



Index

A

- abattoirs, 128
- ABPI *see* Association of the British Pharmaceutical Industry
- absorbed dose, 198, 200
- ACAA *see* Agreement on Conformity Assessment and Acceptance of Industrial Products
- acceptance criteria, 147, 149, 298, 325
- accidental release, 126, 135, 162
- accompanying material conditions, 498
- accuracy checks, 192
- action taken/conclusions reached records, 498
- active pharmaceutical ingredients (API)
 - see also* active substances
 - acceptance criteria, 298, 325
 - agents, 316
 - analytical methods, 311
 - audits/auditing, 65, 281, 450
 - batch blending, GMP, 299
 - batch production, 292
 - biotechnological processes, 319
 - blending, 299
 - brokers, 316
 - buildings, 283
 - calibration, 288
 - cell culture, 318
 - Certificates of Analysis, 295, 305
 - change control, 312, 324
 - cleaning, 287, 290, 310
 - clinical trials, 322
 - Community Database, 435
 - complaints, 315, 318
 - compliance, 434
 - computerised systems, 288
 - consultants, 283
 - containment, 285
 - contamination, 285, 300, 315
 - contract manufacturers, 315
 - controls, 291, 292, 293, 294, 303, 315, 324
 - dating, 306
 - definitions, 325
 - Directive 2001/83/EC, 387, 434
 - Directive 2011/62/EU, 435
 - disposal procedures, 286
 - distribution/distributors, 302, 316, 434
 - documentation, 278, 289, 303, 308, 325, 387, 440
 - equipment, 286, 323
 - EudraGMDP, 436
 - expiry dating, GMP, 306
 - exports, 387
 - facilities, GMP, 283, 323
 - falsified medicinal products, 434, 435, 440
 - fermentation, 318
 - GDP, 439, 440
 - general controls, 294
 - GMP, 30, 259, 277, 439, 440
 - holding, 317
 - ICH Q10 document, 364, 365
 - identification, 300
 - imports, 434, 439, 441
 - incoming production materials, 295
 - information transfer, 317
 - in-process controls, 297
 - intermediate products, 277
 - internal audits, 281
 - labelling, 291, 300, 316, 323
 - laboratory practices, 293, 303, 315, 324
 - lighting, 286
 - maintenance, 286
 - manufacture, 30, 259, 277, 434
 - master production instructions, 291
 - materials management, 294, 314
 - medicating feedingsuffs, 151
 - MHRA, 435
 - mother liquors, 314
 - MRA batch certificates, 384
 - National Contingency Guidance, 444
 - natural organisms, 318
 - non-compliance, 434
 - Out-of-Specification, 294, 299, 304
 - packaging, 291, 300, 316
 - periodic evaluation, 310
 - personnel, 282
 - Pharmaceutical Quality System, 364, 365
 - premises, 283, 323
 - process validation, 309
 - production, 281, 297, 324
 - Product Quality Reviews, 281
 - prospective validation, 309
 - qualification, 308

- Qualified Person(s), 444
- quality, 319, 323
- Quality Assurance, 278
- Quality Control, 278
- Quality Management, 278, 317
- quality reviews, 281
- Quality Risk Management, 278
- quality units, 280
- quarantine status, 295
- raw materials, 277, 291, 297, 323
- recalls, 315, 318
- receipts, 295
- recombinant organisms, 318
- records, 289, 291, 292, 293
- recovery, 313
- re-evaluation programs, 297
- refuse, 286
- registration, 435
- rejection procedures, 313
- relabelling, 316
- release procedures, 278
- repacking, 316
- reprocessing, 313
- reserve samples, 307
- residual contamination, 300
- retention samples, 307
- retest dating, 306
- returns, 314, 318
- reworking, 313
- sampling, 295, 298, 303, 307
- sanitation, 286, 290
- self inspections, 281
- sewage, 286
- solvent recovery, 314
- specifications, 289, 303
- stability, 306, 317
- starting materials, 259, 277, 325
- sterilisation, 290
- storage, 296, 302
- suppliers/supplies, 295, 434
- testing, 295, 303, 304, 306
- third country imports, 439, 441
- time limits, 298
- traceability, 315, 316
- traders, 316
- UK guidance, 434
- uniformity, 291
- validation, 305, 307, 310, 324
- veterinary products, 151
- waivers, 438, 441
- warehousing procedures, 302
- waste disposal, 286
- water, 285
- written confirmation, 387, 440
- active substances
 - see also* active pharmaceutical ingredients
 - audits/auditing, 65, 281, 450
 - biological products/substances, 110, 364
 - blood/plasma-derived products, 226
 - chemical synthesis, 166
 - competent authorities, 506
 - definitions, 138, 503
 - Directive 2001/83/EC, 275, 434
 - distribution, 434, 502
 - falsified medicinal products, 434, 440, 503
 - gases, 166
 - GDP, 275, 439, 440, 503, 506
 - GMP, 30, 65, 166, 274, 503, 505
 - Human Medicines Regulations 2012, 476, 502
 - importation, 434, 457, 502
 - information provision, 507
 - licence conditions, 399
 - licensing authorities, 504
 - manufacture/manufacturing, 30, 65, 166, 275, 434, 457, 502
 - Manufacturing Authorisation, 60
 - marketing authorisation, 506
 - MHRA, 11
 - preface overview, 14
 - production, 65
 - purification, 166
 - registration, 504
 - Schedule 7A - registration information, 508
 - starting materials, 275
 - third countries, 506
 - UK guidance, 434
 - UK legislation, 502
- address considerations, 609
- adjuvants, 138
- adulteration, 532
- Advanced Therapy Medicinal Products (ATMP)
 - see also* exempt...
 - biological products/substances, 111, 121, 127
 - “Hospital Exemption” patients, 432
 - Human Medicines Regulations 2012, 490
 - manufacture, 432
 - manufacturer’s licence, 490
 - MHRA Innovation Office, 6
 - Regulation (No 1394/2007), 432
 - supply, 432
 - unlicensed medicines, 432
 - wholesale distribution, 545
- advertisements, 545, 595
- aerosols, 126, 188
- agents, APIs, 316
- Agreement on Conformity Assessment and Acceptance of Industrial Products (ACAA), 383, 421
- agriculture, 178
- airborne particles, 93
- air-cleanliness, 90, 91, 92
- air filtration, APIs, 284
- air flow, 99
- airlock doors, 99, 157, 266
- air pressure, 99
- air re-circulation, 142
- air separation, 175
- alarm systems, 159
- allergen products, 130, 138

- analytical methods
 - API validation, 311
 - Certificates of Analysis, 51, 295, 305, 423
 - risk, 245, 257, 345, 350
 - ancillary areas, 48
 - animals
 - see also* veterinary products
 - animal houses, 48, 132, 160
 - audits, 129
 - biological products/substances, 118
 - cell therapy, 130
 - disease, 129
 - documentation, 129
 - GMP, 128, 131, 132
 - immunological products, 154, 163, 165
 - immunosera products, 131
 - licence conditions, 403
 - materials, 128
 - Quality Risk Management, 128
 - raw materials, 129
 - starting materials, 129
 - transgenic products, 132
 - TSE regulations, 118, 121, 605
 - xenogeneic products, 130
 - antibiotics, 110
 - antibodies, 132, 138
 - antigens, 131, 138
 - API *see* active pharmaceutical ingredients
 - application considerations
 - brokering registration, 568, 600
 - manufacturer's licences, 392
 - "specials" licence, 392
 - application software, 195
 - appointing Responsible Person(s), 546
 - archiving considerations, 194
 - areas, definitions, 138
 - Article 46b(2)(b) of Directive 2001/83/EC, 387
 - Article 126a authorisation, 476, 541, 584, 588, 592
 - aseptic operations, 94, 96, 101, 112, 140
 - assembly
 - active substances, 503
 - Human Medicines Regulations 2012, 476, 480, 485, 503
 - manufacturer's licence, 485
 - assessment activities, 358
 - Association of the British Pharmaceutical Industry (ABPI), 563
 - ATMP *see* Advanced Therapy Medicinal Products
 - "at rest" conditions, 90
 - audits/auditing
 - see also* self inspections
 - active substances, 65, 281, 450
 - animal materials, 129
 - APIs, 65, 281, 450
 - audit trails, 193
 - Quality Risk Management, 357
 - authorisation(s)
 - see also* Manufacturing Authorisation; Marketing Authorisation
 - Blood Establishment Authorisations, 11, 17
 - brokers/brokering, 599
 - clinical trials, 10, 385
 - importation/manufacture, Directive 2001/83/EC, 454
 - IMPs, 205, 409, 425
 - MHRA, 11
 - authority addresses in Europe, 609
 - axenic organisms, 141
- B**
- batch certificates
 - ACAA, 383
 - definitions, 385
 - GMP, 383
 - imports, 383
 - IMPs, 217, 220
 - Mutual Recognition Agreements, 383, 385
 - Qualified Person(s), 408, 413
 - batches
 - see also* batch certificates; batch release
 - blending, 299
 - definitions, 266, 325
 - documentation, 52, 402
 - numbers, 266, 326, 386
 - Packaging Records, 56
 - Processing Records, 55
 - production, 292, 294
 - records, 210, 292
 - testing, 249
 - batch release
 - certification, 246
 - computerised systems, 194, 248
 - definitions, 254, 255
 - GMP, 246
 - IMPs, 216, 220, 246
 - Qualified Person(s), 246, 252
 - reference/retention samples, 260
 - BEA *see* Blood Establishment Authorisations
 - bespoke computerised systems, 195
 - Beta radiation, 196, 200
 - BGMA *see* British Generics Manufacturers Association
 - bioburden
 - APIs, 320, 326
 - biological products/substances, 122
 - cell culture/fermentation, 320
 - definitions, 138, 326
 - sterile products, 103
 - biogenerators, 266
 - biological products/substances
 - active substances, 110, 364
 - agents, 155, 267
 - animals, 118
 - cell banks, 122, 123
 - definitions, 139
 - documentation, 120
 - equipment, 115, 126
 - general GMP guidance, 114

