured in Drying Oils. P. O. Powers.....	206	Acetone-Insoluble Material Determined Photometrically in. C. A. Murray and E. B. Oberg.....	255
Respiratory Gas Analysis by Diaferometer of Modified Noyons Thermal Type. T. M. Carpenter and V. S. Corpachinsky.....	840	Column for Stripping Solvents from Extracted Oils. F. H. Smith. Extraction from Flour in Soxhlet Apparatus. M. H. Neustadt.....	431
Rhodanines, Hydroxybenzal-. Analytical Possibilities of. A. W. Scott and T. E. Robbins.....	897	<b>SPECIFIC GRAVITY</b>	468
Rhodizonic Acid, Sodium Salt of, as Microanalytical Reagent. Fritz Feigl and H. A. Suter.....	720	Apparatus	595
Riboflavin. <i>See</i> Vitamins.	740	Densitometer, Electromagnetic. A. R. Richards.....	622
Rock Silicate. <i>See</i> Silicate.	114	Hydrometer for Particle Size Studies. H. E. Schweyer.....	363
Rotenone Determination in Plant Materials. Improvements in Gravimetric Method. S. I. Gertler.....	30	Pipet, Micro- for Heavy Water Analysis. Fred Rosebury and W. E. van Heyningen.....	185
<b>RUBBER</b>		Pycnometer, Semimicro-, for Heavy Water. B. J. Fontana and Melvin Calvin.....	129
Fountain Pen Sacs for Testing Writing Inks. R. S. Casey and Roger Macdonald.....	158	of Liquid and Vapor Determined in Closed Systems by Precise Method. G. H. Wagner, G. C. Bailey, and W. G. Eversole.....	323
Microscopy in Industrial Laboratories. R. P. Allen.....	158	of Petroleum Oils by Falling Drop Method. A. J. Hoiberg.....	278
Zinc Determination in Compounds of. W. P. Tyler.....	158	Spectrographic Arc. <i>See</i> Arc.	278
Ruthenium, Dipyridyl, Oxidimetric Indicator. Joseph Steigman, Nathan Birnbaum, and S. M. Edmonds. (Correction, 404).....	158	Spot Microtests, Infrared Radiation Applied to. W. W. Razim.....	278
<b>S</b>		Stannous Chloride in Gold Determination. C. G. Fink and G. L. Putnam.....	468
Safety Attachment for Pipets for Precise Transfer of Dangerous Fluids. W. R. Thompson.....	73	<b>STARCH</b>	635
Safety Shield, Adjustable. Arthur Furst.....	158	Carboxyl Groups Estimated in Commercial Starches Modified by Oxidation. L. H. Elizer.....	227
Salicylaldoxime for Copper, Lead, and Zinc Microseparation. L. P. Biefeld and W. B. Liggett.....	359	Evaluation for Textile Purposes. W. T. Schreiber and W. L. Bradford.....	843
Salt. <i>See</i> Sodium Chloride.		Moisture Determination in Starch and Its Modifications. Louis Sair and W. R. Fetzer.....	350
<b>SALTS INORGANIC</b>		Particle-Concentration Analysis by Photoelectrometric Micro-method. William Seaman, A. R. Norton, and Charles Maresh.....	406
Assay in Presence of Wetting Agents by Conductometric Method. J. H. Percy and C. J. Arrowsmith.....	151	Solution, Stable Type of. Jacob Ehrlich.....	791
Determination in Crude Oil		<b>STEEL</b>	835
C. A. Neilson, J. S. Hume, and B. H. Lincoln.....	464	Carbon Microdetermination in Low-Carbon Alloys of. Low-Pressure Combustion Method. L. A. Wooten and W. G. Gulden.....	236
E. P. Rittershausen and R. J. DeGray.....	947	Copper and Nickel Determination in. Louis Silverman, William Goodman, and Dean Walter.....	867
Sampling and Injection Stopcock. E. H. Brown.....	551	Lead-Bearing, Polarographic Determination of Lead in. G. Haim and W. C. E. Barnes.....	486
Sausages, Soybean Flour Determination in. Protein Separation Method. John Bailey.....	776	Manganese and Vanadium Determined in, with Ozone. H. H. Willard and L. L. Merritt, Jr.....	72
