

INDEX.

- Abies balsamea*, 409, 422.
canadensis, 409.
excelsa, 421.

Abrin, 494.

Abrus precatorius, 494.

Absinthium, 414.

Absinthol, 414.

Absolute alcohol, 437.

Abstracts, 574.

Acacia catechu, 358.
summa, 358.

Acacia gummi, 113.
 impurities in, 685.

Acetal, 476.

Acetanilide, 514.

Acetate of ammonium, solution of, 91.
 amyl, 403.
 copper, 190.
 ethyl, 298, 403.
 iron, 148.
 lead, 208.
 potassium, 68.
 sodium, 82.
 zinc, 133.

Acetates, 296.
 analytical reactions of, 299.
 decomposition of aqueous solution of, 279.
 volumetric estimation of, 623.

Acetic acid, 298, 474.
 ether, 299, 403.
 glacial, 298, 583.
 volumetric estimation of free, 623.

Acetic series of acids, 474.
 reactions, 481.
 aldehyde, 475.
 anhydride, 463.

Acetone, 299, 488.

Acetonitrile of barium, 125.
 of iron, 155.

Acetonitrile, 474.

Acetum, 297.
cantharidis, 297.
cocchiae, 297.
lobeliae, 297.
opi, 297.

Acetum—
sanguinariae, 297.
scilla, 297.

Acetyl, 297.

Acetyl chloride, 394.

Acetylene, 409.
 series of hydrocarbons, 408.

Acetylenes, relation to paraffins and olefines, 408.

Acid, acetic, 297, 475.
 glacial, 298, 583.
 aconitic, 324.
 acrylic, 480.
 amidacetic, 536.
 amido-succinamic, 486.
 amyric, 422.
 anemonic, 335.
 angelic, 412.
 arabic, 470.
 arachidic, 481.
 arsenic, 165.
 arsenious, 165.
 behenic, 481.
 benzoic, 335, 689.
 benzene-disulphonic, 448.
 benzene-sulphonic, 447.
 boric, 333, 689.
 bromic, 295.
 butyric, 363, 479.
 camphoric, 418.
 camphoronic, 418.
 cantharidic, 418.
 capric, 481.
 caproic, 454, 481.
 caprylic, 454, 481.
 carbamic, 480.
 carbazotic, 448.
 carbolic, 449, 582, 689.
 impure, 449.
 carbonic, 30, 311.
 carminic, 337.
 catechuic, 358.
 cathartic, 491.
 cathartogenic, 491.
 cerotic, 397, 479, 481.
 cetraric, 337.
 chavieic, 527.
 chelidonic, 522.

Acid, chloric, 291, 293.
 chlorous, 351.
 cholalic, 536.
 chromic, 236, 689.
 anhydrous, 236.
 chrysammic, 430.
 chrysotropic, 520.
 chrysophanic, 337.
 cinnamic, 337, 485.
 citric, 323, 690.
 colopholic, 419.
 colophonic, 419.
 copaivic, 422.
 cornic, 338.
 cresotic, 483.
 cresylie, 447.
 crotonic, 480.
 cryptophanic, 558.
 cuminic, 414.
 cyanic, 338.
 dextroracemic, 319.
 dextrotartaric, 319.
 dihydroxyacetic, 481.
 dihydroxybenzoic, 483.
 dihydroxybutyric, 481.
 dihydroxypropionic, 481.
 dihydroxysuccinic, 486.
 dithionic, 346.
 elaidic, 480.
 equisitic, 324.
 ergotinic, 421.
 erucic, 456.
 ethylidene lactic, 480.
 ethylformic, 479.
 ethylie, 481.
 ethyl-sulphuric, 441.
 eugenic, 413.
 ferulaic, 423.
 filicic, 455.
 fluoric, 342.
 formic, 338, 474, 481.
 gallic, 339, 359, 690.
 gallotannic, 484.
 gambogic, 423.
 gaultheric, 404.
 gelseminic, 396.
 gentianic, 494.
 gentisic, 494.
 glacial acetic, 298, 583.
 glutanic, 487.
 glyceric, 481.
 glycyrrhizic, 494.
 glyoxylic, 481.
 guaiacomic, 495.
 guaiaretic, 495.
 guaiaretinic, 495.
 gummic, 470.
 hemidesmic, 339.
 heptylic, 481.

Acid, hexylie, 481.
 hippuric, 339, 565, 568.
 homotartarie, 487.
 hydriodic, 270.
 hydrobromic, 266, 622, 690.
 hydrochloric, 29, 263, 690.
 common, 263.
 dilute, 263.
 hydrocyanic, 276, 280, 690.
 dilute, 279.
 hydroferrideyanic, 341.
 hydroferrocyanic, 340.
 hydrofluoric, 342.
 hydrosulphuric, 300.
 hydroxyacetic, 407, 479.
 hydroxybenzoic, 482.
 hydroxybutyric, 481.
 hydroxycaproic, 481.
 hydroxydodecylie, 481.
 hydroxyformic, 479, 481.
 hydroxyheptylic, 481.
 hydroxyolytic, 481.
 hydroxypentylie, 481.
 hydroxy-propane-tricarboxylic,
 488.
 hydroxypropionic, 481.
 hydroxysuccinic, 486.
 hydroxtoluic, 483.
 hypochlorous, 292.
 hypophosphoric, 352.
 hypophosphorous, 343.
 hypersulphurous, 344.
 iodic, 295.
 isoheptoic, 417.
 isopropylacetic, 479.
 jalapic, 495.
 lactic, 347, 622, 690.
 lavouracemic, 319.
 lœvotartaric, 319.
 larixinic, 359.
 lauric, 465.
 leucic, 481.
 lithic, 361.
 lupulinic, 423.
 malic, 348.
 malonic, 487.
 mastichic, 421.
 meconic, 349, 506.
 mellitic, 488.
 mesoxalic, 487.
 metabolacic, 333.
 metagummic, 470.
 metantimonic, 179.
 metaphosphoric, 349.
 metastannic, 240.
 methacrylic, 480.
 methylie, 481.
 methylformic, 475.
 mimotannic, 358.