- gene therapy, 123
- GMP, 110
 - Human Medicines Regulations 2012, 476
 - human use, 110
 - ICH Q10 document, 364
 - operating procedures, 125
 - personnel, 114
 - premises, 115
 - principles of GMP, 112
 - production, 120
 - Quality Control, 127
 - raw materials, 121
 - seed lots, 123
 - starting materials, 111, 121
 - sterile products, 104, 106
 - sterilisation, 112, 122
 - storage, 115, 124
 - TSE regulations, 118, 121, 605
- biosafety levels, 139
- biotechnological processes, 319, 364
- blending processes, 162, 299
- blinding, 206, 211, 467, 472
- blood
 - establishment, 11, 17, 224, 227, 229
 - GMP, 8, 111, 276
 - licence conditions, 401
- blood components
 - biological products/substances, GMP, 111
 - definitions, 224
 - GMP, 111, 224, 235
 - Human Medicines Regulations 2012, 477
 - licence conditions, 401
- blood-derived products
 - addendum, 235
 - batch release, 246
 - collection, 229, 235
 - definitions, 224
 - disposal procedures, 234
 - finished products, 234
 - GMP, 224
 - intermediate products, 234
 - manufacture, 231
 - post collection measures, 229
 - Quality Control, 234
 - Quality Management, 228
 - release procedures, 232, 234
 - starting materials, 226, 231
 - testing, 235
 - traceability, 229
 - waste disposal, 234
 - wholesale distribution, 575, 581
- Blood Establishment Authorisations (BEA), 11, 17
- blow/fill/seal units, GMP, 95
- bona fide verification, 556
- breaches in wholesale distribution, 559
- breakage considerations, 532
- British Generics Manufacturers Association (BGMA), 563
- British Pharmacopoeia, 477
- British Pharmacopoeia Commission, 5
- brokers/brokering
 - APIs, 316
 - authorisations, 599
 - Competent Authorities, 567, 582, 599
 - compliance, 570, 582
 - criteria of registration, 569, 601
 - Directive 2001/83/EC, 567, 570, 575
 - Directive 2011/62/EU, 567, 576
 - Directive 2012/26/EU, 576
 - documentation, 536
 - EEA, 569, 599
 - emergency plans, 600
 - EU legislation, 575
 - European Commission, 567
 - exports, 576
 - falsified medicinal products, 567, 599
 - GDP, 515, 535, 571
 - Human Medicines Regulations 2012, 584, 590, 598
 - imports, 576
 - information provision, 570, 602
 - inspections, 582
 - intermediate products, 316
 - language, 600
 - legislation, 575, 598
 - licensing authority, 600
 - marketing authorisation, 524, 536, 582
 - Member States, 569, 582
 - MHRA, 11, 568
 - mutatis mutandis*, 582
 - non-EEA countries, 576
 - personnel, 536
 - preface overview, 15
 - quality systems, 535
 - records, 536
 - registration, 568, 582, 600
 - Regulation (EC) No 726/2004, 582, 599
 - Title VII, 576
 - UK guidance, 567
 - UK legislation, 598
 - wholesale distribution, 513
 - dealer's licence, 540
 - Directive 2001/83/EC, 575
 - Directive 2011/62/EU, 576
 - Directive 2012/26/EU, 576
 - exports, 576
 - GDP, 515, 535
 - Human Medicines Regulations 2012, 584, 590
 - imports, 576
 - non-EEA countries, 576
 - registration, 568
 - Title VII, 576
- buildings/facilities
 - see also* premises
 - APIs, 283
- bulk products
 - active substance starting materials, 276
 - batch release, 249, 254

- definitions, 267
 - production, 68
 - specifications, 53
 - business continuity, 194
- C**
- calibration
 - APIs, 288
 - definitions, 267, 326
 - equipment, 288
 - Quality Risk Management, 360
 - radiopharmaceuticals, 142
 - temperature monitoring, 555
 - campaigned manufacture, 139
 - CAPA *see* corrective actions and/or preventative actions
 - capability of processes, definition, 378
 - capping containers, 108, 164, 362
 - Case Referrals Team, 13
 - cause and effect diagrams, 352
 - ceilings, sterile products, 99
 - cells
 - biological products/substances, 111, 114, 122, 123
 - cell banks
 - APIs/intermediate products, 320
 - biological products/substances, 122, 123
 - definitions, 139, 267
 - immunological products, 161
 - maintenance, 320
 - records, 320
 - cell stock, 139
 - cell therapy, 130, 136, 432
 - culture/fermentation, 267, 318
 - feeder cells, 140
 - hot-cells, 147, 150
 - somatic cells, 136, 141, 432
 - centrifugation, 162
 - Certificate for importation of pharmaceutical constituents (CPC), 12
 - Certificate of licensing status (CLS), 12
 - Certificate of manufacturing status (CMS), 12
 - Certificate of a pharmaceutical product (CPP), 12
 - Certificates of Analysis, 51, 295, 305, 423
 - certification
 - see also* batch certificates; Certificate...
 - batch release, 246
 - exports, MHRA, 12
 - finished products, 246, 255
 - fractionation, 232
 - GMP, 246
 - IMPs, 217, 220
 - plasma-derived products, 232
 - product release, 246
 - Qualified Person(s), 246, 408, 413
 - statements, 386
 - change control
 - APIs, 312, 324
 - clinical trials, 324
 - intermediate products, 312
 - qualification, 243, 244
 - Quality Risk Management, 358
 - validation, 243, 244
 - change management
 - biological products/substances, 125
 - computerised systems, 193
 - definition, 378
 - ICH Q10 document, 374, 378
 - Pharmaceutical Quality System, 374, 378
 - Quality Risk Management, 358
 - changing facilities, 99, 157
 - chemical synthesis
 - active substance gases, 166
 - radiopharmaceuticals, 140
 - CHMP *see* Committee for Medicinal Products for Human Use
 - chromatography, 126
 - classical fermentation, 319
 - clean air devices, 91, 92
 - clean areas/rooms, 90, 91, 267
 - cleaning
 - APIs, 287, 290, 310
 - equipment, 287, 290, 360
 - Site Master Files, 338
 - validation, 242, 244, 310
 - cleanliness considerations, 46, 90
 - Clinical Practice Research Datalink (CPRD), 4
 - Clinical Trial Authorisations (CTA), 10, 385
 - clinical trials
 - APIs, 322
 - authorisation numbers, 385
 - change control, 324
 - documentation, 325
 - GMP, 322
 - IMPs, 204, 206, 221
 - laboratory practices, 324
 - Medicines for Human Use (Clinical Trials) Regulations 2004 as amended, 605
 - MRA batch certificates, 384
 - production, 324
 - Qualified Person(s), 407
 - radiopharmaceuticals, 138, 141
 - raw materials, 323
 - validation, 324
 - closedown of manufacturer situations, 264
 - closed systems, definitions, 139
 - closing meetings, 394
 - closures, containers, 108, 164, 362
 - clothing, personnel, 43, 98
 - CLS *see* Certificate of licensing status
 - CMS *see* Certificate of manufacturing status
 - CMT *see* Compliance Management Team
 - Code of Conduct, Qualified Person(s), 416
 - Code of Practice, Qualified Person(s), 406
 - cold chain goods, 554
 - cold filling, 188
 - cold rooms, 554
 - collection, blood/plasma-derived products, 229, 235
 - commercial manufacturing, 363, 371, 382