Schiff's Aldehyde Reagent. <i>See</i> Aldehyde.		Nickel Detection in Alloy Type of. T. H. Williams.....	137
Selenious Acid and Selenites Determined by Volumetric Method. D. F. Adams and L. I. Gilbertson.....	926	Nitrogen Determination in, in Combined Form. H. F. Beeghly.....	791
Selenious Acid-Sulfuric Acid Reagent for Color Microreactions on Organic Nitrogen Compounds. B. T. Dewey and A. H. Gelman.....	361	Titanium Determination in Chromium Steels by Routine Colorimetric Method. Louis Silverman.....	551
Selenites and Selenious Acid Determined by Volumetric Method. D. F. Adams and L. I. Gilbertson.....	926	Stills. <i>See</i> Distillation Apparatus.	902
Separation of Mixtures by Immiscible Solvents. Graphical Method. L. F. Knudsen and D. C. Grove.....	556	Stirrer for Viscous or Foamy Materials, Anchor Type of. R. E. Forrest.....	62
Serum Separation from Blood, Flask for. F. E. Holmes and Barbara Johnson.....	62	Stirring at High-Speed, Flask Design for. A. A. Morton, Bradford Darling, and John Davidson.....	734
Sewage, Oxygen Dissolved in, Recorded with Dropping Mercury Electrode. R. S. Ingols.....	256	<b>STOPCOCK</b>	902
Sewage, River Mud Deposits as Affecting Determination of B. O. D. of Supernatant Liquor. W. A. Moore and C. C. Ruchhoff.....	933	for Injection and Sampling. E. H. Brown.....	62
Shield, Safety, of Adjustable Type. Arthur Furst.....	158	Leakproof, for Regulation of Take-off during Distillation. M. S. Newman.....	62
Silica Determination in Presence of Phosphates by Photometric Method. M. C. Schwartz.....	893	Lubricant, Ether-Insoluble. B. L. Herrington and M. P. Starr.....	709
Silica in Water Samples. Effect of Container on Soluble Silica Content. C. A. Noll and J. J. Maguire.....	569	Strontium Detection as Chromate. T. W. Davis.....	709

Strontium Determination in Presence of Calcium. P. B. Stewart and K. A. Kobe.....	298	Volumetric Method for Iron and. W. M. McNabb and Herman Skolnik.....	711
Strontium Chromate Solubility and Strontium Detection. T. W. Davis.....	709	TITRATION	
Sublimation Apparatus. O. A. Nelson.....	153	Electrometric, Glass as Reference Electrode in. Louis Lykken and F. D. Tuemmler.....	67
Suction Pump. <i>See Pump.</i>		End Point Located on Curves for. Alois Langer and D. P. Stevenson.....	770
SUGAR		Micro- End Point with Color Indicators. A. A. Benedetti-Pichler and Sidney Sigria.....	828
Identification by Microscopic Appearance of Crystalline Osazones. W. Z. Hassid and R. M. McCready.....	683	Potentiometric. Review with Bibliography. N. H. Furman.....	367
Lead Determination in, and in Sugar Products. T. D. Gray.....	110	Tobacco, Temperatur and Humidity Cabinet for Hygroscopic Properties of. L. H. Davis, A. W. Petre, and C. F. Bailey.....	587
Products, Moisture Determination in. J. E. Cleland and W. R. Fetzer.....		Tobacco Tissue Density Estimated. F. R. Darkis, P. M. Pedersen, and P. M. Gross.....	8
Corn Sugar "70" or "80".....	124	Toluene Determination in Presence of Methylecyclohexane. B. B. Corson and L. J. Brady.....	531
Maltose and Dextrose.....	27	p-Toluidine Determination in Presence of Its Isomers. C. H. Benbrook and R. H. Kleine.....	427
Refiners' Sirup, Final Molasses (Blackstrap), and Hydrol.....	127	Trimethylamine. <i>See</i> Methylamines.	