Acid, mucic, 462.
 muriatic, 263.
 myristic, 481.
 myrrhic, 424.
 naphthalic, 335.
 nitric, 286, 288, 690.
 dilute, 286.
 nitrohydrochloric, 185, 287.
 dilute, 287.
 nitromuriatic, 287.
 nitrous, 350.
 nonylie, 481.
 octylie, 481.
 oenanthylie, 481.
 oleic, 451, 690.
 ophelie, 351.
 opianic, 380.
 orthophosphoric, 351.
 oxalic, 315.
 chemically pure, 315.
 oxymalonic, 487.
 oxysuccinic, 487.
 palmitic, 462, 479, 481.
 paraffinic, 397.
 paratartaric, 319.
 parietinic, 338.
 pelargonic, 481.
 pentathionic, 346.
 pentylie, 481.
 perchloric, 293.
 phenic, 447.
 phenolsulphonic, 448.
 phosphoantimonic, 555.
 phosphomolybdic, 555.
 phosphoric, 25, 328, 351, 690.
 dilute, 328.
 glacial, 329.
 phosphorous, 351.
 phosphotungstic, 555.
 phthalic, 335.
 pieric, 448, 538.
 pimarinic, 419.
 pinic, 419.
 piperic, 398.
 propionic, 499.
 propyliformic, 479.
 propylie, 479.
 propane-tricarboxylic, 488.
 prussic, 277.
 pyrogallic, 360.
 pyroligneous, 296.
 pyromellitic, 488.
 pyrophosphoric, 352.
 pyrotartaric, 487.
 quillaic, 498.
 racemic, 319.
 rheic, 337.
 rhubarbaric, 337.
 rutic, 454.

Acid, saccharic, 462.
 salicylic, 404, 482, 691.
 salicylous, 404.
 santonic, 488.
 sarcolactic, 348.
 sclerotic, 420.
 sclerotinic, 420.
 silicie, 354.
 stannic, 240.
 stearic, 452, 479, 481.
 succinic, 355.
 sulphethylic, 441.
 sulphindigotic, 289.
 sulphindylie, 289.
 sulphocarbolie, 448.
 sulphocyanic, 356.
 sulphophenic, 448.
 sulphosalicylie, 484.
 sulphovinic, 441.
 sulphuric, 306, 690.
 aromatic, 309.
 dilute, 309.
 sulphurous, 302, 304, 690.
 sulphydric, 300.
 sylvic, 419.
 tannic, 357, 691.
 tartaric, 317, 318, 691.
 tetrathionic, 346.
 tiglic, 457.
 toxicodendrie, 360.
 tricarballylic, 488.
 trihydroxybenzoic, 483, 484.
 trithionic, 346.
 tropic, 392.
 uric, 353.
 valerianic, 361, 416, 443, 479.
 Acid carbonate of potassium, 70, 313.
 carbonate of sodium, 82.
 salts, 73, 301.
 solution of arsenic, 165.
 tartrate of potassium, 61, 79.
 tartrate of sodium, 79.
 Acids, analytical detection of, 368.
 antidotes to, 266.
 definition of, 260.
 free, estimated, 657.
 of chlorine, 294.
 quantitative estimation of, 620.
 volumetric estimation of official,
 620.

Acids of acetic series, 474.
 acrylic, 480.
 benzoic or aromatic, 480.
 cinnamic, 484.
 dibasic, 485.
 glyoxylic, 481.
 hexabasic, 488.
 hydroxybenzoic, 482.
 lactic, 479.

Acids, malic, 486.
phthalic, 486.
polybasic, 488.
succinic, 486.
table showing relations of acetic, lactic, and glycollic, 481.
acetic and dibasic, 487.
benzoic and hydroxybenzoic, 482.
tartaric, 486.
tetrabasic, 488.
tribasic, 488.
trihydroxybenzoic, 484.
Acidulous radicals, formulæ and quan-
tivalence of, 66, 122, 262.
qualitative detection of, 364.
quantitative estimation of salts
of, 567.
tables to aid in the detection of, 366, 367.
Acidum aceticum, 298.
impurities in, 689.
dilutum, 298.
glaciale, 298, 689.
impurities in, 689.
arseniosum, 165.
benzoicum, 335, 689.
boricum, 333.
impurities in, 689.
carbolicum, 446, 689.
crudum, 447.
chromicum, 236, 689.
citricum, 323.
impurities in, 682.
gallicum, 359.
impurities in, 690.
hydrobromicum dilutum, 268.
impurities in, 690.
hydrochloricum, 29, 263.
impurities in, 690.
dilutum, 263.
hydrocyanicum dilutum, 278.
impurities in, 690.
lacticum, 347.
impurities in, 690.
nitricum, 285.
impurities in, 690.
dilutum, 285.
nitro-hydrochloricum dilutum, 286.
oleicum, 452.
impurities in, 690.
phosphoricum, 329.
dilutum, 329.
impurities in, 691.
salicylicum, 482.
impurities in, 691.
sulphuricum, 309.
impurities in, 691.
sulphuricum aromaticum, 309.