- commercial off the shelf software, 195
- commercial refrigerators, 554
- Commission on Human Medicines, 5
- commissioning
 - Electron Irradiation, 200
 - Gamma Irradiation, 198
 - ionising radiation, 198, 200, 202
- commitment, ICH Q10 document, 368
- Committee for Medicinal Products for Human Use (CHMP), 6, 17
- Committee for Proprietary Medicinal Products, 196
- Committee on the Safety of Medicines *see* Commission on Human Medicines
- communication
 - electronic communication, 477, 584
 - ICH Q10 document, 369
 - Quality Risk Management, 347, 350
- Community Database, 435
- company responses, inspections, 396
- comparator products, 205, 206, 211
- Competent Authority/Authorities
 - active substances, 435, 506
 - brokers/brokering, 567, 582, 599
 - complaints/defects/recalls, 83, 87
 - Human Medicines Regulations 2012, 506, 599
 - importation/manufacture, 455
 - manufacturer's licence conditions, 401
 - outsourced activities, 80
 - Qualified Person(s), 409, 417
 - reference/retention samples, 261, 264
 - Site Master Files, 335
 - wholesale distribution, 559, 562, 576
- complaints
 - APIs, 315, 318
 - Directive 2003/94/EC, 472
 - GDP, 528
 - GMP, 83, 219
 - importation/manufacture, 472
 - IMPs, 219
 - intermediate products, 315, 318
 - manufacture, 472
 - Site Master Files, 339
 - wholesale distribution, 528
- compliance
 - active substances/APIs, 434
 - brokers/brokering, 570, 582
 - contract laboratories, 429
 - definitions, 386
 - Directive 2001/83/EC, 434
 - Directive 2003/94/EC, 468
 - GCP, 10
 - GDP, 557
 - GMP, 50
 - IAG, 429
 - manufacturer's licences, 399
 - marketing authorisations, 468
 - MHRA, 7
 - Qualified Person(s), 412
 - sterile products, 257
 - wholesale distribution, 557, 579
- Compliance Escalation, 14, 429
- Compliance Management Team (CMT), 14
- Compliance Reports, 393, 398
- compressed gases, 175
- computerised/computer systems
 - accuracy checks, 192
 - APIs, equipment, 288
 - archiving, 194
 - audit trails, 193
 - batch release, 194, 248
 - business continuity, 194
 - change management, 193
 - configuration management, 193
 - data exchange/storage, 192
 - definitions, 195, 268, 326
 - electronic signature, 194
 - equipment, 360
 - GDP, 522
 - GMP, 190
 - incident management, 194
 - operational phases, 192
 - periodic evaluation, 193
 - personnel, 190
 - printouts, 192
 - project phases, 191
 - Qualified Person(s), 248
 - Quality Risk Management, 360
 - risk management, 190
 - security, 193
 - service providers, 190
 - Site Master Files, 338
 - suppliers, 190
 - third party suppliers/service providers, 190
 - validation, 191
 - wholesale distribution, 522
- concurrent validation, 241, 244, 309
- conduct
 - inspections, 394
 - Qualified Person(s), 416
- configuration management, 193
- confirmation documentation, 255, 387, 440
- conformity
 - ACAA, 383, 421
 - Directive 2003/94/EC, 467
 - GMP, 393, 467
 - licence conditions, 402
 - MRA batch certificates, 383
- construction
 - buildings/facilities, 283
 - equipment, 286
- consultants, 44, 283
- contained areas/use, 139, 268
- containers
 - capping/closures, 108, 164, 362
 - definitions, 176
 - GDP, 534
 - immunological products, GMP, 164
 - ionising radiation, GMP, 201, 202
 - production, GMP, 69
 - sterile products, 101, 107, 108

- sterilisation, 107
- wholesale distribution, GDP, 534
- containment
 - APIs, 285
 - definitions, 268
 - immunological products, 156
- contamination
 - APIs, 285, 300, 315
 - biological products/substances, 112
 - blood/plasma-derived products, 231
 - cell culture/fermentation, 319, 321
 - definitions, 269, 326
 - gene therapy, 134
 - GMP, 285, 300, 315
 - immunological products, 162
 - IMPs, 208
 - organisational prevention measures, 63
 - personnel, 155
 - premises, 46, 47
 - production, 46, 60, 62
 - radiopharmaceuticals, 139, 142
 - sterile products, 90
 - technical prevention measures, 63
 - transgenic products, 133
- continual improvement
 - definitions, 378
 - ICH Q10 Pharmaceutical Quality System, 364, 366, 371, 377, 382
 - product quality, 371
 - Quality Risk Management, 358
- continued supply, 562, 587
- Continuing Professional Development (CPD), 416, 418, 419
- continuous process manufacture, 166, 167, 171
- Contract Acceptors, 80, 81, 531
- Contracted Qualified Person(s), 414
- Contract Givers, 80, 531
- contracts
 - see also* outsourced activities
 - Directive 2003/94/EC, 472
 - fractionation program, 225, 227, 228
 - importation, 472
 - laboratories, 403, 425
 - manufacture, 315, 326, 360, 415, 472
 - outsourced activities, 80, 82
- controlled areas, definitions, 268
- control(s)
 - see also* change control; Quality Controls
 - APIs, 291, 292, 293, 294, 303, 315, 324
 - batch production, 292
 - definitions, 378, 380
 - documentation, 51
 - environmental controls, 360, 521
 - ICH Q10 Pharmaceutical Quality System, 366, 382
 - information obligations, 483
 - laboratory practices, 293, 303, 315, 324, 362
 - master production instructions, 291
 - materials management, 294
 - pest control programmes, 151
 - Pharmaceutical Quality System, 366, 382
 - picking controls, 527
 - process controls, 327
 - records, 291, 292, 293
 - temperature, 521, 553
- cool packs, 535
- Co-Rapporteur, 5
- corrective actions and/or preventative actions (CAPAs)
 - complaints/defects/recalls, 86
 - definitions, 378
 - GDP, 523
 - GMP, 34, 86
 - ICH Q10 Pharmaceutical Quality System, 374
 - wholesale distribution, 523
- Council Directive 86/609/EEC, 119
 - see also* Directives...
- Council of Europe (Recommendation No. R (95) 15), 237
- counterfeits *see* falsified medicinal products
- CPC *see* Certificate for importation of pharmaceutical constituents
- CPD *see* Continuing Professional Development
- CPP *see* Certificate of a pharmaceutical product
- CPRD *see* Clinical Practice Research Datalink
- CPS *see* Crown Prosecution Service
- creams manufacture, 186
- criminal activities, 13
- criteria of registration, 569, 601
- critical, definitions, 326
- critical deficiencies, 395
- crop protection, 133
- cross contamination *see* contamination
- Crown Prosecution Service (CPS), 13
- crude plants (vegetable drugs), 269
- cryogenic gases, 171, 176
- cryogenic vessels, 168, 171, 269
- cryopreservation, 137
- CTA *see* Clinical Trial Authorisations
- customer considerations, 526
- customised/bespoke computerised systems, 195
- cyclotrons, 140
- cylinders
 - cylinder bundles, 176
 - definitions, 176, 269
 - gases, GMP, 168, 171

D

- data
 - exchange/storage, 192, 230
 - plasma fractionation, 236
 - storage, 192, 230
- Data Processing Group, MHRA, 10
- Data Universal Numbering System (D-U-N-S), 335
- dating
 - APIs, 306, 327, 329
 - date of manufacture, 385
 - expiry/use-by dates, 306, 327, 362, 385
 - MRA batch certificates, 385
 - Quality Risk Management, 362

- dealer's licence *see* wholesale dealer's licence
- decision-making, 85, 349, 352
- declaration in lieu of full compliance, 448
- decontamination, 162
- Defective Medicines Report Centre (DMRC), 12, 564
- defects, 339, 357, 564
- deficiency considerations, 395
- degree qualifications, 494
- deliberate release, definitions, 139
- delivery considerations, 171, 532
- Department of Health (DH), 563
- design
 - buildings/facilities, 283
 - Electron Irradiation, 200
 - equipment, 286
 - Gamma Irradiation, 198
 - ICH Q10 Pharmaceutical Quality System, 367
 - packaging, 362
- design qualification (DQ), 239, 244, 308
- design space, 378
- destruction procedures, 220, 527
- detectability, Quality Risk Management, 349
- development activities, Quality Risk Management, 359
- deviation, APIs, 326
- devices, MHRA innovation support, 7
- DH *see* Department of Health
- diploma qualifications, 494
- Directive 2001/82/EC
 - active substances, 275
 - batch release certification, 246
 - medicinal gases, 166
 - MRA batch certificates, 383
 - Qualified Person(s), 246, 407, 414, 417
 - veterinary products, 30, 151
- Directive 2001/83/EC
 - active substances, 275, 434
 - amended by Falsified Medicines Directive 2011/62/EU, 13
 - as amended by Title VII, 575
 - APIs, 387, 434
 - ATMP products, 432
 - batch release certification, 246
 - biological products/substances, 111
 - blood/plasma-derived products, 227, 236
 - brokers/brokering, 567, 570, 575
 - cell therapy/tissue engineering, 136
 - compliance, 434
 - definitions, 604
 - Directive 2003/94/EC, 466
 - export documentation, 387
 - falsification, 434, 440
 - GDP, 514
 - GMP, 30, 40, 166, 459
 - homeopathic medicinal products, 465
 - Human Medicines Regulations 2012, 476, 584, 604
 - importation, 454
 - IMPs, 216
 - inspections, 464
 - manufacture, 454
 - manufacturing authorization, 466
 - medicinal gases, 166
 - MRA batch certificates, 383
 - non-compliance, 434
 - Qualified Person(s), 246, 406, 408, 414, 417, 460
 - safety, 459
 - tissue engineering, 136
 - Title IV: manufacture/importation, 454
 - Title VII, 575
 - wholesale distribution, 514, 575
- Directive 2002/98/EC
 - active substances, 276
 - biological products/substances, 111
 - blood, 224
 - blood/plasma-derived products, 235
 - Human Medicines Regulations 2012, 477, 584
 - licence conditions, 401
 - wholesale distribution, 584
- Directive 2003/94/EC
 - active substances, 276
 - blinding, 467, 472
 - blood/plasma-derived products, 236
 - complaints, 472
 - compliance, 468
 - conformity, 467
 - contracted work, 472
 - definitions, 604
 - Directive 91/356/EEC repeal of, 473
 - Directive 2001/83/EC, 466
 - documentation, 469
 - entry into force, 474
 - equipment, 469
 - GMP, 29, 30, 466
 - ICH Q10 Pharmaceutical Quality System, 363
 - importation, 466
 - IMPs, 466
 - inspections, 467, 473
 - labelling, 473
 - manufacture, 466
 - manufacturing authorization, 466
 - marketing authorisations, 468
 - Member States, 467
 - outsourcing, 472
 - personnel, 468
 - pharmaceutical quality assurance, 466
 - premises, 469
 - production, 470
 - product recalls, 472
 - Qualified Person(s), 407, 411, 466
 - quality assurance, 468
 - Quality Control, 471
 - recalls, 472
 - self inspections, 473
 - transposition, 473
 - unblinding, 467, 472
- Directive 2011/62/EU(Falsified Medicines)
 - active substances, 435, 440
 - amendment of Directive 2001/83/EC, 13
 - API export documentation, 387

