

SUBJECT INDEX

A

- Abrasive: 2D, 42A, 44A, 57A, 89, 131A, 141, 540, 624
- Abrasive media: 542, 549
- Absorber tower cleaning: 500
- Acetone: 1J, 1V, 57e, 60, 646, 657
- Acids: 1, 1V, 12I, 29C, 32A, 32B, 32C, 35A, 37B, 40A, 52A, 53B, 64A, 70, 70B, 113, 147A, 155, 174, 208, 213, 216, 226, 245, 251, 254, 298, 327, 339A, 332, 337, 352A, 360A, 366, 372, 397, 399, 401, 431, 440, 441, 445, 453e, 470, 475, 487, 490, 499B, 500, 501A, 508, 516, 519, 528, 529, 537, 544, 550, 558, 563, 579, 580, 619, 629, 630, 633, 637, 655, 660, 669, 679, 687, 692, 708
- Acetic, *see* Vinegar: 1O, 228, 326, 618
- Aqua regia: 518
- Boric: 12B
- Boric, alpha: 1L
- Chromic: 53D, 177, 262, 269, 351, 359, 382, 440A, 454A, 535, 537, 584, 588, 678
- Chrome-sulfuric: 456
- Citric: 453e, 633
- Fatty: 499B, 501A, 664, 690.
See also specific acid
- Formic: 1O, 618, 666
- Gallic: 418A, 453E, 549A
- Gluconic: 155, 298, 440
- Hydrochloric: 1K, 1L, 1Z, 5B, 12D, 12I, 53B, 97, 147A, 230, 241, 317, 321, 338, 347, 360A, 397, 402A, 453B, 485A, 501, 503, 508A, 519, 529, 551, 589, 593, 642, 643, 648, 687, 606, 701
- Hydrofluoric: 1I, 57, 62, 79, 135, 220, 275, 353, 393A, 453b, 456, 519, 537, 565, 567, 584, 593, 669, 670, 705
- Hydrofluosilicic: 302, 303a, 432, 456
- Hydroxyacetic: 298
- Inhibited: 29C, 32C, 37A, 40A, 40B, 42A, 42B, 52A, 53C, 53D, 59C, 454B, 501, 503, 529
- Lactic: 134, 232, 338
- Levulinic: 155, 298, 440
- Metaphosphoric: 109
- Mixed: 547
- Naphthalene sulfonic: 489D
- Naphthenic: 436B
- Nitric: 1K, 1O, 5, 5A, 33, 57, 69, 87, 90, 116, 135, 180, 211, 220, 261, 307, 321, 376, 426, 510B, 518, 537, 540, 546, 565, 584, 593, 648, 670, 676, 705
- Nitric-sulfuric: 454A
- Oleic: 4A, 26A, 182, 222A, 268A, 270, 364, 454D, 468B, 483, 652, 693, 704
- Organic: 245, 405
- Oxalic: 1H, 12F, 87, 159, 315D, 446, 556
- Phosphoric: 1B, 1O, 1U, 1V, 2B, 12J, 12K, 13, 25, 37, 37A, 53C, 64A, 83, 119A, 134, 174, 230, 238, 241, 251, 270, 300, 304, 309, 313, 321, 368, 375, 406, 488, 519, 520, 537, 538, 545, 546, 547, 551, 588, 596, 633, 655, 666, 687, 701
- Phosphorous: 405, 520
- Pickling, measurement: 524
- Rinse: 449
- Sodium octyl phosphoric ester: 283
- Stearic: 35B, 501A, 514, 515, 552A, 671, 680
- Stearic, film: 501A, 552A
- Sulfonic: 221, 498
- Sulfuric: 12D, 14, 33, 40B, 40C, 42B, 53A, 53D, 135, 212, 230, 241, 321, 344A, 359, 360A, 431, 448, 454A, 463A, 508A, 519, 520, 538, 541, 550, 551, 557, 563, 589, 593, 601, 611, 623, 648, 652, 670
- Tartaric: 1H, 9A, 57a, 134, 228, 453e
- Thioglycolic: 453e
- Waste: 485B
- Acidic-atmosphere cell: 402
- Actusol: 443
- Adhesion: 67C, 129A, 588, 593, 624, 631, 650
- Adhesion, tension: 605
- Adsorption: 34, 499B, 510A, 513, 515, 552A, 570, 603, 605, 671, 690, 703
- Aerosol: 546
- Agitation: 51
- Agricultural residue: 583
- Aircraft: 76A, 90, 105, 185, 200, 201, 201A, 201B, 249, 253, 275, 284, 285, 297, 297A, 299, 302, 305, 308, 311, 313A, 314, 315, 329, 342, 342A, 342B, 394A, 440A, 450, 452A, 452B, 502, 516, 531, 634, 651, 655, 696
- Aircraft, survey: 297, 342
- Ajax Hultgren Caustic bath: 596
- Alclad: 197
- Alcohol: 393A, 537. *See under kind.*
- Alcohol sulfate: 659
- Aldehydes: 485A
- Aldehyde-amine product: 42B, 53A, 53B, 53C, 53D
- Aliphatic amine: 315a
- Aliphatic 1,3-diketone: 622
- Aliphatic esters: 703
- Alkali: 2D, 67B, 300A, 344A, 468C, 476B, 485D, 495, 508A, 525, 528, 536, 546, 552, 613, 630, 658, 662
- Alkali cyanide: 5A
- Alkali metal fluoride: 57a
- Alkali metal halide: 44A
- Alkali nitrate: 447B
- Alkali nitrite: 447B

- Alkaline cleaners:** 394B, 427B, 432A, 440A, 454A, 497, 537
Alkaline cleaning: 337B, 416A, 453E, 500, 523
Alkaline cleaning cycles: 519
Alkaline etch: 516
Alkaline film: 440A
Alkalinity range: 34
Alkylarylpolyglycol: 368
Alkylaryl sulfonate: 243, 268, 298, 437A, 439, 440, 629, 707
Alkylbenzene sulfonate: 607, 616, 654, 659
Alkylanthracene sulfonate: 83, 280
Alkyl phenol: 226
Alkyl phenyldiglycol ether sulfonate: 375
Alkyl pyrrolidinedione: 603
Alkyl sulfate: 413B
Alkyl thiourea: 52A
Alum: 1H, 255
Alum, soda: 277
Alumilite: 98, 135
Alumina: 9A
Aluminum: 1, 1E, 10, 4, 5, 7, 8, 9A, 12, 14, 16, 17, 20, 22, 23, 24, 31, 33, 35, 37, 39, 40, 42, 49, 54, 57, 57A, 57A, 58, 59, 60, 60A, 62, 64, 68, 72, 73, 74, 75, 76, 76A, 77, 78, 79, 80, 84, 87, 89, 90, 92, 93, 94, 96, 97, 98, 103, 106, 107, 109, 110, 112, 114, 115, 116, 118, 119, 121, 122, 130, 132, 135, 138, 141, 143, 144, 147, 148, 150, 166, 169, 177, 178, 179, 180, 181, 185, 188, 192, 197, 198, 199, 200, 201, 202, 203, 211, 214, 215, 225, 226, 238, 241, 244, 249, 251, 252, 253, 255, 256, 259, 260, 261, 262, 273, 275, 277, 281, 282, 284, 286, 287, 297, 299, 300, 301, 302, 303, 304, 307, 308, 309, 311, 315B, 321, 322, 329, 330, 331, 332, 335, 339, 342, 342B, 344A, 351, 352, 353, 356, 358, 363A, 371, 376, 378, 379, 381, 389, 390, 392, 394A, 400, 401, 412, 413, 413A, 414, 418, 422, 423, 427, 427B, 433, 441, 442, 446, 447B, 450, 450B, 452, 452C, 453b, 456, 463A, 466, 467, 468, 468B, 468C, 476B, 478, 479, 482, 486, 488, 499, 502, 502B, 508A, 516, 518, 520, 531, 537, 542, 544, 545A, 546, 547, 565, 574, 579, 584, 588, 593, 624, 628, 633, 636, 655, 670, 679A, 680, 705
Aluminum alloys: 10
Aluminum, anodized: 96
Aluminum bronze: 544
Aluminum, castings: 33. *See* Die castings.
Aluminum, chemical properties: 103
Aluminum, cleaner specifications: 332
Aluminum, cleaning compositions: 20, 62
Aluminum, corrosion: 35, 42
Aluminum, Dural: 90
Aluminum, etching: 5, 12, 37, 57, 62, 203, 211, 249, 275, 353
Aluminum hydroxide: 67B
Aluminum, inhibitor classification: 241
Aluminum oleate: 505
Aluminum, oxide film: 135
Aluminum oxide layer: 545A
Aluminum phosphate: 447B
Aluminum, polishing: 339
Aluminum, review: 332
Aluminum, sheet: 105, 499
Aluminum, solubility rate: 553
Aluminum stearate: 505
Aluminum sulfate: 9A, 344A
Ammonia: 1L, 1Z, 12F
Ammonium carbonate: 12L
Ammonium chloride: 575
Ammonium fluoride: 1I
Ammonium fluosilicate: 392
Ammonium hydroxide: 46, 220, 476A, 546
Ammonium nitrate: 1J
Ammonium persulfate: 12H
Ammonium phosphate: 225, 447B
Ammonium sulfate: 1I, 12H, 220, 392
Ammonium thiocyanate: 431
Amyl acetate: 26A
Analysis: 168, 205, 234, 272
Analytical control: 557
Aniline: 529
Anions: 291
Anion, action: 122
Anodic cleaning: 129A, 150A, 568, 624
Antifoaming agent: 329
Antimony: 225
Antimony, butter of: 1N
Antimony chloride: 256
Antimony-lead castings: 142
Apparatus, washability: 136. *See* Equipment.
Aromatic hydroxy compounds: 419A
Arsenic: 485A
Atomizer test: 685, 686
Automatic conveyors: 150A
Automobile cleaning: 487A
Automobile radiators: 590
Autoradiograph: 706
Aviation exhaust panels: 655
Aviation maintenance: 651
Aviation maintenance costs: 655
Aviation skin cleaning: 655

