

## SUBJECT INDEX

## A

Abrasive, 179  
 Absorption, 202A, 240A, 242A  
 Acetic anhydride, 17A, 182A  
 Acetone-ether, 374  
 Active ingredient, 270B, 277A, 299A, 313, 321, 322, 323, 324, 366, 374, 376  
 Albumin products, 299A  
 Alcohol ether ethylene oxide product, 351  
 Aldridge's method, 346  
 Aliphatic acids, 356  
 Alkali carbonate, 179  
 Alkali fusion, 344  
 Alkalinity, 231C  
 Alkaloidal precipitation, 224A  
 Alkane sulfonyl halides, 346  
 Alkanolamide, 335  
 Alkanolamide sulfates, 263A  
 Alkylaryl sulfonate, 202A, 263A, 324, 344  
 Alkylbenzene, 312, 244A  
 Alkylbenzene sulfonate, 244B, 318, 320, 343, 345, 366  
 Alkylbenzene sulfonate complex, 318  
 (Alkylbenzyl)-trimethylammonium chloride, 303A  
 Alkyldimethylbenzylammonium chloride, 53A, 174A  
 Alkylmorpholine, 274A  
 Alkylphenylphenol sulfonate, 366  
 Alkyl pyridinium chloride, 318A, 326  
 Alkyl sulfate, 238A, 244B, 254C, 277A, 281A, 315, 320, 325, 337, 373  
 Alkyl sulfate, secondary, 320, 321  
 Alkylthiocyanates, 346  
 Alkyltolylmethyltrimethyl ammonium chloride, 276A  
 Alkyl trimethyl ammonium halides, 281A  
 Amberlite IR-120, 309  
 Amine ester, 335  
 Amine hydrochloride, 340  
 Amine salts, 291A  
 Amino acids, 16A  
 Ammonium phosphomolybdate, 347  
 Ampholytes, 291A, 362  
 Amylose, 354, 355  
 Anion active, 113B, 240B, 242A, 254A, 270B, 298A, 315, 328, 337, 339, 343, 354, 355, 366  
 Anion-exchange, 327  
 Anthrone, 70A, 89A, 120A, 178A, 202A  
 Aromatic ring, 299A  
 Ashing, 236A  
 Auerbach procedure, 229A  
 Azo Dye formation, 344

## B

Barium, 240A

Barium chloranilate, 361  
 Benzalkonium chloride, 306  
 Benzalkonium, 303B  
 Benzalkonium chloride, 303A  
 Benzethonium chloride, 306, 360  
 Benzidine method, 202A, 314  
 Bergeron method, 259A  
 Bichromate titration, 260A  
 Bromocresol green, 320  
 Bromophenol blue, 229A, 242A, 254A, 290B, 308, 347, 349, 358  
 Bromothymol blue, 53A, 229A, 242A, 254A

## C

Calcium salts, 10A  
 Calcium soap, 301A  
 Calkin's procedure, 84A  
 Carbohydrate, 70A, 178A  
 Carbon absorption, 343, 345  
 Carbon chain length, 242C  
 Carboxymethyl cellulose, 84A, 123A, 179, 202A, 222A, 260A, 284A  
 Cationic, 240B, 252A, 254A, 254C, 281A, 291A, 315, 354, 355, 359  
 Cation exchange, 240A, 278A, 309  
 Cellulose, 120A  
 Cetylpyridinium chloride, 355  
 Cetyltrimethylammonium bromide, 254C, 317, 319, 343, 349  
 Chevenard thermobalance, 364  
 Chromatography, 271A, 281A, 320, 327, 331, 333, 340, 350, 376  
 Chromatography, gas, 367  
 Chromatography, paper, 281A, 320, 331, 333, 340, 350  
 Chromatography, partition, 356, 362  
 Chlorine, 277A, 309  
 Chloroform, 53A, 113B, 229A, 254A, 271A, 306, 318, 342  
 Cholesterol, 231A  
 Cloud point, 328, 351  
 Cobalt soap, 307  
 Cold wave lotion, 269A  
 Colorimetric, 53A, 70A, 84A, 89A, 113B, 120A, 178A, 182A, 202A, 208A, 231A, 244B, 254A, 271A, 278A, 284A, 290B, 303B, 306, 307, 315, 319, 330, 333, 338, 339, 342, 344, 346, 347, 354, 355, 360, 361, 363, 371, 376  
 Complexometric, 357  
 Condensed phosphates, *see* sodium phosphates, 329, 341  
 Conductometric, 84A, 359  
 Continuous determination, 254C  
 Copper salt, 123A