- brokers/brokering, 567, 576
- GDP, 9
- MHRA, 11
- wholesale distribution, 541, 576
- Directives
 - see also* Directive 2001/82/EC; Directive 2001/83/EC; Directive 2002/98/EC; Directive 2003/94/EC; Directive 2011/62/EU
 - 86/609/EEC, 119
 - 91/356/EEC, repeal of, 473
 - 91/412/EEC, 29, 30, 363, 407, 411
 - 2001/20/EC, 30, 205, 407, 466
 - 2003/63/EC, 236
 - 2004/23/EC, 114, 122, 477, 584
 - 2004/27/EC, 275
 - 2004/28/EC, 275
 - 2004/33/EC, 235, 401
 - 2005/28/EC, 205
 - 2005/61/EC, 235
 - 2005/62/EC, 236
 - 2006/17/EC, 114
 - 2006/86/EC, 114
 - 2009/41/EC, 111
 - 2012/26/EU, 576
- disciplinary proceedings, 409, 416, 417
- discontinued products/discontinuations, 364, 371, 382, 563
- diseases, 43, 129, 155, 233, 269
- disinfection, 160
- disposal procedures, 234, 286
- distribution/distributors
 - see also* wholesale distribution
 - active substances, 434, 502
 - APIs, 302, 316, 434
 - Human Medicines Regulations 2012, 502
 - intermediate products, 302, 316
 - licence conditions, 400
 - parallel distribution, 260, 264, 559
 - Quality Risk Management, 361
 - radiopharmaceuticals, 150
 - Site Master Files, 339
 - UK guidance, 434
- diversion/diverted medicines, 559
- DMRC *see* Defective Medicines Report Centre
- documentation
 - see also* written documentation
 - action taken/conclusions reached records, 58
 - active substances, 440
 - animal materials, GMP, 129
 - APIs, 278, 289, 303, 308, 325, 387, 440
 - Batch Packaging Records, 56
 - Batch Processing Records, 55
 - batch release certification, 248
 - biological products/substances, 120
 - brokers/brokering, 536
 - clinical trials, APIs, 325
 - control, 51
 - Directive 2003/94/EC, 469
 - equipment, 287
 - exports, 387
 - gases, 169
 - GDP, 523, 536
 - generation, 51
 - GMP
 - APIs, 278, 289, 303, 308, 325, 387, 440
 - biological products/substances, 120
 - gases, 169
 - herbal products/substances, 180
 - immunological products, 158
 - IMPs, 208
 - ionising radiation, 202
 - qualification, 238, 243
 - Quality Control, 73
 - Quality Management, 50
 - radiopharmaceuticals, 147, 148
 - Site Master Files, 50, 333, 338
 - validation, 238, 243
 - good practices, 52
 - herbal products/substances, 180
 - Human Medicines Regulations 2012, 588, 591, 594
 - ICH Q10 Pharmaceutical Quality System, 367
 - immunological products, GMP, 158
 - importation/manufacture, 469
 - IMPs, 208
 - inspections, 396
 - ionising radiation, 202
 - licence conditions, 400, 402
 - manufacture, 469
 - Manufacturing Formulae, 50, 54
 - Packaging Instructions, 55
 - Pharmaceutical Quality System, 367
 - procedures, 57, 523
 - Processing Instructions, 50, 54
 - qualification, 238, 243
 - Qualified Person(s), 248
 - Quality Control, 73
 - Quality Management, 50, 278
 - radiopharmaceuticals, 147, 148
 - receipts, 57
 - reference samples, 262
 - retention, 52
 - retention samples, 262
 - sampling, 57, 262
 - Site Master Files, 50, 333, 338
 - special medicinal products, 594
 - specifications, 50, 53
 - testing, 58
 - type requirements, 50
 - validation, 238, 243, 308
 - wholesale distribution, 523, 540, 579, 580, 588, 591, 594
- donors, 229
- dosage forms, 385
- dose mapping, 197, 199, 200
- dosimeters/dosimetry, 106, 197, 199, 201
- DQ *see* design qualification
- drains, 46, 99, 284
- droplet formation, 162
- “Drug Alerts”, 564

- drug (medicinal) products, definitions, 327
 drug substances *see* active pharmaceutical ingredients
 dry heat sterilisation, 105
 due diligence, 557
 D-U-N-S (Data Universal Numbering System), 335
 dust, 47, 99, 151
 duties
 Qualified Person(s), 412
 Responsible Person(s), 546
- E**
- EC *see* European Community
 ectoparasiticide manufacture, 152
 EDQM *see* European Directorate for Quality of Medicines
 education, 357, 460, 494
 see also training
 EEA *see* European Economic Area
 efficacy, sterile products, 103
 effluents, 157, 160
 electronic communication, 477, 584
 electronic signatures, 194
 Electron Irradiation (Beta radiation), 196, 200
 absorbed dose, 200
 commissioning, 200
 design, 200
 dose mapping, 200
 processing, 202
 EMA *see* European Medicines Agency
 emergency plans, 540, 579, 588, 600
 enablers, ICH Q10 Pharmaceutical Quality System, 379
 endotoxin levels, 320
 enforcement authorities, 7, 13, 478
 engineering tissue, 136, 433
 entry into force, legislation, 474
 environmental controls, 360, 521
 equipment
 APIs, 286, 323
 biological products/substances, 115, 126
 calibration, 288
 cell culture/fermentation, 321
 cleaning, 287, 290, 360
 computerised systems, 360
 construction, 286
 creams/liquids/ointments manufacture, 186
 design, 286
 Directive 2003/94/EC, 469
 gases, 168
 GDP, 519, 521
 general requirements of GMP, 45, 49
 GMP, 45, 49
 APIs, 286, 323
 biological products/substances, 115, 126
 creams/liquids/ointments manufacture, 186
 gases, 168
 immunological products, 157, 158, 163
 IMPs, 208
 pressurised aerosol products, 188
 radiopharmaceuticals, 142
 sterile products, 100
 herbal products/substances, 180
 Human Medicines Regulations 2012, 587
 immunological products, 157, 158, 163
 importation/manufacture, 469
 IMPs, 208
 licence conditions, 400
 maintenance, 287
 manufacture, 469
 pressurised aerosol products, 188
 qualification, 240
 Quality Risk Management, 359
 radiopharmaceuticals, 142
 Site Master Files, 337
 sterile products, 100
 wholesale distribution, 519, 521, 540, 555, 578, 587
 established facilities/system qualification, 240
 ethylene oxide, 106
 EU *see* European Union
 EudraGMDP, 14, 436, 556
 EudraGMP, 335, 386
 EudraLex Volume 4, 110, 138, 148, 408
 Euro-Mediterranean Agreement, 421
 European authority addresses, 609
 European Commission
 active substances/APIs, 434, 438, 439
 brokers/brokering, 567
 IMPs, 204
 European Community (EC)
 see also Regulation (EC)
 ACAA, 421
 batch release, 246
 European Directorate for Quality of Medicines (EDQM), 8
 European Economic Area (EEA)
 active substances/APIs, 435
 batch release certification, 246
 brokers/brokering, 569, 599
 contract fractionation program, 225
 GDP, 9
 Human Medicines Regulations 2012, 477, 482, 487, 499
 brokers/brokering, 599
 wholesale distribution, 584, 588, 590
 import notifications, 12
 IMPs, 221
 manufacturer's licence, 401, 487
 preface overview, 13
 Qualified Person(s), 246, 407
 reference/retention samples, 262, 263, 265
 wholesale distribution, 540, 556, 584, 588, 590
 European Medicines Agency (EMA)
 GMP, 8
 Inspection Action Group, 17
 MHRA, 6
 starting materials, 424
 wholesale dealer's licence, 541