Reducing, Determined with Copper. Ceric Sulfate as Volumetric Reagent. A. H. Best, A. H. Peterson, and H. M. Sell.....	145	Trinitrobenzene. <i>See</i> Nitrobenzene.	
White Granulated, Measurement of Color and Turbidity in Solutions of. E. E. Morse and R. A. McGinnis.....	212	Triton F. <i>See</i> Dimethyl Dibenzyl Ammonium Hydroxide.	
( <i>See also kind of sugar.</i> )		Tubes, Chromatographic, Adsorbent Removal from. John Turkevich.....	792
Sulfa Drugs. Assay, Differentiation, and Identification of Sulfanilamide, Sulfapyridine, Sulfathiazole, Sulfaguanidine, and Sulfadiazine. J. A. Calamari, Robert Hubata, and P. B. Roth.....	534	Tubes, Geissler, for Emission of Sodium D Line and Hydrogen C and F Lines. F. M. Goyan.....	60
SULFATE DETERMINATION	849	Turbidimeter for Particle Size Studies. H. E. Schweyer.....	622
as Barium Sulfate, Agar-Agar as Coagulant for. E. J. Bogan and H. V. Moyer.....		<b>U</b>	
Micro-, by Volumetric Method. Tetrahydroxyquinone as External Indicator. S. W. Lee, J. H. Wallace, Jr., W. C. Hand, and N. B. Hannay.....		ULTRAVIOLET	
in Urine by Turbidimetric Method. J. F. Treon and W. E. Crutchfield, Jr. (Correction, 302).	839	Metal-Cleaning Compounds Evaluated by Oil Fluorescence under. O. M. Morgan and J. G. Lankler.....	725
by Volumetric Method. Merle Randall and H. O. Stevenson.....	119	Vitamin A Absorption Maximum of. Influence of Solvent. Kenneth Morgareidge.....	700
Sulfides. Sulfur Determination in Acid-Soluble Sulfides. H. C. Froelich.....	620	Vitamin A Absorption of, in Various Solvents. F. P. Zscheile and R. L. Henry.....	422
SULFUR DETERMINATION	900	Upholstery, Cotton Filling in. Detection of Second-Hand Material. C. M. Jephcott and W. H. H. Bishop.....	400
Accuracy and Precision of Several Methods. William Rieman III and George Hagen.....	150	Uranyl Acetate for Phosphate Determination by Amperometric Titration. I. M. Kolthoff and Gunther Cohn.....	412
in Cellulose Derivatives, in Combined State. C. J. Malm and L. J. Tanghe.....	141	<b>URINE</b>	
in Coal and Coke by Volumetric Method. S. S. Tomkins.....	107	Ethanol Determination in, by Microdiffusion. Theodore Winnick.	523
in Lubricating Oil, in Free Form. Harry Levin and Ervin Stehr.....	940	Nitrate Determination in, by Polarographic Method. E. W. Scott and Karl Bambach.....	136
Micro-, in Organic Compounds Containing Nitrogen and Halogen by Acidimetric Method. E. L. Brewster and William Rieman III.....	820	Sulfate Determination in, by Turbidimetric Method. J. F. Treon and W. E. Crutchfield, Jr. (Correction, 302). 119	
Micro-, in Spray Residues by Direct Method. G. L. Mack and J. M. Hamilton.....	604	<b>V</b>	
Semicicro-, in Organic Materials. Peroxide-Carbon Fusion Followed by Titration Using Tetrahydroxyquinone Indicator. J. F. Mahoney and J. H. Michell.....	97	Vacuum Distillation. Pressure-Measuring Device for Moderate Vacua. E. R. Kline.....	542
in Sulfoxides of Acid-Soluble Type. H. C. Froelich.....	900	Vacuum, Pressure Regulating and Indicating Apparatus for Systems under. Bassett Ferguson, Jr.....	164
Sulfur Dioxide Determination in Contact Sulfuric Acid Manufacture. Evaluation of Reich Test. Gerrit Dragt and K. W. Greenan.....	883	Vanadium Determination with Ozone. H. H. Willard and L. L. Merritt, Jr.....	486