*Acidum sulphuricum aromaticum di-
lutum*, 309.
sulphurosum, 305.
impurities in, 691.
tannicum, 357.
impurities in, 691.
tartaricum, 318.
Acipenser, 534.
Aconitia, 518.
Aconiti ferocis radix, 519.
folia, 518.
heterophylli radix, 519.
Aconitina, 518.
Aconitine, 518.
Acrin, 416.
Acorus calamus, 416.
Acrinyl sulphocyanate, 445.
Acrolein, 450.
Acrylic acid, 482.
aldehyde, 480.
Actea racemosa, 500.
Adeps, 454.
impurities in, 691.
benzoinatus, 454.
Adhesion, 56.
Adraganthin, 469.
Ægle marmelos, 358.
Aërated bread, 461.
water, 85.
Æsculin, 525.
Æther, 440.
impurities in, 691.
aceticus, 403.
impurities in, 691.
fortior, 442.
impurities in, 691.
purus, 442.
Affinity, chemical, 38.
African pepper, 394.
Agate, 354.
Air, composition, 26.
influence of animals and plants
on, 19.
relative weight of the, 26, 605.
Ajwain oil, 415.
Alabaster, 104.
Albumen, 530.
detection of, in urine, 559.
vegetable, 533.
Albumen ovi, 530.
Albumenoid substances, 530.
Alchemy, 13.
Alcohol, 434.
absolute, 532.
allylic, 452.
amyllic, 443, 582.
benzylic, 449.
butylic, 363.
cinnamic, 485.

Alcohol, decylene, 452.
ethylic, 434.
from sugar, 434.
hydroxybenzyllic, 350.
in 100 parts of spirits of differ-
ent densities, Table showing
the proportion by weight of,
711.
methyllic, 432.
pentyllic, 443.
phenic, 446.
propargyl, 409.
propenyl, 484.
propyllic, 443.
quantitative estimation of, 684.
test for impurities in, 628, 691.
test for purity of, 438, 628.
Alcoholates of bromal, 449.
of chloral, 478.
Alcoholometer, 601.
Alcohols, allylic series, 444.
benzyllic, 447.
dihydric, 458.
hexydric, 455.
penhydric, 455.
salegin, 450.
tetrahydric, 455.
trihydric, 450.
Aldehyde, 475.
benzoic, 336.
cumaric, 414.
euodic, 416.
formic, 474.
glycollic, 406.
lauryl, 416.
ortho-hydroxybenzoic, 498.
oxalic, 406.
para-hydroxybenzoic, 498.
rubic, 415.
salicylic, 404, 484.
test for, 475.
Aldehydes; 473.
Ale, 436.
Alexandrian senna, 491.
Algareth's powder, 178.
Alizarate of potassium, 429.
Alizarin, 427, 429.
Alkalies, analytical separation, 100.
antidotes to, 262.
quantitative estimation of the,
613.
Alkalimetry, 619.
Alkaline carbonates, volumetric esti-
mation of the, 613.
earths, 125.
solution of arsenic, 165.
Alkaloids, 500, 503, 553.
animal, 503.
vegetable, 503.

Alkanet, 539.
Alkanna tinctoria, 539.
Allium, 445.
Allotropes, 472.
Allotropic bodies, 472.
Allotropy, 472.
Alloxan, 361.
Alloy, 193.
Allspice, 413.
Allyl, cyanide, 445.
sulphide of, 445.
sulphocyanate of, 445.
Allylene, 409.
Allylic series of alcohols, 445.
alcohol, 445.
Almond oil, 455.
Almonds, oil of bitter, 489.
test for nitrobenzol in, 490.
Aloes, purificata, 430.
socotrana, 430.
Aloins, 445.
Alstonia constricta, 524.
scholaris, 524.
Alstonicine, 524.
Alstone, 524.
Althea, 481.
officinalis, 470.
Alum, 136.
cake, 137.
chrome, 137.
dried, 138.
flour, 136.
iron, 137.
potash, 136.
roche or rock, 138.
root, 359.
soda, 137.
Alumen, 136.
impurities in, 692.
exsiccatum, 138.
Alumina, 138.
Alumini hydros, 138.
impurities in, 692.
sulphas, 137.
impurities in, 692.
Aluminium, 136, 712.
analytical reactions of, 138.
and ammonium sulphate, 137.
and sodium, double chloride, 126.
bronze, 136.
derivation of word, 32.
detection of, in presence of iron
and zinc, 160.
hydrate, 137.
oxide, 138.
quantitative estimation of, 648.
separation of, from chromium and
iron, 238.
silicate, 137.

Aluminium sulphate, 137.
Amalgam, 194.
 ammonium, 90.
Amber, 355.
 oil, 355.
American pennyroyal, 413.
Amanth, 354.
Amide, 203.
Amido-chloride of mercury, 204.
Amidogen, 203.
Amines, 427.
Ammonia, 91.
 detected by Nessler test, 615.
 fetid spirit, 93.
 gas, composition of, 91.
 in drinking waters, 615.
 preparation of, 91.
 solution of, 92.
 synthesis of, 91.
 volcanic, 90.
 volumetric estimation of solutions, 614.
Ammoniacal liquor, 90.
 salts, sources of, 90.
Ammoniacum, 423.
Ammonia (*vide Ammonii*).
Ammoniated glycyrrhizin, 494.
 mercury, 203.
 varieties of, 203.
Ammonii acetatus, liquor, 92.
 aqua, 92.
 fortior, 92.
 aromaticus, *spiritus*, 93.
 benzoas, 94, 336.
 impurities in, 692.
 bromidum, 94, 269, 626.
 impurities in, 692.
 volumetric estimation of, 626.
 carbonas, 92.
 impurities in, 93, 692.
 chloridum, 90.
 impurities in, 692.
 citratis, liquor, 94.
 foetidus, *spiritus*, 93.
 fortior, liquor, 92.
 iodidum, 94.
 impurities in, 692.
 nitras, 93.
 impurities in, 693.
 phosphas, 94, 665.
 impurities in, 693.
 sulphas, 90.
 impurities in, 693.
 valerianas, 363.
 impurities in, 693.
Ammonio-chloride of mercury, 204.
 -citrate of iron, 152.
 -ferric alum, 137.
 -ferric sulphate, 137.