Cyanine-5R, 339  
Cyclohexylamine, 155A

## D

Densitometer, 326  
Density, 351  
Diamylamine salt, 104A  
Dichloromethylsilane-silicic acid, 356  
Dichromate method, 242A, 336  
Diethanolamine, 271B  
*p*-Diethylaminoaniline, 208  
Diethylenetriaminepentaacetic acid, 357  
Differential titration, 242B, 333  
2,7-Dihydroxynaphthalene, 84A  
Dilute solutions, 244B  
Disulfonates, 244A  
Dodecyltrimethylbenzylammonium chloride, 359  
Dodecylpyridinium bromide, 284A, 319  
Dodecyl sulfate, 281A, 284A  
Dodecyltrimethylammonium bromide, 319  
Dowex 50, 278A, 332  
Dry-cleaning detergent, 231B  
Dutta Mukherij method, 278A  
Dye, 319, 338, 339, 363, 375, *see* colorimetric, individual dyes

## E

Effluents, metal finishing, 347, 348  
Eggs, shell, 358  
Electrochromatographic, 326  
Elemental analysis, 202A  
Eosin, 238A, 315, 363  
Epton method, 195A  
Equivalent weight, 270B  
Eriochrome Black T, 357  
Esterification, 271A  
Esterification, hydrobromic, 270A  
Ethylenediaminetetraacetic acid, 373  
Ethylenediaminetetraacetic acid titration, 301A  
Ethylene dichloride, 53A, 358  
Extraction, 299A, 321, 322

## F

Fatty acids, 278A, 301A, 307, 320, 331, 335, 356, 362, 367, 370  
Fatty acid derivatives, 202A  
Fatty acid peptides, 263A  
Fatty alcohol, 244D, 270A, 277A  
Fatty alcohol, combined, 325  
Fatty alcohol sulfate, 244A, 270A  
Fatty alkylamides, 271B  
Fatty amine sulfate, 322  
Fatty ethyleneoxide amide sulfates, 263A  
Ferricyanide precipitation, 242A, 276A, 336  
Ferrocyanide precipitation, 336  
Field test, 53A, 229A, 290B  
Fillers, 179  
Fluorometric indicators, 315, 363  
Foam, 343

## G

Glycolic acid, 84A  
Gradient elution, 327  
Graham's salt, 341

Gravimetric, 222A, 274B, 303A, 336, 349, 360  
Guerbet test, 366

## H

Haakh method, 244B  
Halides, 299A  
Heteropoly acid, 308  
Hexachlorophene, 311  
Hexadecylamine, 359  
Hexadecyl sulfate, 281A  
Hexadecyltrimethylammonium bromide, 315  
Hyamine, 290B  
Hydrates, 364  
Hydrocarbon, 252A  
Hydrolysis, 244D, 270A, 299A, 318, 322, 329, 345  
Hydrophile-lipophile balance, 328  
Hydroxyl number, 17A, 270A, 277A, 369  
*p*-Hydroxybiphenyl, 334  
8-Hydroxyquinoline, 274B

## I

Identification, 207A, 252A, 254B, 343  
Infrared, 202A, 242C, 244A, 259A, 312, 343, 345, 370  
Interferences, 337  
Iodine-starch colorimetric method, 354  
Iodometric, 123A  
Ion exchange, 278A, 308, 309, 332, 341  
Ionic type, 299A

## K

Karl Fischer method, 231B  
Katharometer, 367  
Kortland and Dammers method, 299A  
Kuhlmann Co. method, 262A

## L

Langmuir balance, 195A  
Lauric acid-diethanolamine, 335  
Lauryl alcohol ethylene oxide sulfate, 339  
Laurylpyridinium chloride, 326  
Lauryl sulfate, 244D, 363  
Liebermann-Burchard method, 231A