B

- Babbitt metal:** 360C
Baking pans: 286A, 636, 647, 694
Barium chloride: 256
Barium sulfate: 1I
Barrel burnishing: 435A
Barrel cleaning: 435A
Barrel scouring: 1L
Bearings: 360C, 567
Beerstone: 192
Bentonite: 24A, 374, 673
Benzene: 1U, 5A, 57e, 60C, 218, 498, 499B, 586, 600, 657, 674
Benzine: 1C, 61, 218
Benzothiazole: 37B
Benzyl thiocyanate: 550
Beryllium copper: 330A, 648
Bibliography: 17, 64
Bichromate, *see* Chromate.
-Black copper oxide: 307
-Black oxide removal: 508B
Blanking lubricant: 114

- Blant-Long:** 183
Blast: 450
Blast abrasives: 573
Blast-airless: 564
Blast cabinet air: 511
Blast centrifugal: 489C
Blast cleaning: 485B, 489C, 508, 509, 511, 532, 542, 549, 552, 562, 568, 573, 583, 668, 702
Blast cleaning, advantages: 549
Blasting economy: 509
Blasting, liquid: 533
Blasting methods: 509
Blasting types: 511
Boiler: 501
Boiler cleaning: 701
Boiler scale: 366
Boiling liquid-warm liquid-vapor cleaning: 510
Bolt cleaning: 579
Borax: 490, 540, 590, 611, 647
Boundary lubrication: 388B
Brass: 2A, 14A, 54, 76A, 97, 112, 118, 144A, 148, 181, 204, 225, 226, 253, 262, 268, 370, 389, 419A, 422, 427B, 453E, 486A, 504, 540, 571, 591, 593, 624
Brazing: 427
Breath figures: 0A
Brewing: 60, 73, 87, 89, 134
Brightener: 633, 651
Brightening: 537
Bronze: 76A, 132, 262, 448B
Brownstone: 1X
Brush cleaning: 508
Buffer action: 34, 45
Buffer capacity: 453C
Buffer index: 709, 141, 286
Buffering: 1F, 56, 78, 81, 148, 710
Buffering action: 691, 692
Buffing compound: 537, 677
Bullard-Dunn: 28, 29, 48, 53, 183, 582
Burnishing: 435A
Burr removal: 533, 542
2-Butoxyethanol: 666
Buttermilk: 1D
Butyl alcohol: 2B, 12A, 329, 406
Butyl cellosolve: 637, 222A, 335
- C**
- Cadmium:** 132, 499B, 671
Calcium carbonate: 425D
Calcium chloride: 52B
Calcium hydroxide: 625
Calgon: 681
Camphorated oil: 57c
Can cleaning: 344A
Can reconditioning: 632
Canning: 72
Carbides: 62A
Carbon: 1Q, 12D, 62A, 436B, 538A, 576, 579, 635, 636, 651, 655, 672
Carbon bisulfide: 1J
Carbon removal: 170, 190, 198, 201, 268A, 297A, 344A, 439A, 494, 498
Carbon removal, formula: 268A
Carbon remover: 57b, 57c, 57e, 66A, 538A, 651
Carbon resistance tests: 686
Carbon smut: 63A
Carbon steels: 1P, 508A
Carbon suspension: 645
Carbon tetrachloride: 65, 67B, 113, 218, 220, 247, 248, 437A, 468B, 602, 674, 676
Casein: 128, 499A
Casting: 14, 33, 35, 52, 54, 469A, 511, 542, 558. *See* Die casting.
Casting alloys: 669
Cathodic cleaning: 1P, 593, 624
Cationic agents: 659
Caustic baths: 230A
Caustic melt: 2E
Caustic soda: 1T, 203A, 265A, 402A, 607, 610, 623
Cellulose waste liquor: 32A
Cement: 1X
Centrifugal blast: 489C
Centrifugal washing: 388
Cereal grit: 450
Ceresin: 623
Cetyl alcohol: 515
Chassis cleaning: 315C
Chemical characteristics and removal: 404
Chemical cleaning: 470A, 577, 602
Chemical cleanliness: 592, 686
Chemical polishing: 537
Chemisorption: 499B, 517, 552A
Chemistry of: 18
China clay: 67B
Chloramine T: 144
Chlorinated benzene: 381
Chlorinated naphtha: 66A
Chlorinated solvents: 171, 219, 222, 237, 243A, 315D, 495A, 497, 599, 617, 619, 622, 651, 655, 707, 710, 712
Chromate: 22, 24, 35, 80, 115, 135, 138, 178, 193, 220, 251, 321, 329
Chrome: 485A, 505
Chromium plating: 566, 574
Cinchona bark: 29B
Circulation methods: 500
Citronella: 1N
Clay: 2B, 476A
Cleaner carryover: 541
Cleaner functions: 508A
Cleaning classification: 2, 135, 242, 334, 451
Cleaning compositions: 633
Cleaning cycles: 486, 486A, 497, 519, 547, 563, 566, 574, 596
Cleaning equipment: 508A
Cleaning index: 143, 325, 686
Cleaning layouts: 449A
Cleaning materials: 450A
Cleaning methods: 158, 230, 578, 593, 624
Cleaning performance: 342A
Cleaning performance tests: 693
Cleaning principles: 158, 709
Cleaning recommendations: 1S
Cleaning schedules: 574
Cleaning standards: 624
Cleaning troubles: 361