Ammonio-magnesium phosphate, 120, 331.
-nitrate of silver, 175, 205.
-sulphate of copper, 175, 205.
-tartrate of iron, 153.
Ammonium, 89.
 acetate, 92.
 amalgam, 91.
 analytical reaction, 97.
 and magnesium, arseniate of, 120.
 and magnesium phosphate, 120.
 and platinum, double chloride, 98, 246.
 arseniate, 167.
 benzoate, 94, 336.
 bicarbonate, 92.
 bromide, 94, 269.
 carbamate, 92.
 carbonate, 94.
 solution of, 93.
 chloride, 90.
 citrate, 94.
 cyanate, 338.
 derivation of word, 32.
 derivatives, 205.
 glycyrrhizate, 494.
 hydrate, 91.
 iodide, 272.
 molybdate, 331.
 nitrate, 93.
 oxalate, 95.
 periodide, 272.
 phosphate, 94.
 potassium and sodium, separation of, 100.
 quantitative estimation of, 644.
 salts, source of, 90.
 volatility of, 98.
 sulphate, 90.
 sulphide, 95.
 sulphhydrate, 95.
 tartrate, 98.
 valerianate, 363.
 volumetric estimation of carbonate of, 615.
Amorphous, meaning of, 182.
 phosphorus, 330.
Amphicreatinine, 504.
Amygdala amara, 455
 dulcis, 455.
Amygdalin, 489.
Amyl, acetate, 403.
 nitrite, 405.
 impurities in, 693.
 valerianate, 405.
Amylaceous substances, 463.
Amylamine, 502.
Amylene, 406.
 hydrate, 444.

Amylic alcohol, 443.
Amyloids, 463.
Amyloses, 463.
Aylum, 463.
 iodatum, 464.
Amyric acid, 423.
Amyrin, 423.
Anacyclus pyrethrum, 420.
Analogies between chlorine, bromine, and iodine, 277.
 of sodium and potassium salts, 88.
Analogy of carbon, boron, and silicon, 333, 355.
 of oxygen, sulphur, selenium, and tellurium, 301.
 of salts, 98.
Analysis, 99.
 aided by sifting, 371.
 blowpipe, 372.
 gas, 360, 545.
 gravimetric, 577.
 meaning of word, 60.
 organic, 689.
 practical, 99.
 proximate, 689.
 qualitative, 100.
 quantitative, 576.
 spectral, 539.
 systematic, for the detection and separation of the metals, 100, 123, 184, 188, 221, 373.
 ultimate, 669.
 volumetric, 578, 611.
Analysis and synthesis, 60.
 of gases and vapors, 544.
 insoluble salts, 373 *et seq.*
 salts, 370.
 substances having unknown properties, 373.
Analytical chemists, 14, note.
 detection of the acidulous radicals of salts soluble in water, 364.
 memoranda, 257, 262.
Anamirta cocculus, 496.
paniculata, 496.
Anamirtin, 496.
Anchusa tinctoria, 539.
Anchusin, 539.
Andria araroba, 338.
Andrographis paniculata, 499.
Andropogon citratus, 417.
 nardus, 413.
 schenanthus, 414.
Anemone pratensis, 335.
 patens, 335.
 pulsatilla, 335.
Anemonie acid, 335.
Anemonin, 335.
Aneroid barometer, 579.
Anethene, 412.
Anethol, 412.
Angellic acid, 412.
 powder, 178.
Angelica, 412.
Angustura-bark, 524.
Anhydrides, 84.
Anhydrous bodies, 84.
 nitric acid, 287.
 perchloride of iron, 144.
 sulphate of copper, 190.
Aniline, 427, 504.
 colors, 541.
Animal charcoal, 110.
 decolorizing power of, 111.
 rouge, 337.
Animals and plants, complementary, action of air, 19.
Anise, 412.
Aniseed oil, 412.
Anise-fruit, 412.
Anisum, 412.
Annatto, 539.
Anthemidis flores, 412.
Anthemis, 412.
 nobilis, 412.
Anthracene, 429.
Anthracite, 238.
Antidotes to acids, 262.
 alkalies, 262.
 alkaloids, 505.
 antimony, 183.
 arsenic, 149, 175.
 barium, 103.
 carbolic acid, 448.
 copper, 191.
 cyanides, 282.
 hydrochloric acid, 266.
 hydrocyanic acid, 282.
 lead, 212.
 mercury, 206.
 nitric acid, 290.
 oxalic acid, 316.
 silver, 217.
 sulphuric acid, 310.
 tin, 242.
 zinc, 135.
Antifebrin, 514.
Antimonial wine, 180.
Antimoniate of potassium, 87.
 sodium, 87.
Antimonic anhydride, 179.
 chloride, 178.
 oxide, 179.
Antimonii chloridi, liquor, 178, 651.
et potassii tartras, 179.
 impurities in, 693.

Antimonii et potassii tartras, quantitative estimation of antimony in, 651.
oxidum, 179.
 impurities in, 693.
sulphidum, 177.
purificatum, 177.
 impurities in, 693.
sulphuratum, 180.
 impurities in, 693.
vinum, 179.
 Antimonious anhydride, 179.
 chloride, 178.
 oxide, 178.
 oxychloride, 178.
Antimonium sulphuratum, 180.
 Antimoniuretted hydrogen, 182.
 Antimony, 164, 177, 318, 584.
 analytical reactions of, 182.
 and arsenic, analytical separation of, 185.
 and potassium tartrate, 189, 318.
 antidote to, 183.
 black, 177.
 butter, 178.
 chloride, 178.
 crude, 177.
 derivation of word, 32.
 from arsenic, to distinguish, 172.
 hydride, 182.
 in organic mixtures, detection of, 547.
 oxide, 178.
 oxychloride, 178.
oxysulphide, 180.
 pentachloride, 178.
 potassium-tartrate, 179.
 quantitative estimation, 651.
 solution of chloride of, 178.
 sulphide, 177, 181.
 sulphur, salts of, 180.
 sulphurated, 180.
 tartrated, 179.
 volumetric estimation of, 629.
Antipyrin, 514.
Antiseptic, 448, 450, 483.
Apocynum, 499.
Apomorphine, 509.
Apothecaries, 14.
Apparatus, xi.
 for experiments, xi.
 for gravimetric analysis, 639, 648, 653, 654, 659, 663, 669, 670, 672.
 for volumetric analysis, 611.
 list of, xi.
Apple, acid in, 348.
 essence, 404.
 oil, 404.
 wine, 436.