- European Pharmacopoeia, 181, 231
 - European Rapid Alert System, 13
 - European Union (EU)
 - blood/plasma-derived products, 225, 235
 - contract fractionation program, 225
 - GDP Guidelines, 9
 - GMP guidance, 23
 - importation, 454
 - legislation, 454, 575, 576, 604
 - manufacture, 454
 - Qualified Person(s), 407
 - scientific advice, 6
 - Wholesale Dealer's Licence, 576
 - wholesale distribution, 575, 576
 - evacuation, gases, 176
 - excipients, 66, 139, 400, 477, 503
 - exempt advanced therapy medicinal products, 404, 492, 584, 595, 596
 - exhaust systems, 284
 - exotic organisms, 269
 - expected yields, 330
 - experience considerations, 496, 547
 - expiry dating, 306, 327, 362, 385
 - exports
 - see also* importation/importers/imports
 - APIs, 387
 - brokers/brokering, 576
 - certificates, 12
 - definitions, 538
 - documentation, APIs, 387
 - GDP, 528
 - Human Medicines Regulations 2012, 477, 503, 584, 588, 590
 - MRA batch certificates, 384
 - wholesale distribution, 528, 540, 576, 584, 588, 590
 - written confirmation templates, 387
 - exposure considerations, 138
 - ex-vivo procedures
 - definitions, 140
 - gene transfer, 136
- F**
- facility considerations, 283, 323, 359, 400
 - see also* premises
 - Failure Mode Effects Analysis (FMEA), 352
 - Failure Mode, Effects and Criticality Analysis (FMECA), 353
 - falsified medicinal products
 - see also* Falsified Medicines Directive 2011/62/EU
 - active substances, 434, 440, 503
 - brokers/brokering, 567, 599
 - definitions, 538
 - Directive 2001/83/EC, 434
 - Directive 2011/62/EU
 - active substances, 435, 440
 - amendment of Directive 2001/83/EC, 13
 - API export documentation, 387
 - brokers/brokering, 567, 576
 - GDP, 9
 - MHRA, 11
 - wholesale distribution, 541, 576
 - GDP, 528, 530
 - Human Medicines Regulations 2012, 477, 503, 584, 589, 599
 - wholesale distribution
 - dealer's licence, 541
 - EU legislation, 578
 - GDP, 528, 530
 - Human Medicines Regulations 2012, 584
 - UK guidance, 541, 557, 564
 - Fault Tree Analysis (FTA), 353
 - feedback/feed-forward, definitions, 379
 - feeder cells, 140
 - feedingstuffs, 151
 - fees, 478, 585, 605
 - fermentation, 267, 318
 - filling
 - active substance gases, 167
 - gases, 167, 171
 - immunological products, GMP, 164
 - pressurised aerosol products, 188
 - sterile products, 97, 101
 - fill/seal units, 95
 - filtering, risk management, 355
 - filtration
 - buildings/facilities, 284
 - sterile products, 107
 - final container sterilisation, 107
 - finished products
 - ACAA, 421
 - batch release, 246, 255
 - blood/plasma-derived products, 234
 - definitions, 269
 - licence conditions, 402
 - National Contingency Guidance, 447
 - plasma-derived products, 234
 - production, GMP, 70
 - reference/retention samples, 260
 - release procedures, 234
 - Site Master Files, 336
 - specifications, 54
 - finishing operations, 108
 - fish bone diagrams, 352
 - FMEA *see* Failure Mode Effects Analysis
 - FMECA *see* Failure Mode, Effects and Criticality Analysis
 - follow-up actions, 566
 - food consumption/storage, 43
 - fractionation/fractionation
 - blood/plasma-derived products, 224, 228
 - certification, 232
 - data/information, 236
 - definitions, 224
 - processing operations, 233
 - release procedures, 232
 - fraud *see* falsified medicinal products
 - freeze dryers, 160

freezers/freezing, 232, 555
 free zones/warehouses, 538
 FTA *see* Fault Tree Analysis

G

Gamma Irradiation, 196, 198, 201
 gases, 166

- continuous process manufacture, 166, 167, 171
- cryogenic vessels, 168, 171
- cylinders, 168, 171
- definitions, 177
- Directive 2001/82/EC, 166
- Directive 2001/83/EC, 166
- documentation, 169
- equipment, 168
- filling, 167, 171
- GMP, 166
- hospitals, 166, 170
- labelling, 171
- manufacture, 166
- Marketing Authorisation, 166, 168, 171
- mobile cryogenic vessels, 168, 171
- personnel, 167
- premises, 168
- production, 171
- Quality Control, 173
- records, 169
- tankers, 167, 169, 171, 175, 177
- tanks, 169, 177
- transport, 167, 169, 171, 175
- valves, 171, 177
- vents, 177

GCP *see* Good Clinical Practice

GDP *see* Good Distribution Practice

general manufacture information, 335

General Pharmaceutical Council (GPhC), 418

generation, documentation, 51

generators, radiopharmaceuticals, 138, 140

genes, definitions, 140

gene therapy

- ATMP products, 432
- biological products/substances, 123
- contamination, 134
- GMP, 123, 134
- personnel, 135
- Quality Risk Management, 134

genetically modified organisms (GMO), 111, 134, 140

gene transfer, 140

GLP *see* Good Laboratory Practice

GMO *see* genetically modified organisms

GMP *see* Good Manufacturing Practice

Gold Standard, 548

Good Clinical Practice (GCP)

- compliance, 10
- CTA, 10
- IMPs, 204
- Inspection Action Group, 17

inspectors, 10

MHRA, 8, 10

Good Distribution Practice (GDP)