- Cleaning, types:** 333, 534
Cleanliness: 394B, 463C, 476B
Cleanliness classification: 592
Cleanliness evaluation: 444A, 517
Cleanliness test: 1A, 94, 243B, 325, 341, 383, 403, 593, 608, 624, 659, 686
Cloth wipe test: 686
Coal tar: 693
Coal tar bases: 538
Coal tar distillate: 431A, 435B
Coal tar oil: 270
Coating: 12A
Cobalt: 402A
Cocanut oil soap: 444a
Cohesion: 593, 650
Collidine: 503
Colloidal action: 34, 122, 333
Commutator cleaner: 26A
Complex metal salts: 453e
Compositions: 11, 12, 20, 45, 62, 66, 74, 75, 84, 100, 101, 107, 109, 110, 111, 115, 116, 119, 125, 136, 147, 147A, 150, 152, 153, 163, 166, 167, 168, 172, 182, 186, 198, 200, 201, 207, 209, 212, 216, 220, 226, 241, 243, 244, 246, 252, 255, 264, 265, 270, 272, 276, 277, 282, 283, 289, 293, 295, 298, 313, 314, 315, 325, 326, 328, 329, 335, 338, 340, 349, 351, 364, 368, 374, 382, 385, 389, 390, 392, 406, 411, 422, 423, 424, 425, 426, 442, 446, 448, 456, 457, 462, 471, 477, 482, 487, 489, 490, 629
Composition, analysis: 111
Composition of baths: 144A
Composition, cleaning: 342B, 526, 565
Composition, evaluation: 34, 143. *See* Evaluation.
Composition-proprietary specifications: 627
Composition specifications: 627
Compressed air blast: 489C
Conditioner: 637
Conductivity: 47, 85, 122.
See Surface resistance.
Conductors: 646
Contact angle: 572, 652, 667
Contamination: 337B
Cooking utensils: 10
Coolants: 566
Cooling systems: 579
Copper: 2A, 5A, 12H, 14A, 67B, 77, 78, 92, 115, 118, 129A, 132, 144A, 181, 188, 201, 226, 253, 262, 288, 354, 357, 418, 419A, 427B, 447B, 448, 453E, 468B, 486A, 499B, 501A, 540, 552A, 570, 571, 574, 593, 605, 611, 623, 641, 671
Copper alloys: 497, 574, 648
Copper coating: 129A
Copper coils: 529
Copper cyanide cleaners: 624
Copper dip test: 394B
Copper-lead: 570
Copper oleate: 454D
Copper powder: 623
Copper stearate: 501A, 552A
Copper sulfate: 463C
Corn cobs: 583
Corrosion: 2A, 24, 31, 39, 60, 69, 70, 78, 81, 92, 96, 115, 119, 130, 135, 144, 148, 153, 154, 164, 166, 173, 177, 178, 199, 202, 204, 211, 213, 214, 220, 223, 225, 228, 229, 245, 264, 269, 286, 286A, 278A, 298, 314, 315, 315B, 321, 331, 358A, 359, 362A, 386, 394A, 442, 444A, 452A, 453c, 468C, 469, 485A, 485C, 493, 502A, 502B, 504A, 549A, 550, 636, 640, 659, 699
Corrosion, aluminum: 4, 12, 17
Corrosion, apparatus: 301
Corrosion inhibitors: 1E, 4, 7, 8, 12, 22, 24, 35, 37, 39, 60A, 60C, 74, 80, 100, 101, 103, 115, 125, 134, 135, 138, 193, 214, 215, 217, 256, 273, 276, 321, 331, 349, 375, 381, 420, 441, 444a, 453D, 487, 487A, 515, 538A, 549, 582, 596, 637, 653, 681, 707
Corrosion, inhibitor history: 164
Corrosion, inhibitor mechanism: 164
Corrosion, mechanism: 458
Corrosion, prevention: 244
Corrosion products: 549A
Corrosion, resistance: 214, 238, 301, 308
Corrosion, technique: 166
Corrosion, test: 119, 141, 170, 198, 201, 215, 223, 252, 281, 694
Corrosion, types: 229
Cottonseed oil: 507, 587
Coupling agents: 576, 709
Cream of tartar: 1L
Cresol: 63A, 114A, 268A, 297A, 452A, 493A, 494, 635, 655
Cryolite: 147
CrysCoat: 407
Crystal orientation: 129A
Cupro-nickel: 544
Cutting: 444a, 476A
Cutting oils: 221, 227, 228, 566, 648
Cyanides: 54. *See* Sodium cyanide.
Cyanide descaling: 624
Cyclohexane: 621
Cyclohexanone: 515
Cylinder: 1J

D

- Dairy:** 24, 59B, 78, 96, 111, 115, 144, 155, 194, 208, 210, 246, 298, 440, 442, 450B, 499A, 510B, 585, 644, 645, 707
Dairy, composition: 246
Dairy equipment: 300A
Decalin: 365
Decarbonizing: 435B
Deflocculation: 81, 105
Degras: 488
Degreaser: 416A, 447A, 463B, 465A, 468C, 469A, 489A, 489F, 521, 537, 539, 543, 563
Degreaser apparatus: 360B, 453A, 510
Degreaser, installation: 510
Degreasing: 59A, 60C, 63B, 63C, 67B, 131A, 134A, 243A, 319A, 341a, 435B, 447B, 495A, 583, 586, 591, 592, 621, 630, 638, 649

- Degreasing equipment: 155A, 449A
 Degreasing mechanism: 63B
 Degreasing methods: 489F
 Degreasing stabilizer: 315a
 Degreasing tank design: 243A
 Dehydration: 129B
 Deionization: 594
 Deox-aluminum: 261
 Deoxidine: 25
 Deoxidizing: 12B
 Descaling: 55, 73, 97, 129B, 312, 328A, 355, 363, 417, 454C, 457, 457A, 457B, 457C, 475, 476, 476C, 485A, 489B, 492, 500, 503, 504, 508, 509, 519, 529, 532, 533, 570, 582, 624, 656, 676, 702
 Descaling principles: 116A
 Desorption: 603
 Detergent action: 56, 136
 Detergent evaluation: 56. *See* Evaluation.
 Detergent testing: 394A
 Detinning: 131A
 Diacetone alcohol: 586
 Diatomaceous earth: 29A
 o-Dichlorobenzene: 494, 498, 576, 642
 Die castings: 54, 97, 132, 142, 330, 381, 388A, 389, 409, 425, 449, 486, 486A, 506, 538, 542, 566, 569, 681. *See* Specific metal.
 Diesel engine cleaning: 672
 Diesel fuel: 362A
 Diesel oil: 640
 Diethyl phosphite: 471
 Diethylene glycol: 114A
 Diethylene glycol monobutyl ether: 693
 Dihydroxy aromatic compounds: 549A
 Di-n-butyl stearate: 606, 610
 Dining ware: 437A
 Diphasic cleaner: 599, 709
 Diphasic cleaning: 569
 Diphasic emulsions: 364, 483, 484
 Direct current cleaning: 589
 Dishwashing: 57A, 141, 166, 286, 300A, 397A, 453C, 545, 665
 Dishwashing composition: 545
 Disodium phosphate: 523
 Dithiocarbamic acid: 40B
 Dithionates: 453E
 Drag-out: 620, 650, 660
 Drawing: 567
 Drawing compounds: 119a, 318, 396, 451, 541, 565, 584, 596, 659, 710
 Drawing oil: 227, 382
 Drilling oil: 114
 Droplet: 0B
 Drycleaners solvent: 600
 Drying oil: 7A
 Duponol G: 315
 Duralumin: 206, 215
 Dye: 598
- E**
- Economics: 113, 114
 Economics of cleaning: 579
 Efco-Virgo process: 475
 Electric irons: 150A
 Electric motors: 672
 Electrical conductivity: 131A, 589
 Electrical resistance: 187, 363A. *See* Surface resistance.
 Electrical resistance test: 259
 Electrical resistivity: 14A, 632
 Electro-cleaning: 76A, 432A, 454A, 486A, 497, 519, 525, 547, 561, 563, 566
 Electro-descaling: 97
 Electrolysis: 2E
 Electrolyte: 1R, 1T, 1Y, 2E, 12C, 632
 Electrolytic action: 12C
 Electrolytic cleaning: 1P, 1Q, 1T, 1W, 1Y, 12C, 19A, 27, 28, 29, 29D, 47, 48, 51, 53, 54, 55, 59A, 63B, 63C, 79, 85, 97, 113, 120, 122, 127, 128, 131A, 132, 149, 150, 156, 157, 158, 172, 182, 183, 217, 220, 224, 234, 243, 244, 262, 266, 268, 272, 288, 291, 296, 322, 334, 347, 354, 359, 382, 386, 389, 399, 409, 418, 425, 432, 434, 445, 451, 459, 477, 480, 486, 491, 492, 568, 569, 574, 580, 589, 601, 624, 661, 677, 678, 679, 681, 682, 687, 698, 700, 709
 Electrolytic cleaning cycles: 589
 Electrolytic descaling: 582
 Electrolytic pickling: 187, 491A, 592
 Electrolytic potential: 278A
 Electron diffraction: 384A, 501A, 515, 535, 545A, 552A, 603, 690, 703
 Electron interference: 545A
 Electron microscope: 384A
 Electroplating: 11, 95, 486A, 516, 538, 549
 Electroplating test for cleanliness: 240
 Electrostatic precipitation: 507
 Electrotinning: 507
 Embrittlement: 1P, 62A, 183, 347, 509, 563, 589
 Emery flour: 11
 Emulgator: 221
 Emulsification: 24, 44, 85, 122, 123, 148, 150
 Emulsifying agent: 43, 435B, 439A, 538A. *See* Wetting agents.
 Emulsifying capacity: 640
 Emulsion cleaner: 63A, 568, 569, 591, 592
 Emulsion solvents: 537, 709
 Emulsion specifications: 87A, 652
 Emulsion stability: 315, 342A, 484, 640
 Emulsion test: 127, 292
 Emulsion theory: 292
 Emulsions: 49, 67A, 104, 137, 138, 179, 186, 217, 222A, 224, 233, 244, 253, 263, 264, 271, 272, 278, 292, 313, 315C, 331, 333, 334, 337B, 340, 342A, 359, 362A, 371, 375, 380, 381, 398, 402, 405, 409, 410, 420, 425, 443, 447, 451, 454A, 456, 462, 464, 469, 483, 484, 486, 486A, 487A, 496, 497, 507, 508A, 522, 537, 538A, 552, 565, 589, 604, 633, 642, 643, 652, 672, 682, 683, 700, 702, 704, 707, 709
 Emulso-Primer: 49
 Enamel: 14, 43