Aqua, 127.
ammoniae, 92.
 impurities in, 693.
 volumetric estimation of, 614.
ammoniae fortior, 92.
 impurities in, 693.
amygdala amara, 489.
anisi, 412.
aurantii florum, 412.
 impurities in, 693.
camphore, 418.
chlori, 28, 265.
chloroformi, 399.
cinnamomi, 412.
destillata, 127.
 impurities in, 694.
fœniculi, 412.
fortis, 286.
laurocerasi, 490.
menthae piperite, 412.
viridis, 412.
regia, 184, 287.
roseæ, 412.
Arabin, 112.
Arabinose, 459.
Arachidic acid, 481.
Arachis hypogaea, 456.
Arachis oil, 456.
Araroba powder, 337.
Arbor Dianæ, 217.
viteæ, 416.
Arbutin, 359, 491.
Archil, 540.
Arctium lappa, 500.
Arctostaphylos uva-ursi, 491.
Areca catechu, 359.
Areca-nuts, 359.
Arecline, 359.
Arekane, 359.
Argal, 317.
Argenti cyanidum, 217.
iodidum, 217.
 impurities in, 694.
nitratas, 215, 656.
 gravimetric estimation of, 656.
dilutus, 216, 656.
fusus, 216, 656.
oxidum, 216, 656.
 impurities in, 694.
Argentio chloride, sulphide, etc. (*vide Salts of Silver*).
Argentiferous galena, 213.
Argentum, 33.
purificatum, 215.
Argol, 317.
Armenian bole, 539.
Armoracia radix, 412.
Arnatto, 539.

Arnica, 420.
Arnica radix, 420.
flores, 420.
Arnicin, 420.
Arnotto, 539.
Aromatic acids, 482.
 glycols, 449.
 series of hydrocarbons, 425.
Arrow-root-starch (fig.), 465.
Arseniate of ammonium, 167.
 barium, 175.
 calcium, 175.
 copper, 174.
 iron, 168, 633.
 magnesium and ammonium, 120.
 silver, 175.
 sodium, 167.
 zinc, 175.
Arseniates, 167.
Arsenic acid, 167.
 arsenical solutions, volumetric estimation of official, 630.
 anhydride, 167.
 in carbonate of potassium, solution of, 165.
 in hydrochloric acid, solution of, 166.
 odor of, 166.
 white, 165.
 antidote to, 159, 175.
Arsenical ores, 164.
 sulphur, 173.
Arsenii iodidum, 164.
Arsenicum, 164.
 analytical reactions of, 168.
 antidotes to, 149, 175.
 and antimony, analytical separation of, 184.
 bromide, 164.
 chloride, 164.
 derivation of word, 32.
 detection of, in metallic copper, 170.
 in ores, 175.
 in organic mixtures, 547.
Fleitmann's test for, 172.
 from antimony, to distinguish, 172.
hydride, 171.
iodide, 164.
Marsh's test for, 170.
 quantitative estimation of, 630, 650.
 red native sulphide, 165.
 reduction of arseniates to arsenites, 167.
Reinsch's test for, 170.
 sources of, 164.
 sulphide of, 165, 173.
Arsenicum, yellow native sulphide, 165.
Arsenide of cobalt, 232.
Arsenio-sulphide of iron, 164.
 of nickel, 234.
Arsenious acid, 165.
 anhydride, 165.
 oxide, 165.
Arsenites, 165.
Arsenite of copper, 174.
 potassium, 165.
 silver, 174.
 sodium, 167.
Arseniuretted hydrogen, 171.
Art of Chemistry, 13.
Artemisia absinthium, 414.
maritima, 497.
Artificial alkaloids, 501.
 gastric juice, 535.
Asafœtida, 423.
Asbestos, 354.
Asclepedin, 499.
Asclepias tuberosa, 499.
Aselline, 456.
Aseptol, 440.
Asparagin, 349.
Aspartate of ammonium, 349.
Aspidium, 456.
Aspidospermine, 392.
Atees, 392.
Ateesine, 519.
Atis, 392.
Atmospheric pressure, measurement of, 568.
Atom, definition of, 56.
 weights, definition of, 51.
Atomicity, 53.
Atomic proportions, 195, 198.
 theory, 50.
 weights, 51.
 relation of specific heat to, 607.
Atoms, 50, 51.
 quantivalence of, 55.
 definition of, 56.
Atropa belladonna, 519.
Atropia, tropate of, 519.
Atropina, 519.
 impurities in, 694.
Atropine sulphas, 519.
 impurities in, 694.
Atropine, 519.
Attar of rose, 415.
Auranti amari cortex, 413.
dulcis cortex, 413.
flores, 413.
Auric chloride, 243.
sulphide, 243.
Auri et sodii chloridum, 244.