- active substances, 275, 439, 440, 503, 506

- APIs, 439, 440

- brokers/brokering, 515, 535, 571

- CAPA, 523

- complaints, 528

- compliance, 557

- computerised systems, 522

- containers, 534

- Contract Acceptors, 531

- Contract Givers, 531

- definitions, 538

- deliveries, 532

- Directive 2001/83/EC, 459, 514

- Directive 2011/62/EU, 9

- documentation, 523, 536

- EEA, 9

- environmental controls, 521

- equipment, 519, 521

- EU Guidelines, 9

- exports, 528

- falsified medicinal products, 9, 528, 530

- Human Medicines Regulations 2012, 9, 503, 506, 587, 590

- importation/manufacture, 459

- Inspection Action Group, 17

- inspectors, 9

- installations, 519

- labelling, 534

- management reviews, 516

- manufacture, 459

- manufacturing authorisations, 515

- marketing authorisation, 536

- MHRA, 8, 9

- monitoring, 516

- narcotics, 534

- obsolete goods destruction, 527

- operations, 524

- outsourced activities, 516, 531

- packaging, 534

- personnel, 517, 536

- picking controls, 527

- preface overview, 14

- premises, 519

- procedure documentation, 523

- psychotropic substances, 534

- qualification, 522, 525

- Quality Management, 515

- quality risk management, 517

- quality systems, 515, 535

- radioactive materials, 520, 534

- recalls, 528, 530

- receipts, 526

- records, 523, 528, 536

- refreshment rooms, 521

- Responsible Person(s), 517

- restrooms, 521

- returns, 528, 529

- reviews, 516
- self inspections, 532
- starting materials, 275
- storage, 519, 526
- supplies, 527
- temperature controls, 521
- third countries, 520, 525, 528
- transportation, 532
- validation, 522
- washrooms, 521
- wholesale dealer's licence, 539, 587, 590
- wholesale distribution, 513, 514, 557, 581
- Good Laboratory Practice (GLP)
 - GMP, 430
 - inspectors, 10
 - MHRA, 10
 - Mutual Acceptance of Data, 10
 - OECD, 10, 430
- Good Manufacturing Practice (GMP)
 - see also* manufacture; manufacturer's ACAA, 421
 - active substances, 30, 65, 166, 275, 503, 505
 - allergen products, 130
 - animals, 128, 131, 132
 - APIs, 30, 259, 277, 439, 440
 - basic requirements, 275
 - batch certificates, 383
 - batch release, 246
 - Beta radiation, 196, 200
 - biological products/substances, 110
 - blood, 8, 111, 276
 - blood components, 111, 224, 235
 - blood-derived products, 224
 - blood establishment, 224, 227, 229
 - blood/plasma-derived products, 223, 231
 - CAPAs, 34, 86
 - cell therapy, 130, 136
 - certification, 246
 - clinical trials, 204, 206, 322
 - complaints, 83, 219
 - Compliance Reports, 393, 398
 - computerised systems, 190
 - conformity, 393, 467
 - consultants, 44, 283
 - contamination, 285, 300, 315
 - Contract Giver, 80
 - contract laboratories, 428
 - creams manufacture, 186
 - Directive 91/412/EEC, 29, 30
 - Directive 2001/20/EC, 30
 - Directive 2001/82/EC, 30, 151, 166
 - Directive 2001/83/EC, 30, 40, 166, 459
 - Directive 2003/94/EC, 29, 30, 466
 - documentation
 - APIs, 278, 289, 303, 308, 325, 387, 440
 - biological products/substances, 120
 - gases, 169
 - herbal products/substances, 180
 - immunological products, 158
 - IMPs, 208
 - ionising radiation, 202
 - qualification, 238, 243
 - Quality Control, 73
 - Quality Management, 50
 - radiopharmaceuticals, 147, 148
 - Site Master Files, 50, 333, 338
 - validation, 238, 243
 - Electron Irradiation, 196, 200
 - equipment, 45, 49
 - EudraLex Volume 4, 110, 138
 - EU guidance, 23
 - Gamma Irradiation, 196, 198, 201
 - gases, 166
 - gene therapy, 123, 134
 - genetically modified organisms, 111
 - GLP, 204, 430
 - guidance, 23
 - herbal products/substances, 178, 180
 - high energy Electron Irradiation, 196
 - Human Medicines Regulations 2012, 477, 480, 503, 505
 - human use medicinal products, 30, 110
 - hygiene, 43
 - ICH Q8 document, 363, 381
 - ICH Q9 document, 38, 341, 363, 366, 381
 - ICH Q10 document, 33, 363, 381
 - immunological products, 30, 131, 154, 163, 165
 - importation/manufacture, 30, 65, 166, 275, 459, 466
 - IMPs, 204
 - Inspection Action Group, 17
 - inspections/inspectors, 8, 393, 398
 - instruction documents, 208
 - ionising radiation, 196, 201, 202
 - irradiation treatment, 196
 - Key Management Personnel, 40
 - licence conditions, 399
 - liquids manufacture, 186
 - Manufacturing Authorisation, 29, 32, 422
 - Marketing Authorisation, 31
 - medicinal gases, 166
 - medicinal product basic requirements, 23
 - MHRA, 8
 - MRAs, 383, 422
 - notification, 393
 - OECD principles, 430
 - ointment manufacture, 186
 - outsourced activities, 80, 83
 - packaging materials, 184, 185
 - parametric release, 256
 - periodic quality reviews, 37
 - personnel, 34, 39
 - Pharmaceutical Quality System, 32, 33, 363, 381
 - plants, 133, 178
 - plasma-derived products, 224
 - preface overview, 13
 - premises, 45
 - pressurised aerosol products, 188
 - processing operations, 68
 - production, 32, 46, 60

- product quality reviews, 37
- product recalls, 83, 87
- qualification, 238, 243
- Qualified Person(s), 32, 40, 246, 409
- Quality Control, 36, 72
- quality defects, 83
- Quality Management, 29, 30, 32, 50, 278
- quality reviews, 37
- Quality Risk Management, 32, 38, 341, 363, 366, 381
- radiopharmaceuticals, 138
- recalls, 83, 87, 219
- recombinant products, 131
- reference samples, 150, 215, 260
- related documents, 332
- responsibilities, 8
- retention samples, 150, 152, 215, 234, 260
- risk-based inspection programmes, 398
- risk management methods/tools, 352
- risk reduction, 87
- rolling quality reviews, 37
- root cause analysis, 34, 86
- sampling, 74, 184, 185
- science-based regulatory approaches, 381
- self inspections, 89
- senior management, 34, 39
- service providers, 190
- Site Master Files, 50, 333, 338
- somatic cell therapy, 136
- specifications, 207, 208
- starting materials, 65, 184, 259, 275, 277, 424
- sterile products, 43, 90, 256
- suppliers, 190
- testing, 74, 78
- tissue engineering, 136
- training, 42
- transgenic products, 132, 133
- UK manufacture guidance, 393, 424
- utilising ionising radiation, 196
- vaccines, 131
- validation, 30, 238, 243
- veterinary products, 30, 151
- xenogeneic cell therapy, 130, 136
- Good Pharmacovigilance Practice (GPvP), 8, 10, 17
- good practice guidelines
 - blood/plasma-derived products, 224
 - documentation, 52
 - laboratory quality control, 73
- Good Practice Standards (GxP), 16
- GPhC *see* General Pharmaceutical Council
- GPvP *see* Good Pharmacovigilance Practice
- grades, sterile products, 91
- growth promotion properties, 125
- GxP *see* Good Practice Standards
- handling considerations, 84, 96, 400
- haptens, 140
- harm, definitions, 349
- harvesting, 320, 321
- Hazard Analysis and Critical Control Points (HACCP), 353
- Hazard Operability Analysis (HAZOP), 354
- hazards, 139, 349, 564
- HAZOP *see* Hazard Operability Analysis
- Health Protection Agency (HPA), 3
- health status of personnel, 115
- heat sterilisation, 104
- HEPA filters/filtration, 156
- herbal products/substances
 - definitions, 269
 - documentation, GMP, 180
 - equipment, 180
 - GMP, 178, 180
 - Human Medicines Regulations 2012, 478, 585, 586, 588, 592
 - premises, 180
 - processing, 178
 - Processing Instructions, 182
 - production areas, 180
 - Quality Control, 182
 - registration, 586, 588, 592
 - sampling, 182
 - starting materials, 178, 180
 - storage, 178, 180
 - wholesale dealer's licence, 540
 - wholesale distribution, 540, 585, 586, 588, 592
- high energy Electron Irradiation, 196
- holding operations
 - APIs/intermediate products, 317
 - definitions, 538
 - intermediate products, APIs, 317
 - manufacturer's licence conditions, 399
 - wholesale dealer's licence, 539, 587
- home cryogenic vessels, 176
- homeopathic medicinal products, 465, 478, 581, 585
- "Hospital Exemption" patients, 432
- hospitals, gases, 166, 170
- hot-cells, 147, 150
- HPA *see* Health Protection Agency
- human blood/plasma-derived products, 224, 235
- Human Medicines Regulations 2012, 478, 482
 - active substances, 502
 - Article 126a authorisation, 476, 584, 588, 592
 - assembly, 476, 480, 485
 - ATMP, 490
 - brokering, 584, 590, 598
 - citations, 476, 502, 583, 598
 - commencement, 476, 502, 583, 598
 - competent authorities, 506, 599
 - continued supply, 587
 - definitions, 604
 - Directive 2001/83/EC, 476, 584, 604
 - Directive 2002/98/EC, 584
 - Directive 2004/23/EC, 584
 - distributions, 502

H

HACCP *see* Hazard Analysis and Critical Control Points
 half-lives, GMP, 139

- documentation, 588, 591, 594
 - EEA, 477, 482, 487, 499, 584, 588, 590, 599
 - electronic communication, 584
 - emergency plans, 588
 - equipment, 587
 - exempt advanced therapy medicinal products, 492, 584, 595
 - exports, 477, 503, 584, 588, 590
 - falsified medicinal products, 584, 589, 599
 - fees, 585
 - GDP, 9, 503, 506, 587, 590
 - GMP, 477, 480, 503, 505
 - herbal products/substances, 478, 585, 586, 588, 592
 - homeopathic medicinal products, 585
 - importation/imports, 476, 502, 585, 594
 - information provision, 507
 - inspectors, 585
 - interpretation considerations, 476, 503, 504, 584, 598
 - licences/licensing, 399, 476, 504, 585, 587
 - manufacture legislation, 476
 - manufacturer's licences, 478, 480, 483, 585, 596
 - manufacturers undertakings for imports, 498
 - manufacturing authorisation, 591
 - marketing authorisation, 506, 584, 585, 587, 592
 - medicinal product subject to general sale, 585
 - MHRA, 3, 9, 13
 - non-EEA manufacturers, 477, 482, 487, 499
 - packaging, 589
 - personnel, 587
 - preface overview, 15
 - premises, 587
 - qualifications, 494
 - Qualified Person(s), 479, 483
 - quality system, 589
 - recalls, 564
 - records, 588, 594
 - registration, 504, 600
 - Regulation (EC) No 726/2004, 586, 599, 604
 - Regulation (EC) No 1234/2008, 586
 - Regulation (EC) No 1394/2007, 586
 - Responsible Person(s), 546, 592
 - Schedule 4 Standard Provisions of Licences, 485, 593
 - Schedule 7A - registration information, 508
 - Schedule 7 Qualified Person(s), 494
 - Schedule 9 Undertakings by non-EEA Manufacturers, 499
 - special medicinal products, 586, 588, 593
 - standard provisions, 480, 485
 - storage, 587
 - third countries, 506, 586, 590
 - traditional herbal registration, 586, 588, 592
 - unlicensed medicines for human use, 431
 - wholesale dealer's licence, 492, 539, 587, 590
 - wholesale distribution, 492, 539, 583, 588
 - withdrawals, 564
 - human use medicinal products
 - biological products/substances, 110
 - Directive 2001/83/EC, 454
 - Directive 2003/94/EC, 466
 - European authority addresses, 609
 - GDP, 513
 - GMP, 30, 110
 - importation, 430, 454
 - manufacture, 430, 466
 - Qualified Person(s), 407
 - supply of unlicensed medicines, 430
 - unlicensed medicines, 430
 - hybridoma, 140
 - hydrostatic pressure tests, 176
 - hygiene, 43, 97, 282, 360, 519
- I**
- IAG *see* Inspection Action Group
 - ICH Q7 document, 365
 - ICH Q8 document, 363, 381
 - ICH Q9 document, 38, 341, 363, 366, 381
 - ICH Q10 document
 - APIs, 364, 365
 - CAPAs, 374
 - change management, 374
 - commercial manufacturing, 363, 371, 382
 - communication, 369
 - content considerations, 367
 - continual improvement, 364, 366, 371, 377, 382
 - control strategies, 366, 382
 - definitions, 378, 379
 - design, 367
 - Directive 91/412/EEC, 363
 - Directive 2003/94/EC, 363
 - discontinued products, 364, 371, 382
 - documentation, 367
 - GMP, 33, 363, 381
 - ICH Q7 document, 365
 - ICH Q8 document, 363
 - ICH Q9 document, 363, 366
 - IMPs, 363, 382
 - industry, 364
 - innovation, 364
 - ISO concepts, 363, 365, 378
 - knowledge management, 366, 382
 - lifecycles, 363, 382
 - major features diagram, 382
 - management responsibilities, 368, 382
 - management reviews, 376, 377
 - Manufacturing Authorisation, 363
 - monitoring, 372, 377
 - objectives, 365
 - outsourced activities, 370
 - performance, 371, 376
 - Pharmaceutical Development, 363, 364, 371, 382
 - Pharmaceutical Quality System, 33, 363, 381
 - process performance, 371, 376
 - product discontinuation, 364, 371, 382
 - product lifecycles, 363, 382
 - product ownership changes, 370
 - product quality, 371, 372