- Enameling:** 1Q, 5B, 119A, 463B, 544
Enameling iron: 303, 396
Engine cleaning: 1J, 97A, 114A, 198, 268A, 297A, 439A, 450, 493A, 494, 498, 538A, 567, 635
Engine composition: 498
Equipment: 51, 82, 92, 126, 131, 316, 388, 394
Etch: 48, 116, 135, 299, 300, 335, 347
Etch, see Aluminum, etching.
Etch, brass: 44
Etch, caustic: 37
Etching: 1U, 62A, 453b, 489B, 537, 552, 558, 567, 593, 669, 683, 705
Ethanolamine: 222A
Ether alkylated: 201A
Ethyl alcohol: 1B, 1D, 1J, 1U, 1V, 2B, 4A, 5A, 12A, 12F, 12I, 12K, 57e, 63A, 406, 415, 452D, 616
Ethyl silicate: 693
Ethyl stearate: 671
Ethylene dichloride: 268A, 329
Ethylene diamine: 689
Ethylene diamine oleate: 576
Ethylene glycol: 270
Ethylene glycol monobutyl ether: 340, 576, 652, 704
Evaluation: 15, 24, 34, 54, 77, 81, 94, 99, 105, 114, 118, 122, 127, 133, 135, 136, 143, 151, 168, 196, 202, 206, 214, 215, 231, 251, 253, 303, 325, 383, 385, 393, 394B, 396, 398, 402, 403, 409, 436, 439, 447, 449, 485C, 494, 662, 663
Evaluation, alkalies: 56, 88, 93, 148
Evaluation, aluminum cleaners: 35
Evaluation, cleanliness: 394B
Evaluation, dishwashing: 74
Evaluation, electrolytic cleaning, laboratory: 234, 296
Evaluation, emulsifying power: 78
Evaluation, methods: 9, 151
Evaluation, pickling inhibitors: 431
Evaluation, removal: 55, 99, 118, 240
Evaluation test: 652
- F**
- Fatigue-strength:** 615
Fatty acids: 297A, 396, 396, 498, 554.
See under acid.
Fatty acid adsorption: 159, 499B
Fatty acid esters: 499B
Federal specifications: 117
Feldspar: 12G
Ferric oxide: 7A
Ferric phosphate: 447B
Ferricyanide paper test: 624
Ferrous metals: 40C, 42B, 53A, 64A, 116B, 574
Ferrous sulfate: 1H
Fille: 131A
Film strength: 501A
Films: 384A, 458, 486, 501A, 505, 530, 537, 545A, 552A, 587, 603, 605, 624, 631, 678, 682, 690, 707
Films, mechanism formation: 458
Finger marks: 33, 118
Fingerprint: 586, 674
Fingerprint cleaning: 358A, 493
Fingerprint synthetic: 358A
Fish oil soap: 14A
Flame cleaning: 129B, 419B, 427, 434, 485, 532, 579
Flash point: 213
Flash surface castings: 511
Flaws: 598
Flour: 24A
Fluorescent dye test: 601, 608, 624, 633, 686
Fluorescent oil: 383
Fluorescent soil method: 512, 527
Fluosilicate: 213. *See under sodium salts.*
Fluxing: 579
Foam: 32A
Foam control: 589
Foam reducer: 14A
Foaming: 141, 286, 393
Food: 245
Forgings: 564
Formaldehyde: 32A, 431
Formulations: 2A, 624, 627
Friction removal: 334
Frothing inhibitors: 416A
Fuel tank cleaning: 655
Fused baths. See Molten bath and the specific compounds.
Fused caustic: 402A, 419C, 612, 696, 708
Fused caustic baths: 457B, 457C, 570
Fused salt: 624
Fused salt baths: 360C, 454C, 472A, 476C, 558, 559
Fusel oil: 1V
Fuselage cleaning: 655
- G**
- Galvanic cleaning:** 2A
Galvanized: 14
Galvanizing: 1Z, 579, 629
Gases: 12D
Gasoline: 1J, 1M, 61, 120, 247, 600, 657
Gassing: 589
Gelatine: 12K, 321, 344A
German practice: 68, 96
German silver: 2A
Glauber salt: 11A
Glue: 172
Glycerol: 5B, 11A, 53E, 341A, 393A
Glycol: 393A
Glycol acetates: 64A
Glycose: 453e
Gold: 1G, 2A, 499B, 671
Graking immersion: 543
Grape sugar: 1R, 1W
Graphic arts: 432B
Graphite: 567, 584
Gravimetric measurement soil removal: 572
Gravimetric test: 624, 662, 686
Grease: 0A, 1P, 12D, 19A, 44B, 62A, 63A, 76A, 101A, 315B, 315C, 315D, 419B, 508B, 566, 568, 592, 595, 600, 637, 640, 642, 652, 654, 669, 670, 676

Grease cleaning: 342A, 362A, 502, 537
 Grease removal: 27, 40, 48, 61, 85, 94, 95,
 108, 118, 157, 179, 211, 225, 226, 227
 Grit blasting: 509, 579
 Grits: 583
 Ground-coat enamels: 108A
 Gum: 538A, 566, 655
 Gum solvent: 566
 Gun barrels: 12H

H

Hand cleaning: 201A, 565, 636
 Hard water scale: 500
 Health control: 395
 Health hazards: 59A, 60C, 111A, 155A,
 243A, 319A, 341A, 448A, 508A, 626, 630,
 652
 Heat exchange equipment: 376
 Heat exchangers: 454B, 499A, 500, 577
 Heat treatment removal: 540
 Heating coils: 529, 540
 Heating surface: 500A
 Heatless degreasing: 508B
 Heavy duty: 71
 Heavy duty cleaners: 342A
 Heavy lubricating oils: 87A
 Henkel P₁: 133
 History: 18, 56
 Hivolin: 501
 Hooks: 1L
 Houghto-Clean: 59, 387
 Hydraulic oil: 566
 Hydraulic systems: 566, 579
 Hydrazine sulfate: 549A
 Hydrocarbon: 23. *See* Solvents.
 Hydrocarbon films: 388B
 Hydrocarbon oil: 2D
 Hydrocarbon solvent: 87A, 315D, 495A, 576,
 605, 622, 640, 641, 643, 652, 654, 672
 Hydrogen: 129A
 Hydrogen embrittlement: 12, 28, 312, 363,
 429, 485B, 559. *See* Embrittlement.
 Hydrogen ion: 485A
 Hydrogen, occluded: 12D
 Hydrogen peroxide: 448, 468B
 Hydrophil balance: 587
 Hypochlorite: 100, 101, 125, 144
 Hull cell: 357

I

Icithyol: 29C
 Ideal properties cleaners: 150
 Igepal: 495
 Igepon: 682
 Immersion cleaning: 1P, 337B, 432A, 565,
 592
 Inclusions: 444A
 Inclusions classified: 444A
 Industrial: 18, 19, 41
 Industrial plant cleaning: 465E
 Infusorial earth: 44A
 Inhibitor films: 515
 Inhibitor, test: 187, 485C
 Inhibitor, theory: 187, 323
 Ink solvent: 600

Interfacial tension: 34, 67A, 81, 105, 123,
 314, 333, 447, 452B, 483, 657
 Interference colors: 68B, 78A
 Internal combustion engine: 1J, 57c, 435B,
 538A, 642, 643, 654, 655. *See* Diesel,
 Automobile, Engine.
 Ion retention: 518
 Ionization: 46
 Ions: 463A, 518
 Iron: 1E, 1U, 7A, 12C, 13, 55, 59C, 92, 100,
 101, 101A, 106, 115, 118, 119A, 125,
 150A, 181, 190, 243, 265A, 268, 280A,
 354, 402A, 418, 419A, 419C, 423, 427,
 432A, 437, 445, 447B, 453E, 466, 467,
 467B, 468, 470A, 485A, 488, 495, 499B,
 502, 502B, 503, 515, 535, 543, 555, 560,
 575, 588, 605, 624, 629, 666
 Iron chloride: 347
 Iron pans: 636
 Iron sludge: 1Q
 ~Isopropanol: 600, 654

J

Japanning: 97B
 Jelling: 131A

K

Kelite KDL No.1: 311
 Kerosene: 4A, 35B, 63A, 135, 137, 138, 229,
 315, 315B, 381, 437A, 576, 600, 635, 640,
 642, 643, 655, 657
 Kerosine: 337A, 362A, 468B, 496, 498
 Ketone: 537
 Kettle cleaning: 443A
 Kolene process: 161, 508A

L

Laboratory evaluation: 394B, 673, 684, 685.
See Evaluation.
 Laboratory performance specifications: 627
 Lacquers: 587, 593
 Lampblack: 693
 Lanolin: 652
 Lard: 53E, 684
 Lard oil: 684
 Lauryl pyridinium chloride: 550
 Lead: 54, 142, 226, 354, 558, 579, 605
 Lead alloys: 497, 574
 Lead coating: 1Z, 29D
 Lead nitrate: 256
 Lead oleate: 454D
 Life of cleaner: 263
 Lime: 508
 Lime scale: 1X, 499A, 611
 Lime soap: 495
 Lime soap removal: 495
 Linseed oil: 121
 Liquid cleaner: 452D, 616
 Liquid-liquid vapor units: 539
 Liquid-solvent cleaning: 521
 Litho printing: 587
 Lorol phosphate: 434
 Lubricant film: 664
 Lubricant layers: 554