Auri et sodii chloridum, impurities in, 694.
Aurum, 34.
 impurities in, 694.
 Avogadro's and Ampère's law, 52, 53.
Azadirachta indica, 500.
Azedarach, 500.
Azo, 504.
Azobenzene, 427.
Azoxybenzene, 427.
Bacterium mycodermi, 296.
Bael-fruit, 359.
Bahia powder, 337.
Baking-powder, 461.
Balance, 585.
Balloons, coal-gas for, 24.
 hydrogen for, 24.
Balm, 415.
Balm-of-Gilead fir, 423.
Balsam, Canada, 423.
 copaiva, 422.
 fir, 414.
 Gurjun, 422.
 Peru, 419, 485.
 storax, 419, 485.
 Tolu, 419, 485.
Balsamodendron myrrha, 424.
Balsams, 419.
Balsamum Peruvianum, 419, 485.
 impurities in, 694.
Tolutanum, 419, 485.
Baptin, 520.
Baptisia tinctoria, 520.
Baptisin, 520.
Baptitoxine, 520.
Barbadoes aloes, 429.
Barbaloin, 429.
Barberry, 520.
Barf's protected iron, 140.
Barium, 102.
 acetonitrile, 125.
 analytical reactions of, 102.
 and calcium, separation of, from magnesium, 123.
 antides to, 103.
 arseniate, 103.
 carbonate, 103.
 native, 102.
 chloride, 102.
 chromate, 103.
 neutral, 103.
 derivation of word, 32.
 detection of, in presence of calcium and magnesium, 123.
 hydrate, 102.
 nitrate, 102.
 peroxide, 103.
 phosphate, 103, 331.

Barium, oxalate, 103, 316.
 oxide, 103.
 quantitative estimation, 645.
 salts, antidote to, 103.
silico-fluoride, 103.
sulphate, 103.
sulphide, 102.
sulphite, 306.
Barley-starch (fig.), 465.
 -sugar, 462.
Barometer, 578.
Baryta, 102.
 -water, 102.
Basalt, 136.
Base, meaning of, 260.
 organic, 379.
Bassorin, 114, 469.
Bastard saffron, 539.
Basylous hydrocarbons, 391.
 radicals, 122.
Bath brick, 354.
Bauxite, 136.
Bay, 414.
Bay rum, 436.
 salt, 80.
Bearberry, 359.
Beaver tree, 500.
Beberia or berberine, 520.
Beberia sulphas, 520.
Beberine, 520.
Beer, 436.
Beeswax, 444.
Beetroot, 460.
Bela fructus, 358.
Belladonnae folia, 519.
Bell-metal, 239.
Benne oil, 456.
Benzaldehyde, 489, 490, 492.
Benzaldehyde-cyanhydrin, 490.
Benzene, 426.
 constitution of, 430.
 impurities in, 694.
 nitro-, 427.
 dinitro-, 427.
disulphonic acid, 448.
sulphonic acid, 440, 447.
 series of hydrocarbons, 425.
Benzin, 431.
Benzin-Collas, 426.
Benzine, 426.
Benzoate of ammonium, 93, 336.
Benzoated lard, 454.
Benzoates, 335.
Benzoic acid, 335, 581, 583.
 aldehyde, 335.
 glycocone, 336.
Benzoin, 335, 419.
Benzol, 426.
Benzoline, 396.

Benzoyl chloride, 482.
 hydrate, 482, 522.
 hydride, 482.
sulphonic imide, 440.
Benzyl benzoate, 485.
cinnamate, 485.
hydrate, 485.
Benzylie alcohol, 450, 485.
Berbamine, 520.
Berberia or berberine, 520.
Bergamot oil, 413.
Berlin blue, 539.
 red, 539.
Berthollet's laws, 379.
Beryllium, 712.
Betaine, 503.
Betel-nuts, 359.
Betula leuta, 404.
Bi-, the prefix, 71.
Bibasic (vide Dibasic).
Bibirine, 520.
Bibulous paper, 107.
Bicarbonate of ammonium, 91.
 of potassium, 70, 320, 324, 617.
 chemically pure, 618.
 of sodium, 82, 320, 324, 617.
 chemically pure, 618.
Bicarbonates, test for, 314.
Bichromate of potassium, 235.
Bikh, 519.
Bile, 537.
 detection of, in urine, 560.
 tests for presence of, 537.
Biliary calculi, 573.
Bish, 519.
Bismuth, 248, 584, 653.
 and ammonium citrate, 251.
 analytical reactions of, 252.
 carbonate, 251.
 estimation of bismuth in, 653.
 impurities in, 694.
 citrate, 251.
 derivation of word, 34.
 hydrate, 252.
 lozenge, 250.
 nitrate, 249.
 oxide, 251.
 oxyalts, 250.
 quantitative estimation of, 653.
 salts, composition of, 250.
 subcarbonate or oxycarbonate, 251.
 subnitrate or oxynitrate, 249.
 sulphate, 251.
 impurities in, 694.
sulphide, 252.
Bisulphide of carbon, 312.
Bisulphite of lime, 305.

Bisulphite of sodium, 305, 631.
Bitter almonds, oil of, 490.
Bittern, 267.
Bitter-sweet, 327.
Bituminous coal, 238.
Bivalence, 55.
Bivalent radicals, 55, 122.
Bixa orellana, 539.
Bixin, 539.
Blackberry, 359.
Bladder-green, 540.
Blanc de perle, 250.
Blende, 129.
Block tin, 239.
Blood, 531, 568.
 detection of, in organic matter, 569.
hydrocyanic acid in the, 282.
Blood-root, 527.
 vinegar, 297.
Blood-stains, 569.
Blowpipe analysis, 372.
Boiled oil, 455.
Boiling-points of various substances, 582.
 -point, definition of, 582.
Boldo, 413.
Bonduc-seeds, 500.
Bone-ash, 110.
 -black, 111.
 -earth, 326.
Bone oil, 504.
Bones, composition of, 326.
Boneset, 500.
Boracic acid, 33.
 anhydride, 333.
 as an antiseptic, 334.
Borate of glyceryl, 334.
Borates, 333.
 analytical reactions of, 334.
Borax, 333.
 volumetric estimation of, 616.
 bead, 233.
Bordeaux turpentine, 410.
Boric acid (see *Boracic acid*), 333.
Borneene, 416.
Borneo camphor, 417.
Borneol, 418.
Boron, 333.
 chloride, 333.
 fluoride, 333.
Borotartrate of potassium, 334.
Bos taurus, 536.
Boswellia, 424.
Bourdon barometer, 579.
Boyle's law, 52.
Brandy, 436, 437.
Brass, 129.
Brassica alba, 452.