## M

Martin and Doty method, 376  
Mass spectrometer, 202A  
Methyl cellulose, 178A, 179  
Methyl green, 337  
1-methylheptylamine, 345  
1-methylheptylamine complex, 318  
Methyl orange, 284A, 290B  
Methylene blue, 113B, 240B, 242A, 254A, 318  
Methylene groups, active, 208A  
Methoxyl determination, 178A  
Micro, semi, 366  
Millon's base, 316  
Mineral oil sulfonates, 10A  
Mixtures surfactants, 254B  
Möbus method, 244B  
Molecular weight, 267A  
Molisch, 89A  
Molybdate and hydrazine sulfate reagent, 330  
Molybdenum blue, 347  
Molybdosilicate, 274B

Molybdovanadophosphoric, 371  
 Morpholine, 274A  
 Morpholine-acetonitrile, 242B  
 Murexide, 301A

## N

N-Alkylmorpholine  
 Naphthalene ring, 299A  
 Naphthalene sulfonic acids, 350  
 Naphthalenedisulfonic acids, 314  
 Naphthenic acid soap, 179  
 Naphthols, 89A, 208A  
*n*-dodecyl sulfate, 281A  
 Neoabietic acid, 104A  
 Neutral red, 284A  
 Nitrogen, 252A, 299A  
*n*-octyl sulfate, 281A  
 Nonionic, 202A, 224A, 240B, 242A, 244B,  
 252A, 298B, 308, 320, 328, 334, 339, 351,  
 354, 355, 359, 369, 375  
 Nuchar C-190, 345

## O

Octadecylamine, 359  
 Octadecyl sulfate, 281A  
 Octyl sulfate, 281A  
 Octyltrimethylammonium bromide, 319  
 Oils, sulfonated, 236A  
 Orange juice, 334  
 Orange II dye, 319  
 Organic barium sulfonates, 240A  
 Organic chlorides, 323

## P

Partition technic, 338  
 Pentahydroxy-flavone, 291A  
 Petroleum sulfonates, 366  
 Phenolphthalein, 231C  
 Phenols, 208A  
 Phosphomolybdate, 242A, 303B, 334  
 Phosphorus, 299A, 309, 369, 371, 372  
 Phosphotungstate, 242A, 303A, 303B, 336,  
 360  
 Photometric, 371, *see* colorimetric  
 Picric acid, 224A  
 Pinacryptol yellow, 281A  
 Polarographic, 290A  
 Polyamides, 252A  
 Polyethylene glycol ester, 369  
 Polyoxyalkylphenols, 351  
 Polyoxyethylene dodecylether, 359  
 Potassium, 256A  
 Potassium bromide disk technic, 370  
 Potassium soaps, 307  
 Potentiometric, 16A, 242B  
 Precipitation, 123A, 155A, 174A, 222A, 224A,  
 238A, 240B, 242A, 244B, 251A, 254C,  
 256A, 267A, 270B, 271C, 274B, 291A,  
 303A, 305, 336, 357A, 373  
 Propyleneglycol, 179  
 Pyridine, 17A

## Q

Qualitative, 70A, 174A, 182A, 240B, 242C,  
 254A, 254B, 259A, 291A, 299A, 334, 340,  
 346, 366

Quaternary, *see* cationic, 113A, 174A, 179,  
 207A, 229A, 238A, 242A, 274A, 276A,  
 290A, 290B, 291A, 303B, 306, 308, 319,  
 326, 336, 342, 349, 358, 360, 363  
 Quinoline, 274B

## R

Radiotracer, 372  
 Raistrick method, 262A  
 Reineckate, 207A, 336  
 Resin acids, 104A, 155A  
 Resorcinol-glucose reagent, 244B  
 Review, 113A, 202A, 242A, 259A, 298A, 313,  
 352, 353, 365, 368, 375  
 Rhodamine B, 320  
 Rhodamine BS, 281A  
 Rose Bengale, 298A  
 Rosin, 182A, 271A  
 Rosin ester, 182A