Lubricant oil: 243B
 Lubricants: 150A, 330A, 388B, 499B, 505, 565, 641, 664
 Lubricating oil: 337A, 517
 Lubrication: 513

M

Machine cleaning: 452B
 Machines: 39, 51, 82, 92, 114, 131, 184, 237, 253, 314, 384, 388, 394, 409, 445, 451, 463, 486, 493
 Machining: 112A
 Macro-etchant: 453b
 Magnaflux: 444A
 Magnesium: 35, 150, 167, 173, 185, 211, 216, 220, 228, 244, 253, 262, 268, 269, 272, 276, 310, 322, 335, 342B, 351, 359, 378, 379, 394A, 422, 423, 427, 441, 450, 454B, 468B, 486, 502, 508A, 542, 562, 567, 574, 584, 593, 677, 681
 Magnesium alloys: 76A
 Magnesium oxide: 540
 Magnesium sulfate: 84
 Mahogany soap: 654
 Mahogany sulfates: 289
 Maintenance: 2, 50, 202
 Matrices: 600
 Mechanical cleaning: 76A, 79A, 96B, 99A, 419B, 454A, 500, 501, 552, 592, 700
 Mechanical cleaning equipment: 449A
 Mechanical processes: 30, 224, 447
 Mechanical removal: 532
 Mechanism of cleaning: 18, 36, 66, 403, 404, 447, 483, 484, 489, 489A
 Mercuric chloride: 256
 Mersol: 682
 Mersolate: 682
 Metal chloride: 147A
 Metal complexes: 594
 Metal soaps: 594
 Metal turnings: 1E
 Methane dichloride: 618
 Methanol: 393A
 Methods of cleaning: 3, 22, 52, 113, 192, 217, 236, 354, 388, 394, 400, 405, 410, 420, 421, 424, 449, 581
 Methyl alcohol: 5B, 12I
 Methyl amyl ether: 364
 Methyl aniline: 503
 Methyl ethyl ketone: 633
 Microcracks: 615
 Mikrosan: 208
 Milk: 210, 298, 440, 499A, 585
 Milk cans: 300A
 Milk scale: 499A. *See* Milk stone.
 Milk stone: 37A, 134, 155, 160, 210, 585
 Mill scale: 532
 Mineral acid: 22A, 29B. *See* Acids.
 Mineral oil sulfonate: 22A, 29C
 Mineral spirits: 171, 201A, 222A, 538, 569, 599, 710. *See* Solvents.
 Mirror cleaner: 452D
 Modified soda: 607, 610
 Moisture: 129B
 Molasses: 1I

Molten ammonium fluoride: 358, 452
 Molten baths: 161. *See* Fused bath.
 Molten caustic bath: 230A, 265A, 280A, 489e, 508A, 596, 612
 Molten electrolytic baths: 187
 Molten salt: 230A, 568, 656
 Molten salt bath: 560
 Molten sodium cyanide (and sodium hydroxide): 369, 457, 490
 Molten sodium hydroxide: 279, 312, 328, 432, 457, 459, 475, 476, 480, 490, 491
 Molybdenum: 468B
 Monel: 548, 593
 Monoammonium phosphate: 110
 Monobutyl ether of ethylene glycol: 32B
 Monoethanolamine: 270
 Monolayers: 78A, 113A, 499B, 518
 Motor vehicles: 315D
 MP-189: 495
 Multiphase cleaners: 420. *See* Diphasic.

N

Nacconol: 495, 546, 665, 684
 Nacconol NR: 151, 152, 292
 Naphtha: 53E, 63, 135, 220, 381, 495, 652, 704
 Naphthalene: 57e, 476A
 Naphthenic acid: 435B
 Naphthenate soap: 435B
 Needles: 1L
 Nekal BX: 629
 Neutralization: 1E, 315D
 Neutron radiation: 499B
 Nickel: 2A, 14A, 16, 78A, 112A, 144A, 144B, 188, 354, 357, 402A, 418, 468B, 497, 579, 593
 Nickel plating: 486A
 Nickel silver: 67B, 544
 Nielco: 284
 Nitrogenous bases: 35A
 Non-ferrous: 468A
 Nonionic wetting agent: 315, 368, 483. *See* Wetting agents.
 Nut shells: 583

O

Octadecyl alcohol: 499B, 671
 Oil: 1U, 1V, 12I, 23, 33, 38, 39, 48, 85, 94, 95, 99, 114, 148, 150A, 151, 179, 198, 199, 201, 202, 206, 211, 219, 221, 225, 226, 227, 228, 231, 240, 253, 274, 276, 280, 284, 287, 289, 314, 315B, 315C, 322, 331, 334, 366, 403, 404, 406, 419B, 420, 422, 423, 426, 434, 469, 482, 483, 488, 489, 538A, 568, 587, 592, 601, 602, 603, 604, 633, 635, 669, 679, 684, 693, 709
 Oil of cedar: 57c, 57e
 Oil cooler cleaner: 693
 Oil extraction: 507
 Oil films: 68B, 83A, 94C, 112A, 402A, 545A
 Oil, film on sheet steel: 280
 Oil layer thickness: 507
 Oil removal: 537, 571
 Oil, removal by machine: 447
 Oil, soluble: 178, 241, 289

Oil solvent: 537
Oil spreading: 454D
Oildag: 206
Oleic acid soap: 63A
Operations: 463B
Organic bases: 485A
Organic sulfur: 485A
Orientation: 603, 641, 690
Ortho-dichlorobenzene: 16, 117
Ortho-toluidine: 270
Overcleaning: 569
Overloading: 171
Oxidation: 315a, 566
Oxide: 352A, 363A, 393A, 419A, 509, 519, 546, 547, 571
Oxide film: 535, 554, 555
Oxide film structure: 384A
Oxide removal: 119A, 230A, 280A, 315D, 341A, 383A, 499, 508B, 571, 579, 580, 592, 601, 605, 612, 648, 650, 655, 664, 666, 669, 670, 687, 705
Oxide removers: 342
Oxidized oil: 68B, 113A
Oxidizing agent: 352A, 447B, 519
Oxidizing conditions: 629
Oxyacetylene: 129B

P

Paint: 1B, 2B, 12A, 12K, 25, 38, 61, 82, 83, 97B, 114, 136, 165, 167, 185, 198, 224, 230, 253, 259, 270, 278, 345, 348, 362, 368, 407, 419B, 427, 444, 449, 465, 477, 485, 488, 579, 588, 617, 666, 675, 683
Paint removal: 452A, 453C, 494
Paint remover: 617, 618, 619
Paint stripping: 655
Paint stripper: 153, 154, 165, 198, 334, 471
Painted surface: 342A
Painting practice: 419B
Paper industry: 504A
Paraffin: 1M, 2C, 536
Paraffin oil: 1D, 1N, 2C, 26A
Parkerizing: 305, 319
Passivated film: 535
Passivation: 116B, 636
Pasteurization: 499A, 510B
Patent review: 114A, 332
Peanut oil: 1N
Penetrant: 329
Penetration: 1P, 337A, 498, 510A, 576
Pennsalt E: 271
Peptization: 44, 96B
Perborate: 300A
Perchloroethylene: 247, 319A, 360, 712
Performance tests: 127, 201A, 201B, 286A, 297A, 333, 342A, 342B, 494A, 394B, 397A, 439A, 452A, 452B, 452C, 453B, 545
Petroleum: 1C, 707
Petroleum equipment: 500
Petroleum ether: 452D
Petroleum solvent: 337B, 497
Petroleum sulfonate: 707
Petronate: 693
pH: 46, 56, 81, 122, 125, 131A, 141, 165, 174, 230, 243, 265, 311, 314, 327, 333, 336, 361, 632, 691, 692, 693, 709
pH, control: 106, 112
Phenol: 2E, 12C, 342A, 352A, 435B, 495A, 618, 655
Phenolic ether, alkylated: 105
Phosphates: 54, 344A, 394A, 432A, 502, 569. *See Sodium salts.*
Phosphate cleaner: 675
Phosphate coatings: 523, 552
Phosphate, corrosion inhibitor: 80
Phosphate, poly: 139, 246. *See Sodium salts.*
Phosphatizing: 224, 398
Phosphorous trichloride: 337A
Physical character and removal of soil: 404
Pickling: 1K, 1L, 1O, 1P, 12D, 29B, 32C, 35A, 40A, 40B, 42B, 52A, 53A, 53B, 53C, 53D, 58, 59C, 67, 76A, 94A, 97, 114A, 150, 183, 188, 212, 224, 239, 253, 257, 278, 278A, 304, 306, 309, 312, 317, 322, 328, 337, 344A, 347, 359, 413B, 417, 426, 427, 429, 447, 454A, 463B, 464, 485B, 486, 486A, 489B, 491, 491B, 508A, 509, 510A, 519, 524, 532, 541, 544, 557, 568, 573, 579, 592, 624, 648, 660, 668, 676, 679A, 687, 702, 705, 707
Pickling acid, measurement: 524
Pickling inhibitor: 306, 321, 337
Pickling inhibitor review: 337
Pine oil: 222A, 340, 364, 496, 652, 704
Pinholing: 558
Pins: 1L
Pipeline washing: 443A
Pistons: 655
Piston oils: 113A
Plate-type heat exchanger: 499A
Plating: 1F, 1S, 1T, 5A, 5B, 44B, 62A, 63B, 63C, 70C, 72A, 80, 86, 95A, 110A, 129A, 144B, 150A, 278A, 330A, 449A, 476B, 583, 593, 600, 601, 620, 624, 650, 669, 670, 677, 679, 682, 684, 685, 686, 705, 710
Platinum: 78A, 464A, 468B, 499B, 518, 671
Polar compounds: 513
Polishing: 1, 1D, 1I, 1M, 1N, 2, 2A, 5, 6, 11A, 12F, 12G, 29A, 35B, 52, 53E, 76A, 112A, 117, 391, 435A, 452C, 452D, 531, 540
Polish composition: 339
Polish evaluation: 531
Polishing papers: 2A
Polyethylene glycols: 64A
Polyethylene glycol ricinoleate: 569, 599
Polyhydric alcohols: 393A, 498
Polyphosphates: 644, 700, 709
Porcelain: 119a
Porosity: 510A, 598
Potash soap: 616, 635, 640
Potassium bichromate: 487A
Potassium carbonate: 1R, 1W, 65, 496
Potassium chromate: 444a, 535
Potassium cyanide: 1K, 1R, 1W, 67B
Potassium hydroxide: 1L, 1R, 1W, 4A, 19A, 65, 81A, 268A, 340, 693
Potassium hydroxide fused: 561
Potassium oleate: 651
Potassium sulfate: 1T
Potassium tartrate: 590