INDEX.

Brassica nigra, 452.
Brayera, 421.
 Brazil-powder, 338.
 -wood, 539.
 Bread, 461.
Breidin, 423.
Brezilin, 539.
 Bright's disease, 559.
Britannia metal, 177, 207.
 British gum, 467.
Bromal, 479.
 alcoholates of, 479.
 hydrate of, 479.
 Bromate of potassium, 76.
 Bromates, 270, 295.
 detection of, in bromides, 270.
 Bromic acid, 76, 295.
 Bromide of ammonium, 269, 626.
 arsenic, 164.
 calcium, 269.
 ethyl, 400.
 iron, 145.
 lithium, 225.
 potassium, 75, 269, 626.
 volumetric estimation of, 636.
 silver, 217.
 sodium, 269, 627.
 sulphur, 303.
 Bromides, 269.
 analytical reactions of, 269.
 quantitative analysis of, 626.
 separation of, from chlorides and iodides, 275.
 Bromine, 267.
 analytical separation of, 270.
 derivation of word, 33.
 its analogy to chlorine and iodine, 271.
 solution of, 270.
 test of purity, 268.
Broomum, 275.
 impurities in, 694.
 Bronze, 242.
 aluminium, 136.
 coinage, 188.
 Bronzing-powder, 242.
 Broom-tops, 528.
Brucia, 517.
Brucine, 517.
 Brunswick green, 174.
Bryoidin, 422.
Bryonia, 491.
Bryonin, 491.
Bryony, 491.
Buchi, 413, 500.
 Buckthorn green, 540.
 -juice, 492.
 Bunsen gas-burners, 23.

Burdock, 500.
Burette Mohr's, 612.
 Burgundy pitch, 421.
 Burners, gas, 17, 23.
 Burnett's disinfecting fluid, 131.
 Burnt ochre, 539.
 sugar, 462.
 umber, 541.
 Butane, 395.
Butea frondosa, 358.
 Butter, 454, 531.
 of antimony, 178.
 cacao, 454.
 cocoa, 454.
 kokum, 454.
 orris, 415.
 Butternut, 526.
 Butyl, chloral, 479.
 Butylene, 406.
 Butylie alcohol, 363.
 Butyrate of ethyl, 406.
 Butyrates, 363.
 Butyric acid, 363, 479.
 aldehyde, 479, 480.
 chlorinated, 479.
 Butyrone, 488.
 Buxine, 393.
Buxus sempervirens, 393.
 CABBAGE-ROSE PETALS, 538.
 oil of, 415.
 Cacao butter, 454.
 Cadaverine, 503.
Cadmii iodidum, 248.
 Cadmium, 248.
 analytical reactions of, 248.
 carbonate, 248.
 derivation of word, 34.
 hydrate, 247.
 iodide, 248.
 nitrate, 248.
 sulphate, 248.
 sulphide, 248.
Cesalpina brasiliensis, 539.
boudicella, 500.
 Cæsiun, 712.
 Caffeina, 528.
 impurities in, 685.
 Cajuput oil, 413.
 Cajuputene, 413.
 Cajuputol, 413.
 Caking coal, 239.
 Calabar bean, 526.
 Calamine, 131, 416.
Calamus, 416.
draco, 420.
 Calcined magnesia, 119.
 Calcium, 104.
 analytical reactions of, 114.

INDEX.

Calcium and barium, separation from | Camphoretic acid, 418.
 magnesium, 123.
 bisulphite, 305.
 bromide, 269.
 impurities, 695.
 carbonate, 107.
 prepared, 109.
 impurities, 695.
 chloride, 104.
 impurities, 695.
 chromate, 114.
 citrate, 324.
 derivation of word, 32.
 flame, 114.
 fluoride, 104.
 in bones, 110.
 glycyrrhizate, 494.
 gummate, 113.
 hydrate, 106.
 hypochlorite, 112.
 hypophosphite, 343.
 impurities, 695.
 hyposulphite, 302.
 in presence of barium and magnesium, detection of, 123.
 oxalate, 114, 316.
 oxide, 105.
 phosphate, 104, 109.
 polysulphide, 302.
 quantitative estimation of, 646.
 silicate, 104, 354.
 sulphate, 104, 114, 302.
 sulphide, 113.
 sulphite, 305.
 superphosphate, 327.
 tartrate, 321.
 Calc-spar, 104.
 Calculi, urinary, 571.
 examination of, 571.
Calendula, 500.
Calendulin, 500.
 Calomel, 193, 200.
 test for corrosive sublimate in, 200.
 tests for constituents of, 201.
Calotropis, 500.
Calumba, 520.
Calx, 105.
 impurities in, 695.
chlorata, 112.
sulphurata, 113.
Cambogia, 423.
 impurities in, 695.
 Camphor laurel, 417.
 oil, 417.
 -water, 418.
Camphora, 417.
cinnamomum, 417.
monobromata, 417.

ligni, 111.
 Carbolates, 448.
 Carbon, 30.
 bisulphide, 313.
 combustion of, 30.
 compounds, 382.
 derivation of word, 31.
 disulphide, 313.
 quantitative estimation of, in organic compounds, 669 *et seq.*
 Carbonate of ammonium, 91.
 solution of, 92.