Sulfuric Acid-Selenious Acid Reagent for Color Microreactions on Organic Nitrogen Compounds. B. T. Dewey and A. H. Gelman.....	361	Vanadium Microanalysis in Rat Tissues by Spectrographic Method. E. P. Daniel, E. M. Hewston, and M. W. Kies.....	921
Sulfuric Acid, Sulfur Dioxide Determination in Contact Manufacture of. Evaluation of Reich Test. Gerrit Dragt and K. W. Greenan.....	883	Vapor Adsorption by Crystalline Solid Surfaces. D. M. Gans, U. S. Brooks, and G. E. Boyd.....	396
Supercentrifuge. <i>See</i> Centrifuge.		Vapor Density Determination in Closed Systems. G. H. Wagner, G. C. Bailey, and W. G. Eversole.....	129
Surface-Active Agents. Inorganic Salt Assayed in Presence of Wetting Agents by Conductometric Method. J. H. Percy and C. J. Arrowsmith.....	151	Varnish-Resin Cloud Point Determined in Drying Oils. P. O. Powers	387
Surface Area Determination of Crystalline Solids by Vapor Adsorption. D. M. Gans, U. S. Brooks, and G. E. Boyd.....	396	VEGETABLES	
Symposium on Biological and Food Research, New Analytical Tools for	99, 159, 245, 250, 496	Ascorbic Acid Determination in, Fresh, Frozen, or Dehydrated. H. J. Loeffler and J. D. Ponting.....	846
<b>T</b>		Corn, Frozen, Determining Maturity of. Method for Whole Kernels. F. A. Lee, Domenic DeFelice, and R. R. Jenkins.....	240
Tannin Determination in Boiler Waters. A. A. Berk and W. C. Schroeder.....	456	Peas, Frozen, Determining Maturity of. F. A. Lee.....	241
Tar Distillation Flasks Cleaned by Automatic Method. William Pechenick.....	344	Thiamine Determination in. J. C. Moyer and D. K. Tressler.....	788
Temperature, Critical, Determined by Rotating Bomb. V. N. Ipatieff and G. S. Monroe.....	171	Vinyl Ether. <i>See</i> Ether.	
Temperature-Humidity Cabinet for Tobacco Study. L. H. Davis, A. W. Petre, and C. F. Bailey.....	587	Determination of Polymer Solutions. D. W. Young and E. H. McArdle.....	639
Terpene Fractionation, Column Performance in. W. D. Stallcup, R. E. Fuguit, and J. E. Hawkins.....	503	Stirrer of Anchor Type for Viscous Material. R. E. Forrest.....	56
2,2',2"-Terpyridyl for Iron Determination by Colorimetric Method. M. L. Moss with M. G. Mellon.....	862	Tubes, Filtering Device for. S. J. Hetzel.....	288
Tetrahydroxyquinone in Sulfate Microdetermination. S. W. Lee, J. H. Wallace, Jr., W. C. Hand, and N. B. Hannay.....	839	Viscometer	
Textiles, Deterioration of Cellulose in, Caused by Fungi Determined. G. A. Greathouse, D. E. Klemme, and H. D. Barker.....	614	of Capillary Pipet Type, for Substances Which Are Solid or Highly Viscous at Room Temperature. J. F. Weiler.....	634
Textiles, Starch Evaluation for. W. T. Schreiber and W. L. Stafford.....	227	for Research and Control. F. C. Croxton.....	593
Thiamine. <i>See</i> Vanthioethoxine.		of Rotating Cylinder Type for Determining High Consistencies. R. N. Traxler, J. W. Romberg, and H. E. Schweyer.....	340
2-Thio-5-keto-4-carbethoxy-1,3-dihydropyrimidine for Silver Determination by Colorimetric Method. J. H. Yoe and L. G. Overholser.....	148	of Rotational High-Speed Type, with Wide Range. Henry Green	576