Powder: 76A, 468B
Power washer: 202
Power washing: 568
Precansions in cleaning: 1F, 319A
Precleaning: 547, 552, 569, 589
Precleaning stainless steel: 568
Preservative: 337B
Pressure rinse: 508A
Pressure sprays: 567, 600
Principles of cleaning: 148
Principles of detergency: 506
Principles of electrocleaning: 79
Principles of equipment: 95
Printers' type: 657
Printing: 432B, 600
Processes: 486
Proprietary compositions: 2, 13, 24, 42, 59, 60, 73, 96, 115, 130, 132, 166, 282, 296, 387, 425
Proprietary compounds: 1Q, 547, 572, 644, 648, 697
Propylene diamine: 576
Propylene diamine oleate: 576
Propylene dichloride: 329
Propylene glycol ethers: 64A
Protection, corrosion: 12
Protective coatings: 523
Protein: 113A, 707
Protein peptization: 645
Pumice: 1P, 2C, 540
Pyrocatechol: 419A, 453E, 549A
Pyrophosphate: 520

Q

Quadruphos: 681
Quaternary ammonium compounds: 550
Quicklime: 35B

R

Radiator: 528
Radiator cleaners: 487A, 499B, 590
Radioactive: 463A, 512, 517, 518
Radioisotopic method: 499B, 606, 607, 608, 610, 624, 671, 686, 706
Recommended practice aluminum cleaning: 669
Recommended methods of cleaning: 97B, 568, 569
Redeposition: 484
Redeposition of soil: 530
Reducing action: 489e
Reducing agent: 453e, 549A
Reduction: 485A
Refinery cleaning: 367, 460, 602
Residue pattern test: 624, 686
Resistance: 344A
Resistant oxide film: 169
Reverse current cleaning: 589
Review: 68A, 70C, 72A, 95A, 96C, 99A, 110A, 119a, 489B, 489D, 489E, 526, 537, 544, 553, 572, 613, 624, 653, 662, 702, 711
Review cleanliness methods: 512
Review of cleaning: 91, 117, 129, 239, 346,

385, 390, 394, 409, 419, 436, 437, 455, 472, 479
Review of methods: 294
Rice: 583
Rinsability: 122, 141, 198, 201, 268A, 315B, 333, 453B, 502, 691
Rinse, chromic acid: 137
Rinse tanks: 473, 639
Rinsing: 12E, 19A, 21, 51, 55, 58, 123, 131A, 146, 153, 165, 201A, 230, 242, 265, 285, 342B, 361, 379, 386, 416, 426, 440A, 449, 451, 463B, 468C, 473, 508A, 530, 541, 601, 620, 632, 648, 657, 673, 695, 705
Rinsing, analysis: 620
Rinsing test: 119, 394B
Rinsing variables: 541
Road dirt: 315B
Rochelle salt: 276
Rod: 611
Rosin: 1P, 131A, 244, 329, 594
Rosin oil: 326
Rosin soap: 673
Rotating table: 511
Rottenstone: 12F
Rouge: 452D
Roughness: 597
Rust: 1K, 1V, 5B, 7A, 12I, 12J, 32B, 64A, 96C, 360C, 419B, 504A, 508A, 519, 522, 549A, 551, 556, 580, 612, 637, 642, 643, 666, 701, 707
Rust inhibitor: 419B, 504A, 566, 616, 659
Rust preventive: 489B
Rust removal: 38, 85, 232, 360A

S

Salt bath: 558, 559
Salt descaling: 454C
Sandblasting: 1P, 37, 400, 419B, 462, 511, 532, 562, 579, 648
Santomerse: 610, 665
Saponification: 36, 43, 46, 55, 81, 85, 96B, 266, 477, 700
Saponification, study: 266
Scale: 22A, 23A, 28, 29, 29D, 31, 48, 53, 73, 120, 129B, 188, 212, 215, 226, 228, 265A, 317, 330A, 347, 360C, 363, 366, 372, 373, 444, 485, 508A, 568, 580, 612, 643, 648, 687, 696, 707
Scrubbing: 337B
Sea water: 201B
Sealing: 1Q
Seam welds: 453b
Searchlight: 452D
Sedimentation: 213
Sedimentation, tests: 127
Seed blasting: 579
Selection cleaners: 578, 655
Sensitivity cleanliness tests: 608, 686
Sequestration: 499A, 594, 650, 681
Sequential testing: 686
Sheet: 12D, 12E, 21, 23, 25, 38, 72, 259
Sheet, cleaning test: 306
Shot: 500A
Shot blasting: 485B

Shot peening: 568

Silica: 131A

Silicate: 4, 7, 8, 9, 12, 20, 24, 26, 31, 35, 39, 40, 42, 56, 65, 72, 77, 80, 81, 84, 92, 93, 96, 107, 115, 116, 121, 135, 148, 150, 153, 164, 178, 215, 241, 252, 273, 282, 290, 291, 321, 342B, 344A, 349, 374, 386, 393, 394A, 398, 433, 440A, 442, 474, 502, 530, 536, 545, 565, 571

Silicate films: 530, 536

Silicate, review: 290

Silicate, rinsing: 536

Silicon: 593

Silicone lubricants: 365

Silicones: 641, 647

Silver: 1G, 2A, 12L, 16, 44A, 78A, 327, 419A, 437A, 453E, 463A, 499B, 518, 605

Silver plating: 516

Silverware: 437A, 625

Sintered metal: 510A

Siphon guns: 567

Sludge: 566

Sludge remover: 508A

Smut: 211, 296, 344A, 353, 363A, 485B, 508A, 509, 519, 537, 558, 565, 589, 593, 700, 705

Soak cleaner: 568, 569, 574, 636, 655, 684, 700, 705

Soak cleaning: 337B, 495, 526, 565

Soap: 9, 15, 33, 55, 56, 57, 59B, 63A, 72, 75, 77, 78A, 80, 81, 94A, 94B, 108, 114, 114A, 131, 178, 205, 206, 275, 276, 288, 289, 329, 330A, 339, 362A, 382, 389, 396, 422, 435B, 444A, 477, 483, 498, 499B, 526, 565, 594, 616, 623, 633, 635, 655, 657, 659, 673, 677, 680, 682, 690, 707, 709

Soap, adsorption: 499B

Soap films: 554

Soap, function: 55, 56

Soap, oil soluble: 104

Soap, removal: 205

Soap review: 526

Soap, rosin: 56, 204, 251, 422

Soda ash: 1K, 1P, 1R, 1W, 2E, 4, 7, 8, 9, 12C, 12E, 12G, 15, 20, 24, 31, 46, 52B, 59B, 62, 65, 67A, 72, 75, 78, 92, 93, 107, 111, 115, 120, 125, 135, 149, 166, 167, 172, 193, 207, 215, 220, 241, 243, 244, 268, 272, 276, 282, 291, 315C, 321, 369, 382, 386, 393, 426, 442, 482