Carbonate of barium, 103.
bismuth, 259.
cadmium, 247.
calcium, 104, 106.
prepared, 109.
iron, 142, 634.
saccharated, 143, 634.
lead, 212.
lithium, 224.
magnesium, 117.
potassium, 61.
chemically pure, 618.
sodium, 80, 87, 311, 617.
chemically pure, 618.
manufacture of, 87, 313.
strontium, 226.
zinc, 132, 135.

Carbonates, 311.
acidulous radical in, 311.
analytical reactions of, 313.
gravimetric estimation of, 663.
volumetric estimation of alkaline, 617.

Carbonei bisulphidum, 313.
impurities in, 695.

Carbonic acid, 30, 311.
acid gas, generation of, 71.
solubility of, in water, 85.
anhydride, 311.
oxide, 311, 337.

Carbonization, 100.

Carbonyl, 432.

Carboxyl, 479.

Carburetted hydrogen, heavy, 406.
light, 394.

Cardamon oil, 413.

Cardamomum, 413.
greater, 413.
lesser, 413.

Carica papaya, 536.

Carmine, 337.

Carminic acid, 337.

Carnallite, 61.

Carnine, 504.

Carolina jasmine, 524.

Carrageen moss, 470.

Carrotin, 539.

Carthamin, 539.

Carthamus tinctorius, 539.

Carui fructus, 413.

Carum, 413.
ajowan, 413.

Carvene, 413.

Carvol, 413.

Caryophyllin, 413.

Caryophyllum, 413.

Cascara sagrada, 500.

Cascarilla, 413.
oil, 413.

Cascarillin, 500.
Casein, 531.
vegetable, 533.

Cassia acutifolia, 491.
elongata, 491.
fistula, 460.
oil, 413.

Castanea, 359.

Castile soap, 453.

Castilloa elastica, 417.

Cast iron, 140, 584.

Castor, 420.
fiber, 420.
oil, 456.

Castoreum, 420.

Castorin, 420.

Catechin, 358.

Catechu, 358.
pallidum, 358.

Catechic acid, 358.

Cathartie acid, 491.

Cathartogenic acid, 491.

Caulophyllum thalictroides, 500.

Caustic, 215.
alcohol, 437.
lime, 105.
lunar, 215.
potash, 62.
soda, 81.

Cayenne pepper, 422.

Cedra oil, 413.

Cedrene, 416.

Celandine, 522.

Celestine, 226.

Cellulin, 470.

Cellulose, 470.

Celsius's thermometer, 580.

Cephalis ipecacuanha, 524.

Cera alba, 444.
impurities in, 695.

flava, 444.
impurities in, 695.

Cerasin, 469.

Cerasus serotina, 490.

Cerates, 574.

Ceratum plumbi acetatis, 209.

Cerebrin, 531.

Ceresine, 444.

Cerevisia fermentum, 434.

Cerii oxalis, 227.
impurities in, 695.

Cerite, 227.

Cerium, 228.

derivation of word, 33.
oxalate, 227.

Ceroleine, 444.

Cerotic acid, 479.

Ceryl-cerolate, 444.

Cerylic alcohol, 444.

Cetaceum, 444.
impurities in, 696.

Cetine, 444.

Cetraria, 337.

Cetraric acid, 337.

Cetyl hydrate, 444.
palmitate, 444.

Cetylic alcohol, 444.

Cevadilla, 529.

Cevadiline, 529.

Cevadine, 525, 529.

Ceylon moss, 470.

Chaledony, 354.

Chalk, 109.
French, 541.
precipitated, 107.
prepared, 109.
-stones, 571.

Chalybeate-water, 140.

Chameleon, mineral, 230.

Chamomile oil, 412.

Char, 100.

Charcoal, 30.
animal, 110.
decolorizing power of, 111.
wood, 111.

Charles's law, 53.

Charta sinapis, 445.
potassii nitratis, 284.

Chavica officinarum, 527.

Chavicic acid, 527.

Cheese, 531.

Cheese-poison, 502, 556.

Chelerythrin, 522, 527.

Chelidonic acid, 522.

Chelidonine, 522.

Chelidonium, 522.

Chemical action, definition of, 36, 40.
by symbols, illustration of, 41, 46.

affinity, 38.

combination, 38.
by weight, laws of, 47, 58 *et seq.*

by volume, laws of, 52 *et seq.*

different from mechanical, 36, 38.

laws of, 47, 195, 285, 577.

compound, 30.
definition of, 57.

diagram, 58, 63.

equation, 58, 62.

force, 37, 56.
conditions for the manifestations of, 40.

Chemical force, its relations to heat and electricity, 607.

formula, definition of, 57.

formulæ, 42.

notation, 41, 42.

philosophy, principles of, 36 *et seq.*

preparations of the Pharmacopœias, 574.

symbol, definition of, 57.

symbols, 31, 41, 42.

toxicology, 545.

Chemicals, 14.
list of, xiv.

Chemism, 38.

Chemist and druggist, 14.

Chemistry, art of, 13.
and physics, differences between, 46.

definition of, 56.

derivation of the word, 13.

inorganic, 379.

object of, 14, 48.

organic, 379.

science of, 13.

Chemists, analytical, 14.
consulting, 14.

manufacturing, 14.

pharmaceutical, 14.

Chenopodium, 417.
oil, 417.

Cherry-laurel water, 490.

Cherry, 323, 490.

-tree gum, 469.

wild black, 490.

Chestnut, 359.

-brown, 541.

Chian turpentine, 409.

Chili saltpetre, 284.

nitre, 284.

Chimaphila, 491.

umbellata, 491.

China clay, 354.

Chinese red, 539.

wax, 444.

white, 541.

yellow, 538.

Chinoidin, 514.

Chinoidinum, 514.

impurities in, 696.

Chinoline, 503.

Chirata, 351.

Chiratin, 351.

Chiratogenin, 351.

Chloral, 398, 476.

alcoholates of, 476, 478.

butyl, 479.

croton, 479.

estimation of, 478.