

Subject Index

A

Accuracy, 61, 108
 Acid digestion, 54
 Adsorption, 23 (fig)
 Alloys, specialty
 Alumina, 12 (table)
 Alumina determination
 precision, 14 (table)
 Aluminum alloys, 18
 Aluminum determination, 15, 29
 precision, 8 (table)
 Aluminum emission scan, 64, 65
 Analysis, 22, 25
 automated, 11, 32, 63, 90, 91, 94
 crucibles, 48 (table)
 of variance, 108
 Analytical chemistry, 97
 computer controlled, 89
 Analytical instruments quality as-
 surance, 110
 Analytical Laboratory Information
 Management System
 (ALIMS), 97
 Analytical spectroscopy, 6, 16, 18, 45
 capabilities, 62
 Analytical techniques, 92, 93
 Anion exchange, 18, 21, 30
 Arsenic determination
 precision, 11 (table)
 Ashing, 45
 ASTM Standards
 E 34, 18
 E 39, 132
 E 278, 9

E 350, 18

E 351, 18

E 1028, 7

E 1070, 9

Atomic absorption, 6, 15, 17

 baghouse dust, 15 (table)

 beryllium, 81, 82

Atomic spectroscopy, 23 (table), 18,
 60, 61, 82, 84

B

Background element, 89
 Baghouse dust
 atomic absorption, 15 (table)
 Beryllium, 18, 74, 75, 85 (tables)
 determination, 78, 79 (table)
 photoneutron method, 80
 dissolution, 77
 separation, 77-78
 standards, 76
 Bismuth, 17
 Boron
 titration, 38-39
 results, 40 (tables)

C

Calcium, 15
 Calcium oxide, 12 (table)
 Chemical analysis, 91
 experimental procedures, 129

Chemical attack, 48, 49
 Chromatography, anion exchange, 30
 Chromium, 15, 18
 determination, 33, 34 (tables)
 titration curves, 35 (fig)
 Cobalt, 112
 titration, 39-40
 precision, 40 (tables), 41 (table)
 42-43 (tables)
 Complexometry, 7
 Compliance, 1
 Computerization, 71, 90, 94, 95
 laboratory information system, 98-107
 Copper, 16, 24
 adsorption, 23 (fig)
 Copper-beryllium alloys, 83

D

Data handling, 72, 96-107
 Detection, 93, 119 (fig)
 Dissolution, 6, 50, 55, 58
 of beryllium, 77, 84
 of lead-tin solder, 65
 Dust components
 atomic absorption, 15 (table)

E

Echelle grating spectrometers, 62, 72
 Element extraction, 91, 92
 Element isolation, 92, 93
 Elemental oxides, 90, 94
 Emission spectroscopy, 65, 108, 109
 Environmental analyses, 15
 Error, random or systematic, 118

F

Ferro-alloys
 analysis, 15
 Fire assay, 69 (table)
 Fluorometric analysis, 80
 Flux
 sample analysis, 48, 50 (table), 53
 Fusion, 48, 49 (table)

G

Gallium, 17, 19, 20-21, 22
 adsorption, 23 (fig), 24 (table), 25
 test results, 25 (table), 29 (table)
 Gaseous element detection, 89
 Gold, spectroscopic analysis, 67
 (fig), 68
 Gravimetric analysis, 78
 Gravimetry, 6

H

Hydrochloric acid, 20

I

Inductively coupled plasma, 108
 Industrial analysis, 64-67
 Industrial hygiene analyses, 15
 Information management, 4, 97-107
 Inorganic chemistry, 45
 Instrument response, 124
 Instrumental methods, 129, 130, 131
 Interferences, 61, 109, 111
 Ion exchange, 19 (fig), 28 (tables), 132
 Ionization suppressant, 25
 Iron, 13 (table)
 adsorption, 23 (fig)

Iron determination
accuracy, 7 (table)

L

Laboratory information management system (ALIMS), 98-107

Lead, 15, 16, 17, 21-22
anion exchange separation, 26
adsorption, 25 (fig), 27 (table), 28
dissolution, 65

Lime determination
precision, 14 (table)

M

Magnesia, 13 (table)
Magnesia determination
precision, 14 (table)
Magnesium, 18, 120 (table), 121 (fig)
Management control, information system, 97
Matrix effects, 117
Metal ions, 89
Metals analysis, 130
quality assurance, 124, 125
spectral interference, 109, 110
Microprocessor, 94-95
Microwave
sample analysis, 53, 54, 56-57 (tables)
Multielement analysis, 63, 65, 71
Multiple regression, 91

N-O

Nickel, 16, 18
Oxidation, 45, 54, 129

P

Photometry, 8, 11
Phosphorus determination, 62 (table)
accuracy, 9 (table)
precision, 9 (table)
Plasma emission spectroscopy, 61, 62, 68, 69 (table), 71
Plasma sources, 68, 69 (table), 70 (table)
Platinum determination, 129
Potassium, 20
Precious metals, analysis, 66, 67 (fig)
Precision, 68, 69 (table), 71, 108
Pressure bomb
sample analysis, 51, 52-53 (tables), 57-58

Q-R

Quality assurance, 109, 126
Quality control, information system, 97
Redoximetry, 7
Referee methods, 1
Reflux
sample analysis, 53, 54 (table)
Robotics, 96

S

Sample introduction, 46
equipment and procedures, 47, 55
Sample status, information system, 97
Sampling and analysis, 118 (fig), aluminum, 122, 123 (fig)
Sensitivity of detection, 89
Separation techniques, 18
Silica, 12 (table)
determination, 14 (table)

Silicon, 112
 Sinter, 11, 12-13 (tables)
 Slope response, 89
 Sludge, 16
 Spectral interference, 112 (table),
 113, 114-115 (figs) (table),
 116 (fig)
 Spectrometric analysis, 81, 82 (table)
 Spectrophotometric analysis, 79
 Spectroscopy
 analytical, 6, 16, 18, 45
 atomic absorption, 60, 61
 emission, 65, 110 (table)
 multielement, 63, 64, 71
 plasma emission, 62, 63, 71, 72
 Steel
 alloys, analysis, 66 (table)
 chemical analysis, 18
 production, 5
 Steelmaking additives, 6

T

Tin, 17
 Titanium, 112

Titanium determination, 15, 16
 accuracy, 10 (table)
 precision, 9 (table)
 Titrimetry, 34
 equipment, 31-32
 results, 40-43

U-V

Ultrasonic
 sample analysis, 57 (table)
 Vanadium determination, 37-38,
 112
 precision, 10 (table), 38 (tables)
 Variance, analysis of, 109, 124, 125
 (fig)
 Volumetric analysis, 79

W-Z

Work scheduling
 laboratory information manage-
 ment system, 97
 Zinc, 15, 16, 24
 adsorption, 23 (fig), 27 (fig)