Soda, caustic: 5, 7, 14, 24, 37, 46, 65, 81, 90, 93, 107, 111, 115, 116, 120, 148, 162, 167, 169, 172, 186, 243, 244, 256, 268, 272, 276, 283, 307, 321, 351, 361, 393, 447, 456, 477

Soda pulp: 476A

Sodamide: 280A, 419C

Sodium acetate: 415, 477

Sodium acid phosphate: 273, 335

Sodium aluminate: 560, 561

Sodium bath: 472A

Sodium bicarbonate: 15, 487A, 565, 625

Sodium bichromate: 487A, 708

Sodium bisulfate: 225, 275, 282, 315A, 341A, 363A, 392

Sodium borate: 369

Sodium carbonate: 565

Sodium chlorate: 114A, 352A, 495, 518, 545, 708

Sodium chloride: 1D, 1G, 14A, 24A, 147A, 278A, 317

Sodium chloride, fused bath: 560, 561

Sodium chlorite: 519

Sodium chromate: 92A, 92B, 363A, 496, 693, 694

Sodium citrate: 590

Sodium cyanide: 1R, 1W, 12L, 87A, 97, 142, 419C, 593, 648

Sodium fluoride: 109, 110, 135, 178, 317, 344A, 520, 561

Sodium fluosilicate: 321

Sodium hydride: 230A, 280A, 312, 328, 328A, 355, 417, 419C, 453, 454C, 457A, 457B, 457C, 459, 476, 476C, 508A, 579

Sodium hydrosulfite: 419A, 549A

Sodium hydroxide: 1P, 1R, 1W, 2E, 12C, 12D, 12H, 19A, 60C, 63B, 67A, 81A, 114A, 131A, 457B, 497, 510B, 536, 537, 551, 566, 677, 680, 681, 700

Sodium hydroxide fused: 352A, 360C, 560, 561

Sodium hypophosphite: 419A

Sodium metaphosphate: 74, 135, 139, 386

Sodium metasilicate: 59B, 60B, 77, 92B, 114, 139, 150, 152, 166, 172, 199, 215, 241, 243, 273, 300, 325, 335, 342B, 349, 386, 422, 494, 600, 607, 610, 629, 631, 647, 652, 694

Sodium metasilicate stabilizer: 594

Sodium naphtha sulfonate: 586, 674

Sodium nitrate: 352A, 446, 696, 708

Sodium nitrate fused: 560

Sodium nitrite: 81A

Sodium oleate: 44A

Sodium orthosilicate: 182, 215, 244, 288, 296, 325, 326, 607, 684, 710

Sodium oxalate: 172, 487A

Sodium oxide-basis compositions: 93

Sodium oxide ratio: 94A

Sodium perborate: 84, 92B, 540

Sodium permanganate: 708

Sodium peroxide: 352A, 696

Sodium phosphates: 315C, 369, 374, 447B, 487A, 499A, 599, 603, 632, 681

Sodium phosphate, di: 128, 193

Sodium phosphate, mono: 12J

Sodium phosphate, tetra: 580, 607, 610, 681

Sodium phosphate, tri: 9, 12A, 24, 39, 59B, 62, 63B, 65, 67A, 77, 78, 80, 84, 92A, 92B, 93, 96, 97, 107, 111, 116, 125, 131A, 135, 150, 162, 166, 180, 202, 220, 241, 243, 244, 252, 268, 272, 276, 282, 291, 321, 382, 386, 393, 425, 426, 442, 477, 482, 590, 600, 607, 610, 629, 652, 669, 670, 680, 700

Sodium sesquicarbonate: 7A, 590, 629

Sodium sesquisilicate: 139, 386, 600

Sodium silicate: 60A, 60C, 67A, 67B, 94A, 315C, 435B, 487A, 658, 673, 678, 680, 681, 695, 700, 710. *See Silicate.*

Sodium silicofluoride: 135, 215, 363a

- Sodium sulfate:** 1T, 2E, 12C, 376
Sodium sulfite: 2E, 12C, 111, 252
Sodium tartrate: 276, 590
Sodium tetraborate: 81,
Sodium trisilicate: 342B
Sodium zincate: 67B
Soil: 428, 479, 548, 624, 652, 659, 663, 673, 684, 709
Soil redeposition: 682
Soil removal: 536, 571
Soil removal test: 201
Soil, standard: 119, 136, 143, 151, 179, 198, 199, 202, 206, 286, 296, 314, 315, 325, 334, 403, 483, 484
Soil, standard, review: 334
Soldering: 10, 94C
Soldering flux: 646
Solubility: 146, 165, 199, 264, 265, 297A, 314, 315, 342A, 342B, 362A, 632
Soluble oil: 289, 454B, 586, 674
Solution current: 1A
Solvent: 1, 1P, 13, 23, 35, 43, 44, 57, 59A, 60C, 61, 63, 63A, 65, 67B, 71A, 76A, 79, 80, 83, 85, 86, 87A, 90A, 95, 97, 103, 108, 114, 116, 120, 122, 126, 131, 135, 137, 155A, 156, 157, 162, 169, 171, 175, 179, 189, 213, 217, 218, 219, 220, 222, 224, 227, 230, 231, 233, 236, 237, 240, 242, 244, 247, 248, 250, 253, 260, 262, 265, 271, 272, 274, 276, 278, 282, 285, 292, 297, 300, 315, 315B, 316, 322, 329, 330, 334, 335, 340, 342, 343, 351, 354, 356, 359, 360, 360A, 360B, 362, 362A, 364, 371, 377, 380, 381, 382, 384, 395, 396, 408, 410, 415, 420, 425, 426, 427, 435, 437A, 439A, 440A, 441, 448A, 451, 453A, 454A, 456, 461, 462, 464, 466, 467, 468, 471, 476B, 482, 484, 486, 486A, 487, 488, 489F, 493, 494, 495, 495A, 496, 497, 500, 506, 510, 510A, 515, 516, 521, 531, 537, 538A, 547, 552, 565, 566, 569, 579, 586, 591, 599, 600, 603, 617, 618, 619, 621, 622, 624, 637, 642, 643, 648, 649, 651, 652, 655, 657, 669, 670, 672, 676, 677, 683, 693, 701, 709, 712
Solvent, analysis: 362
Solvent, characteristics: 95, 343
Solvent, chlorinated: 176, 344
Solvent, cleaning types: 237
Solvent degreasing: 155A, 341a, 449A, 626, 630
Solvent degreasing principles: 90a, 126, 131
Solvent degreasing review: 71A
Solvent emulsion: 486A
Solvent-emulsion cleaners: 624, 640, 651, 655, 677, 710
Solvent jet: 552
Solvent recovery: 539, 626
Solvent residue: 686
Solvent review: 324
Solvent, safety: 278
Solvent, stability: 344
Solvent tank: 547
Solvent, toxicity: 362
Solvent, utilization: 278
Solvent vapor: 546
Sorption: 688
Sorption sodium ion: 518
Specifications: 65, 85, 117, 119, 627
Specification, aluminum: 35
Spindle oil: 586, 674
Sponging: 1Q
Spot welding: 520, 546
Spray: 222A, 337B, 416A, 432A, 567, 568, 569, 591, 635, 705
Spray cleaners: 97A
Spray cleaning: 63, 113, 166, 174, 184, 217, 244, 274, 377, 405, 420
Spray guns: 13, 567
Spray pattern test: 601, 624, 686
Spray, solvent: 114
Spray, waterbreak: 383
Spot test: 99, 231
Stability: 165, 179, 265, 314
Stability in use: 122
Stabilizers, chlorinated solvents: 176
Stabilizers, solvents: 176, 435, 466, 467, 468
Stabilizer for trichloroethylene: 435
Stain removal: 5, 9A
Stainless steel: 508A, 510A, 511, 540, 568, 572, 573, 579, 645, 667, 676, 679, 688, 696
Stainless steel sinter: 510A
Stampings: 504
Stamping compound: 227
Standard soil: 342B, 439A, 517, 536
Starch: 2B, 131A, 335
Statistical analysis: 325, 403, 684
Steam cleaning: 224, 313A, 394A, 419B, 423, 502, 579, 655, 696
Steam gun: 113, 388
Steam jet: 655
Stearamide: 517
Stearic acid, see Acid, stearic.
Steel: 1B, 1R, 1U, 1V, 2B, 7E, 12C, 12D, 12E, 40A, 55, 59C, 62A, 63A, 78A, 87A, 97B, 99B, 112A, 119A, 122, 144A, 150A, 181, 184, 201, 211, 212, 230, 243, 251, 253, 257, 262, 265A, 279, 280, 296, 312, 328A, 357, 377, 402, 407, 418, 422, 427, 437, 444, 444D, 445, 463A, 463B, 463C, 469A, 476C, 483, 485, 485B, 486A, 487, 489, 491, 497, 502B, 505, 508A, 508B, 515, 518, 519, 529, 532, 540, 541, 562, 563, 564, 570, 573, 591, 593, 596, 603, 612, 615, 624, 641, 658, 663, 666, 680, 687, 688, 699
Steel alloy: 116A
Steel casting: 491
Steel, etch: 44
Steel, sheet: 149, 280, 338
Steel shot: 573
Steel shot cleaning: 500A, 668
Steel, stainless: 96, 257, 279, 312, 317, 354, 476
Steel strip: 468C
Steel, tinned: 78
Steel wool: 2C, 540
Sterilizers: 24
Sterilizing: 450B
Sterox CD: 607, 610