Thiosulfate Determination in Doctor Solution after Use. Karl Uhrig and Harry Levin.....	457	VITAMINS	
Thioureas, Substituted, Microreactivity with Inorganic Ions. J. H. Yoe and L. G. Overholser.....	148	A. Provitamin A Carotenoid Assays. G. Mackinney, S. Aronoff, and B. T. Bornstein.....	391
Thyatron Circuit of Simple Design. Sidney Golden.....	435	A. Ultraviolet Absorption Maximum of. Influence of Solvent. Kenneth Morgareidge.....	700
Thyroid Assay. J. L. Deuble and John Wilkinson, Jr.....	812	A, Ultraviolet Absorption in Various Solvents. F. P. Zscheile and R. L. Henry.....	422
Time-Interval Apparatus of Electronic Type. I. C. Bechtold.....	463	Ascorbic Acid Determination in Fruits and Vegetables, Fresh, Frozen, or Dehydrated. H. J. Loeffler and J. D. Ponting.....	846
TIN	429	Ascorbic Acid Microestimation by Photometric Method. Christopher Carruthers.....	826
Bearing Metal with Base of. Analysis for Antimony and Copper by Permanganate and Iodometric Methods. J. R. Andrews and A. J. Bender.....	713	B <sub>1</sub> . Microdetermination by Simple Method. H. H. Bunzell.....	279
Determination by Iodometric Method, Apparatus for. W. M. Rumberger.....	801	B <sub>1</sub> (Thiamine) Determination by Yeast Fermentation Method. Sulfite Cleavage and New Fermentometer. A. S. Schultz, Lawrence Atkin, and C. N. Frey.....	35
Determination by Volumetric Method Based on Formation of Di-oxalatothiometaestannate. H. H. Willard and T. Y. Toribara.....	716	C. Determination by Colorimetric Method. M. L. Isaacs.....	948
TISSUES	671	C, Determination by Potentiometric Method Using 2,6-Dichlorophenolindophenol and Iodate. J. B. Ramsey and E. L. Colichman.....	319
of Animals and Plants. Nicotinic Acid Microextraction and Assay from. V. H. Cheldelin and R. R. Williams. (Correction, 822). Arsenic Microdetermination in. Emily Cahill and Louise Walters	90	Carotene Determination by Chromatographic Method. Dicalcium Phosphate Activated for. L. A. Moore.....	707
Pentachlorophenol Estimation in, by Spectrophotometric Method. Wilhelm Deichmann and L. J. Schafer.....	310	β-Carotene and Neo-β-Carotene Determined with Visual Spectrophotometer. F. P. Zscheile and B. W. Beadle.....	633
of Rats. Microanalysis for Ingested Vanadium by Spectrographic Method. E. P. Daniel, E. M. Hewston, and M. W. Kies.....	921	Carotenoid Determination in Corn Grain by Spectrophotometric Method. J. W. White, Jr., A. M. Brunson, and F. P. Zscheile.....	798
Titan Yellow in Magnesium Determination by Spectrophotometric Method. E. E. Ludwig and C. R. Johnson.....	895	K (Synthetic). Detection and Quantitative Microdetermination of 4-Amino-2-methyl-1-naphthol. A. R. Menotti.....	601
TITANIUM DETERMINATION	109	Nicotinic Acid Extraction and Assay from Animal and Plant Tissues. Comparison of Micromethods. V. H. Cheldelin and R. R. Williams. (Correction, 822). Nicotinic Acid (Niacin) Content of Cereals and Cereal Products. Microbiological Assay. J. S. Andrews, H. M. Boyd, and W. A. Gortner.....	671
in Alloys by Mercury Cathode Method. M. H. Steinmetz.....		663	
in Chromium Steels by Routine Colorimetric Method. Louis Silverman.....			