## S

Sanitizing agent, 53A  
 Saponification, 270A, 369  
 Saponification value, 310  
 Scheme, 179, 244A, 252A, 299A, 335, 365, 366  
 Separation, 104A, 155A, 254B, 281A, 326, 375  
 Sewage, 113B, 317, 318, 337  
 Silica, 368  
 Silica gel, 202A  
 Silicic acid, 251A  
 Soap, 179, 195A, 240B, 271A, 278A, 299A,  
 310, 311, 332, 362, 374  
 Sodium, 323  
 Sodium carboxymethyl cellulose, *see* car-  
 boxymethyl cellulose  
 Sodium chloride, 321, 323, 324, 325  
 Sodium eosinate, 315  
 Sodium ferricyanide, 208A  
 Sodium laurate, 362  
 Sodium *N*-lauroylsarcosinate, 362  
 Sodium oleate, 195A  
 Sodium phosphate, 174A, 179, 327, 329, 330,  
 333, 372  
 Sodium phosphate, meta, 174A, 305  
 Sodium phosphate, meta, tetra, 305, 327, 341  
 Sodium phosphate, meta, tri, 305, 327, 341,  
 376  
 Sodium phosphate, ortho, 327, 329, 341, 347,  
 372, 376  
 Sodium phosphate, poly, 174A, 259A, 262A,  
 271C, 305  
 Sodium phosphate, pyro, 174A, 244C, 262A,  
 271C, 305, 327, 341, 372, 376  
 Sodium phosphate, tetra, 341  
 Sodium phosphate, tripoly, 174A, 244C, 262A,  
 271C, 305, 327, 341, 357A, 364, 372, 376  
 Sodium silicate, 179, 274B, 278A  
 Sodium sulfate, 277A, 316, 323, 324, 325  
 Sodium sulfite, 323, 324  
 Solubility, 10A  
 Solvents, 231B  
 Solvent extraction, 271A  
 Spectral dye, 284A  
 Spectrophotometric, 155A, 231A, 276A, 280A,  
 303B, 311, 318, 319, 338  
 Starch, 120A

- Structure, 242C  
Sucrose, 89A  
Sulfate, 309, 323, 348, 357, 361  
Sulfated alcohols, 202A  
Sulfated glycerides, 179  
Sulfated olefins, 202A  
Sulfated products, 179  
Sulfonated alkanes, 323  
Sulfonated coal, 278A  
Sulfonated fatty amides, 322  
Sulfonated products, 179  
Sulfones, 244A  
Sulfonic acid, mineral oil, 10A  
Sulfonic acid, mono, 244A  
Sulfur, 240A, 299A, 325  
Sulfur trioxide, 236A  
Sulfuric-hydrochloric, 242B  
Sulfuric-nitric, 242B  
Surface water, 337, 343, 345
- T**
- Tall oil, 155A  
Tall oil ethylene oxide products, 351  
Teepol, 254C  
Tetradecyl sulfate, 281A  
Tetrahydroxy quinone, 348  
Tetraphenyl borate, 256A  
Tetraphenyldiboroxide, 291A  
Thermogravimetric, 364  
Thioether ethylene oxide products, 351  
Thiosulfate titration, 260A  
Titrimetric, 16A, 84A, 231C, 236A, 244D,  
260A, 309, 315, 328, 332, 348, 357, 363  
*p*-toluidine method, 202A, 267A, 270B, 299A  
Total alkalinity, 324
- Transmission, 254C  
Triethanolamine, 256A  
*Tris*(ethylenediamine)cobalt bromide, 305  
*Tris*(ethylenediamine)cobalt (III) ion, 357A  
Triterpene alcohol, 231A  
Turbidimetric, 326  
Two-phase, *see* Chloroform or other chlo-  
rinated hydrocarbon system, 254A, 317,  
338, 342, 349, 358
- U**
- Ultraviolet, 202A, 259A, 271A, 276A, 281A,  
315, 320, 338, 340, 350, 363, 374  
Unsaponifiable, 310  
Unulfonated matter, 321, 323, 324, 325  
Uranine, 240B  
Uranyl ion, 222A
- V**
- Versenate, 271C  
Volhard method, 317  
Volumetric, 202A, 244D, 271A, 274B, 316,  
317, 329, 348, 349, 373  
Von Braun reaction, 346  
von Candie method, 244B
- W**
- Water, 231B, 277A, 322, 323, 324, 325, 368  
Widaly method, 260A  
Wool wax, 231A  
Wurzschnitt method, 202A, 259A
- X**
- X-ray, 244C  
Xylene distillation, 322, 323, 324, 325