- Sterox MXP:** 610
Sterox SK: 610
Strand cleaning: 508
Strength: 1P
Strip method: 94B
Strontium chloride: 256
Sugar machinery: 649
Sulfated fatty alcohol: 140, 682
Sulfated fish oil: 586, 674
Sulfite liquor: 186
Sulfite waste liquor: 453e
Sulfonate hydrocarbon: 556
Sulfonated alcohols: 81
Sulfonated alkylated mineral oil: 42A
Sulfonated castor oil: 2D, 255, 326, 434
Sulfonated creosote oil: 40C
Sulfonated cresol: 94B
Sulfonated fatty oil: 2D
Sulfonated mercaptan: 40A
Sulfonated mineral oil: 331, 625
Sulfonated oils: 135, 182
Sulfonated soap: 115
Sulfones: 29C
Sulfonic acids: 60, 138
Surfaces: 472A, 513, 598, 609, 641, 664
Surface active agents: 468C, 489D, 527.
See Wetting agents.
Surface cleanliness: 512
Surface condition: 447, 449
Surface films: 515, 545A, 587, 631
Surface preparation: 683
Surface resistance: 197, 282, 309, 351, 456, 546
Surface roughness: 571, 572, 573, 597, 658, 667
Surface scratching: 1P
Surface tension: 9, 34, 67A, 94C, 131A, 133, 165, 199, 240, 263, 265, 333, 394A, 510A, 570, 573, 588, 633, 650, 657, 695, 700
Surface treatment: 518A
Surface truth: 597
Suspended abrasive: 549
Swirl method of cleaning: 572, 662, 663
Synthetic detergents, see Wetting agents.
Synthetic resin: 440
- T**
- Talc:** 1A
Tall oil: 340, 374, 496
Tall oil soap: 655
Tallow: 35B
Tank design: 508A
Tank linings: 278A
Tannin: 419A, 453E
Tantalum: 468B
Tar: 315B, 538A
Tar acid oil: 329
Tarnish removal: 452C, 531
Tarnishing: 2A, 56
Teepol: 657, 699
Teepol X: 413B, 438
Tergitol: 546
Test cleaning: 601
Test cleanliness: 463C
Tests for cleanliness: 57d
- Testing:** 231
Tetrachloroethane: 218, 237
Tetramethylammonium hydroxide: 276
Textile equipment: 540
Theoretical: 34, 44, 51, 88
Theory: 468C
Theory cleaning: 67A, 711
Theory of soil: 428
Theory of soil removal: 404
Thiocresol: 623
Thiocyanate: 503
Thioglycolic acid: 32C
Thiourea: 538
Tin: 24, 35, 54, 72, 77, 80, 84, 92, 128, 131, 133, 180, 193, 225, 226, 256, 273, 354, 427B, 647
Tin oxide surfaces: 647
Tin plate: 507, 587, 614, 632
Tin plating: 582
Tin salt: 582
Tinned copper: 96
Tinned iron: 286A
Tinning: 1Z, 94C, 579, 645
Tinware: 100, 101, 125, 150, 215
Tissue paper test: 94
Titanium: 485A
Titanium dioxide: 468B
Titration: 127, 234
Titration equivalent: 94B
Titration values: 333
p-Toluidine: 503
Total alkalinity: 131A
Toluol: 61, 135, 315
Toxicity: 395, 599
Tracer: 517
Tracer method: 606, 607, 608, 610, 624
Triamylamine: 375
Trichloroethylene: 60C, 65, 67B, 76A, 101A, 110B, 111A, 113, 126, 131, 134A, 137, 155A, 175, 181, 189, 218, 220, 222, 237, 247, 248, 274, 282, 285, 315a, 324, 330A, 341a, 356, 360, 360B, 435, 465A, 466, 467, 468, 495A, 498, 543, 569, 599, 621, 638, 649, 674, 676, 679, 712
Triethanolamine: 49, 186, 289, 340, 364, 483, 652, 693, 704, 709
Trisodium phosphate: 57A, 114A, 495, 497, 536, 565
Tritolyl phosphate: 434
Triton: 495, 637
Tumbling barrel: 511
Tungsten: 468B
Turpentine: 1D, 1M, 23, 57c
Turbines: 498
Twitchell agents: 489D
Two solvent system: 1C
- U**
- Use stability:** 333
Ultrasonics: 235, 568
Ultrasonic cleaning: 508B, 595
Ultraviolet inspection: 517, 585
Undercleaning: 569
Urban Process, S. F.: 183
Urea chloride: 147A

V

Valves: 431A
Vapor blasting: 542
Vapor degreasing: 96C, 113, 114, 131A, 315C, 360, 381, 388, 398, 400, 408, 409, 410, 448A, 453A, 476B, 482, 486, 493, 508A, 510, 521, 537, 539, 552, 565, 566, 568, 574, 669, 670, 676, 677
Vapor-spray: 539
Vapor-spray-vapor: 510
Varsol: 567
Vegetable oil: 604
Ventilation: 134D, 243A
Vinegar: 1G, 1N, 52B
Virgo process: 454C, 508A
Virgo salt: 612
Vitreous enamel: 97B

W

Walnut shell: 655
Warm liquor-vapor: 510
Wash-off condenser: 637
Washing soda: 565
Water break: 0A, 0B, 57d, 125, 243B, 303, 325, 383, 476B, 511, 601, 608, 624, 637, 686
Water hardness stability: 695
Water softening: 78, 141, 265, 286, 333, 430
Water stone: 245
Wax: 53E, 163, 315B, 538A, 600, 709
Welding: 169, 197, 203, 211, 238, 249, 251, 253, 259, 282, 284, 297, 299, 300, 301, 302, 303a, 304, 308, 309, 311, 342, 351, 352, 392, 401, 414, 446, 453b, 479, 520, 546, 547, 579
Welding scale: 583
Wetting: 44, 81, 85, 94C, 122, 123, 148, 150, 194, 407, 468B, 589, 686
Wetting agent, see Surface active agent, soap, and synthetics.
Wetting agents: 25, 60, 80, 81, 83, 85, 94, 94B, 106, 108A, 115, 119A, 124, 135, 138, 139, 140, 150, 151, 190, 195, 225, 226, 230, 233, 238, 241, 243, 245, 246, 248,

251, 267, 276, 277, 280, 282, 288, 289, 293, 298, 302, 304, 309, 313, 313A, 315, 325, 332, 335, 336, 342B, 361, 367, 368, 372, 375, 392, 393, 394A, 411, 413B, 416A, 419, 423, 426, 434, 437A, 438, 440, 444, 446, 447, 447B, 453D, 453E, 465, 468A, 468B, 469, 477, 481, 483, 489, 489D, 495, 498, 499A, 502, 510A, 525, 527, 531A, 537, 538, 546, 549A, 550, 556, 571, 576, 586, 588, 600, 615, 618, 629, 633, 642, 644, 650, 652, 655, 658, 659, 660, 666, 682, 684, 689, 695, 699, 707, 709
Wetting agent evaluation: 115, 195, 465
Wetting agent review: 481
Wetting agent theory: 468A
Whale oil soap: 19A
Wheelabrator: 485B
White oil: 22A
White pellicles: 495A
White spirit: 704
Whiting: 1M, 540
Wing cleaning: 655
Wipe-off conditioner: 637
Wiping: 337B, 552
Wire: 205, 212, 265A, 279, 288, 306, 432, 508, 525, 557, 611, 620, 698
Wire brushing: 568
Wire drawing: 212

Z

Zinc: 1G, 14, 35, 39, 62, 67B, 77, 84, 97, 100, 101, 106, 112, 115, 121, 125, 132, 148, 159, 178, 244, 329, 354, 369, 371, 386, 388A, 425, 427, 427B, 447B, 474, 486, 488, 497, 499B, 530, 538, 566, 569, 579, 666, 671, 680, 705
Zinc alloys: 538, 542
Zinc-aluminum alloy: 575
Zinc ammonium chloride: 575
Zinc base: 486A
Zinc base die casting: 569, 574
Zinc chloride: 1Z, 571
Zinc chloride flux: 575
Zinc chromate primer: 335