- product realisation, 365, 382
- purchased materials, 370
- Quality Manuals, 367
- quality monitoring, 372
- quality planning, 369
- quality policies, 368
- Quality Risk Management, 366, 382
- regulatory authorities, 364, 365
- resource management, 369
- senior management, 368
- state of control, 366, 382
- Steering Committee, 363
- technology transfer, 363, 371, 382
- identification of APIs/intermediates, 300
- immunological products
 - animal houses, 160
 - animals, 154, 163, 165
 - batch release, 246
 - biological agents, 155
 - cell banks, 161
 - disinfection, 160
 - documentation, 158
 - effluents, 157, 160
 - equipment, 157, 158, 163
 - GMP, 30, 131, 154, 163, 165
 - HEPA filters/filtration, 156
 - media, 161
 - operating procedures, 162
 - personnel, 154
 - premises, 155
 - production, 161
 - Quality Control, 165
 - Responsible Person(s), 154
 - sanitation, 160
 - seed lots, 161
 - starting materials, 161
 - sterilisation, 159
 - veterinary products, 154, 163, 165
 - waste disposal, 160
 - wholesale distribution, EU legislation, 581
- immunosera products, animals, 131
- IMP *see* Investigational Medicinal Products
- implantable medical devices, 405
- importation/importers/imports
 - see also* exports
 - accompanying material conditions, 498
 - active substances, 434, 457, 502
 - APIs, 434, 439, 441
 - authorization, 454
 - batch certificates, 383
 - batch release, 248, 251, 255
 - blinding, 467, 472
 - brokers/brokering, 576
 - competent authority, 455
 - complaints, 472
 - contracted work, 472
 - definitions, 206, 503
 - Directive 2001/83/EC, 454
 - Directive 2003/94/EC, 466
 - documentation, 469
 - equipment, 469
 - EU legislation, 454
 - GDP, 459
 - GMP, 459, 466
 - homeopathic medicinal products, 465
 - Human Medicines Regulations 2012, 476, 502, 585, 594
 - human use medicinal products, 430, 454
 - IMPs, 466
 - individual patients (“Specials”), 431
 - inspections, 464, 467, 473
 - labelling, 473
 - legislation, 476
 - manufacturer’s licence, 487
 - manufacturers undertakings, 498
 - Member States, 454, 467
 - MHRA, 11, 12
 - Mutual Recognition Agreements, 383
 - outsourcing, 472
 - personnel, 468
 - pharmaceutical quality assurance, 466
 - premises, 469
 - production, 470
 - product recalls, 472
 - Qualified Person(s), 248, 251, 255, 460, 466
 - quality assurance, 468
 - Quality Control, 471
 - recalls, 472
 - reference/retention samples, 260, 264
 - registration, 463
 - safety, 459
 - special medicinal products, 594
 - third countries, 420, 439, 441
 - UK guidance, 420, 434
 - unblinding, 467, 472
 - unlicensed medicines, 430
 - wholesale distribution, 544, 576, 585, 594
- impurity profiles, 304, 327
- incident management, 194
- incoming production materials, 295
- incubators, 159
- individual patients (“Specials”), 431, 432
- industry
 - ACCA, 383, 421
 - ICH Q10 Pharmaceutical Quality System, 364
 - MRA batch certificates, 383
 - Quality Risk Management, 348, 357
- infections/infectious diseases, 43, 129, 155, 233, 269
- information provision
 - active substances, 507
 - APIs/intermediate products, 317
 - brokers/brokering, 570, 602
 - Human Medicines Regulations 2012, 483
 - plasma fractionation, 236
 - wholesale distribution, 545
- information technology (IT) infrastructure, 190, 195
- information transfer, 317
- inhalation pressurised aerosol products, 188
- innovation considerations, 6, 364, 379
- Innovation Office, 6

- inoculation, 320
- in-process controls, 269, 297, 327, 361
- INS Data Processing Group, 12
- Inspection Action Group (IAG), 15, 429
- Inspection, Enforcement and Standards Division, 7
- inspections
 - see also* inspectors; self inspections
 - brokers/brokering, 582
 - company responses, 396
 - Compliance Reports, 393, 398
 - conduct, 394
 - contract laboratories, 427
 - deficiencies, 395
 - Directive 2001/83/EC, 464
 - Directive 2003/94/EC, 467, 473
 - documentation, 396
 - GMP, 393, 398
 - importation/manufacture, 464, 467, 473
 - licences/licensing, 18, 393, 406
 - manufacture, 464, 467, 473
 - MHRA, 427
 - notification, 393
 - post-inspection letters, 396
 - Qualified Person(s), 17, 406, 417
 - Quality Risk Management, 357, 358
 - rating risk, 398
 - reports, 396
 - risk management, 357, 358, 396
 - Sentinel risk information modules, 397
 - UK manufacture guidance, 393
- inspectors
 - GCP, 10
 - GDP, 9
 - GLP, 10
 - GMP, 8
 - GPvP, 10
 - Human Medicines Regulations 2012, 478, 585
 - Qualified Person(s), 417
 - wholesale distribution, 585
- installation qualification (IQ), 239, 244, 308
- instruction documents, 50, 54, 208
- insulated boxes, 535
- integrated quality management, 348, 357
- integrity maintenance/testing, 148, 561
- intellectual property rights, 559
- Intelligence Analysts, 13, 14
- Interim Assessment, 398
- interim updates, 398
- intermediate products
 - agents, 316
 - APIs, 277
 - batch release certification, 249
 - biotechnological processes, 319
 - blood/plasma-derived products, 234
 - brokers, 316
 - cell culture, 267, 318
 - Certificates of Analysis, 305
 - change control, 312
 - complaints, 315, 318
 - definitions, 140, 269, 327
 - distribution, 302, 316
 - fermentation, 318
 - holding, 317
 - identification, 300
 - information transfer, 317
 - labelling, 300, 316
 - material recovery, 314
 - mother liquors, 314
 - natural organisms, 318
 - packaging, 300, 316
 - plasma-derived products, 234
 - production
 - Qualified Person(s), 249
 - recalls, 315, 318
 - recombinant organisms, 318
 - recovery, 313
 - rejection procedures, 313
 - relabelling, 316
 - release, 234, 249
 - repacking, 316
 - reprocessing, 313
 - returns, 314, 318
 - reworking, 313
 - solvent recovery, 314
 - specifications, 53
 - stability, 306, 317
 - testing, 304
 - traceability, 315, 316
 - traders, 316
- internal audits, 281
- International Atomic Energy Association (IAEA), 139
- International Standards Organisation (ISO), 363, 365, 378
- Internet, 19
- interruptions to supplies, 562
- in-use facilities/systems, 240
- inventories, 59
- Investigational Medicinal Products (IMP)
 - authorisation(s), 205, 409, 425
 - Batch Certificates, 217, 220
 - batch records, 210
 - batch release, 216, 220, 246
 - blinding, 206, 211
 - certification, 217, 220
 - clinical trials, 204, 206, 221
 - comparator products, 205, 206, 211
 - complaints, 219
 - contract laboratories, 425, 426
 - definitions, 206
 - destruction, 220
 - Directive 2003/94/EC, 466
 - documentation, 208
 - equipment, 208
 - GMP, 204
 - Good Clinical Practice, 204
 - ICH Q10 document, 363, 382
 - importation/manufacture, 466
 - instruction documents, 208
 - labelling, 212, 222