Pantothenic Acid, Natural. Microbiological Assay in Yeast and Liver. Eleanor Willerton and H. W. Cromwell.....	603	Pentachlorophenol Estimation in, by Spectrophotometric Method. Wilhelm Deichmann and L. J. Schafer.....	310
Riboflavin Analysis of Cereals by Microbiological Method. J. S. Andrews, H. M. Boyd, and D. E. Terry.....	271	Silica Determination in, in Presence of Phosphates, by Photometric Method. M. C. Schwartz.....	893
Riboflavin Microbiological Determination, Preparation of Samples for. F. M. Strong and L. E. Carpenter.....	909	Silica Dissolved in Samples of, Effect of Container on. G. A. Noll and J. J. Maguire.....	569
Riboflavin and Pantothenic Acid, Growth Stimulants in Microbiological Assay for. J. C. Bauernfeind, A. L. Sotier, and C. S. Boruff.....	666	Suction-Pump Trap to Prevent Backflow of. A. E. Meyer.....	505
Thiamine (B <sub>1</sub> ) Determination in Vegetables. J. C. Moyer and D. K. Tressler.....	788	Supplies, Calcium Carbonate Equilibrium Problems in Corrosion Control of, Slide Rule for. A. A. Hirsch.....	178
Thiamine, Micro-Fermentation Method for Estimation of. E. S. Josephson and R. S. Harris.....	755	Supplies, Carbonate Equilibria and Alkalinity in Public Supplies of, Slide Rule for. A. A. Hirsch.....	943
Volumetric Flasks, Microcalibration Apparatus for. W. R. Thompson.....	268	Wax, Paraffin, Oil Determination in. Russell Lee and V. A. Kalichevsky.....	767
<b>W</b>			
<b>WASHING APPARATUS</b>		Weighing Vessels for Organic Quantitative Microanalysis, Fuzz Detector for Foreign Material on. D. F. Hayman and Wilhelm Reiss.....	357
Bottles, Insulation for Necks of. Jacob Mizroch.....		Wetting Agents. <i>See</i> Surface-Active Agents.	
Bottle of Pressure Type for Volatile Solvents. L. W. Charkey and D. V. Zander.....		Wood, Millwork Preservative Treatments Evaluated. J. B. Mellecker and M. W. Baker.....	305
Continuous, for Solutions in Organic Solvents. A. L. LeRosen.....		Wool Fiber Length Distribution in Samples Cut by Cylindrical Tube Borings. Irving Michelson, Louis Tanner, and H. J. Wollner.....	949
<b>WATER</b>			
Baths, Hot, Constant-Level Device for. B. W. Pocock.....	845	Wort, Copper Traces Determined in. Irwin Stone.....	479
Boiler, Tannin Substances Determined in. A. A. Berk and W. C. Schroeder.....	456	<b>X</b>	
Determination in Coal, New Equipment for. O. W. Rees and K. F. Bursack, with Hygrometer of Electric Type. R. N. Evans and J. E. Davenport.....	729	X-Ray Diffraction by Rapid Method. A. T. McCord.....	793
in Insulating Oil. Manometric Procedure. R. N. Evans and J. E. Davenport.....	507	X-Ray, Microradiography, Industrial Applications and Technique. G. L. Clark and S. T. Gross.....	676
in Sugar Products. J. E. Cleland and W. R. Fetzer	732	<b>Y</b>	
Corn Sugar "70" or "80".....	124	YEAST	
Maltose and Dextrose.....	27	Copper Traces Determined in. Irwin Stone.....	479
Refiners' Sirup, Final Molasses (Blackstrap), and Hydrol.....	127	Pantothenic Acid Microbiological Assay in. Eleanor Willerton and H. W. Cromwell.....	603
Heavy, Density Determination in Micropipet. Fred Rosebury and W. E. van Heyningen.....	363	Vitamin Bi Determination by Fermentation of. A. S. Schultz, Lawrence Atkin, and C. N. Frey.....	35
Heavy, Semimicropycnometer for. B. J. Fontana and Melvin Calvin.....	185	<b>Z</b>	
Humidity-Temperature Cabinet for Tobacco Study. L. H. Davis, A. W. Petre, and C. F. Bailey.....	587	Zinc Determination in Rubber Compounds by Internal Indicator Method. W. P. Tyler.....	114
Magnesium Determination in, with Titan Yellow by Spectrophotometric Method. E. E. Ludwig and C. R. Johnson.....	895	Zinc Microseparation from Copper and Lead with Salicylaldoxime. L. P. Biefeld and W. B. Ligett.....	359
Nitrite Determination in. Discussion of Shinn Method. N. F. Kershaw and N. S. Chamberlin.....	312	Zirconium Separation from Hafnium by Ferrocyanide Method. W. C. Schumb and F. K. Pittman.....	512