- manufacture, 466
 - manufacturer's licence conditions, 425
 - Manufacturing Authorisation, 205, 425
 - Manufacturing Formulae, 209
 - MHRA, 426
 - MRA batch certificates, 384
 - non-investigational products, 205
 - ordering, 204, 206, 209
 - packaging, 212
 - Packaging Instructions, 210
 - packaging materials, 210
 - personnel, 207
 - Pharmaceutical Quality System, 363, 382
 - placebos, 205, 206, 211
 - premises, 208
 - processing, 210
 - Processing Instructions, 209
 - processing operations, 210
 - production, 204, 210
 - Product Specification Files, 207, 209
 - Qualified Person(s), 207, 216, 246, 409
 - Quality Control, 214
 - Quality Management, 207
 - randomisation code, 207, 212
 - recalls, 219
 - reconstitution, 205
 - returns, 204, 219
 - sampling, 215
 - shipping, 204, 207, 218
 - specifications, 207, 208
 - sponsors, 207, 205, 212, 215, 217
 - stand alone contract laboratories, 425
 - testing, 210
 - UK manufacture guidance, 425
 - Investigations Team, 13
 - investigators, 84, 206
 - in-vivo procedures, 140
 - ionising radiation
 - Beta radiation, 196, 200
 - commissioning, 198, 200, 202
 - documentation, 202
 - dosimetry, 197
 - Electron Irradiation, 196, 200
 - Gamma Irradiation, 196, 198, 201
 - GMP, 196
 - high energy Electron Irradiation, 196
 - irradiation treatment, 196
 - microbiological monitoring, 203
 - monitoring, 203
 - plant commissioning, 198, 200
 - premises, 201
 - processing, 201
 - re-commissioning, 198, 200
 - responsibilities, 196
 - validation, 197, 202
 - IQ *see* installation qualification
 - irradiation treatment, 196
 - Ishikawa diagrams, 352
 - ISO *see* International Standards Organisation
 - isolation/isolator technology, 48, 95, 321
 - Israel, 421
 - IT *see* information technology
- J**
- journals, 419
- K**
- Key Management Personnel, 40
 - kits, radiopharmaceuticals, 138
 - knowledge management, 366, 379, 382
- L**
- labelling
 - APIs, 291, 300, 316, 323
 - biological products/substances, 127
 - Directive 2003/94/EC, 473
 - gases, 171
 - GDP, 534
 - immunological products, 164
 - importation/manufacture, 473
 - IMPs, 212, 222
 - intermediate products, 300, 316
 - manufacture, 473
 - production, 69
 - Quality Risk Management, 362
 - wholesale distribution, 534, 544, 561
 - laboratories
 - APIs, 293, 303, 315, 324
 - clinical trials, 324
 - compliance, 429
 - contracts, 403, 425
 - control(s), 293, 303, 315, 324, 362
 - GMP, 428
 - good practices, 73
 - IMPs, 425, 426
 - inspections, 427
 - licence conditions, 403, 425
 - manufacturer's licence conditions, 425
 - Manufacturing Authorisation, 425
 - MHRA, 426, 427
 - non-compliance, 429
 - Quality Control, 73
 - Quality Risk Management, 362
 - records, 293
 - UK manufacture guidance, 403, 425
 - language usage, 600
 - large commercial refrigerators, 554
 - layouts of premises, 46
 - leadership considerations, 368
 - legislation
 - see also* Directives
 - active substances, 502
 - brokers/brokering, 575, 598
 - definitions, 604

- European Union, 454, 575, 576, 604
- importation/manufacture, 454
- preface overview, 15
- Qualified Person(s), 409
- Wholesale Dealer's Licence, 576
- wholesale distribution, 575, 583
 - brokers/brokering, 575
- lesions, 43
- licences/licensing
 - active substances, 539
 - applications, 392
 - authorities, 476, 478, 480, 504, 585, 587, 600
 - brokers/brokering, 600
 - condition compliance, 399
 - contract laboratories, 403, 425
 - GMP, 399
 - Human Medicines Regulations 2012, 399, 476, 504, 585, 587
 - Inspection Action Group, 18
 - inspections, 18, 393, 406
 - laboratories, 403, 425
 - manufacturer's licence, 478, 480, 483
 - MHRA, 8, 11, 18, 393
 - Qualified Person(s), 401, 406
 - radiopharmaceuticals, 138
 - standard provisions, 480, 485, 543, 545, 593
 - suspensions, 589
 - UK manufacture guidance, 393, 399, 403, 425
 - wholesale distribution, 539, 585, 587
- lifecycles
 - computerised systems, 195
 - ICH Q10 Pharmaceutical Quality System, 363, 382
 - Quality Risk Management, 349
- lighting considerations, 46, 286
- liquefied gases, 171, 176, 269
- liquid effluents, premises, 157
- liquids manufacture, 186
- live organisms, 116
- Local Practice Forums (LPF), 419
- location considerations, 414
- logbooks, 58
- logistics of quality risk management, 361
- long experience considerations, 496
- look-back procedures, 140
- lot numbers, 266, 326, 385
- lots, 266, 325
- LPF *see* Local Practice Forums
- M**
- MAH *see* marketing authorisation holder
- maintenance
 - APIs, 286
 - cell banks, 320
 - equipment, 287
 - Quality Risk Management, 360
 - radiopharmaceuticals, 142
- major deficiencies, definitions, 395
- management
 - see also* change management; Quality Management; Quality Risk Management
 - commitment, 368
 - communication, 347, 350
 - configuration management, 193
 - continual improvement, 358
 - GMP, 29, 30, 32, 34, 39, 50, 278
 - ICH Q10 Pharmaceutical Quality System, 368, 377, 382
 - incident management, 194
 - knowledge management, 366, 379, 382
 - materials management, 294, 360
 - ownership changes, 370
 - product ownership changes, 370
 - Qualified Person(s), 412
 - resources, 369
 - reviews, 370, 376, 377, 516
 - wholesale distribution, 515, 579
- manifolds, 169, 176, 270
- manufacture/manufacturing
 - see also* Good Manufacturing Practice; manufacturer's...; Manufacturing Authorisation
 - active substances, 30, 65, 166, 275, 434, 457, 502
 - APIs, 30, 259, 277, 434
 - ATMP products, 432
 - blinding, 467, 472
 - blood/plasma-derived products, 231
 - competent authority, 455
 - complaints, 472
 - contracts, 315, 326, 360, 415, 472
 - dates, 385
 - definitions, 270, 327
 - Directive 2001/83/EC, 454, 459
 - Directive 2003/94/EC, 466
 - documentation, 469
 - equipment, 469
 - EU legislation, 454
 - formulae, 50, 54, 209
 - gases, 166
 - GDP, 459
 - general information, 335
 - homeopathic medicinal products, 465
 - Human Medicines Regulations 2012, 476, 485, 502
 - human use medicinal products, 430, 466
 - IMPs, 466
 - inspections, 464, 467, 473
 - labelling, 473
 - legislation, 476
 - medicinal gases, 166
 - Member States, 454, 467
 - outsourcing, 472
 - personnel, 468
 - pharmaceutical quality assurance, 466
 - plasma-derived products, 231
 - premises, 469
 - production, 470
 - product recalls, 472

- Qualified Person(s), 460, 466
- quality assurance, 468
- Quality Control, 471
- radiopharmaceuticals, 150
- recalls, 472
- registration, 463
- safety, 459
- self inspections, 473
- starting materials, 275
- supply, 432
- UK guidance, 391, 434
- unblinding, 467, 472
- unlicensed medicines, 430, 432
- manufacturer's
 - see also* manufacturer's licences
 - definitions, 206, 270
 - Human Medicines Regulations 2012, 478, 480
 - Quality Management, 335
 - Site Master Files, 335
 - undertakings for imported products, 498
- manufacturer's licences
 - application forms, 392
 - assembly, 485
 - ATMP, 490
 - compliance, 399
 - conditions, 399
 - contract laboratories, 425
 - EEA, 401, 487
 - exempt advanced therapy medicinal products, 492, 596
 - Human Medicines Regulations 2012, 478, 480, 483, 585, 596
 - imports, 487
 - IMPs, 425
 - manufacture, 485
 - MHRA, 8, 11, 11
 - Qualified Person(s), 401, 406
 - "Specials" Licences, 8, 11, 12, 138, 392
 - wholesale distribution, 585, 596
- Manufacturing Authorisation
 - ACAA, 421
 - contract laboratories, 425
 - Directive 2001/83/EC, 454, 466
 - Directive 2003/94/EC, 466
 - GDP, 515
 - GMP, 29, 32, 60, 422
 - Human Medicines Regulations 2012, 591
 - ICH Q10 Pharmaceutical Quality System, 363
 - IMPs, 205, 425
 - licence conditions, 401
 - MHRA, 11
 - MRAs, GMP, 422
 - outsourced activities, GMP, 80
 - Qualified Person(s), 407, 409
 - wholesale distribution, 515, 577, 591
- Manufacturing Formulae, 50, 54, 209
- Marketing Authorisation
 - active substance gases, 166
 - active substances, 506
 - batch release, 246
 - brokers/brokering, 524, 536, 582
 - compliance, 468
 - Directive 2003/94/EC, 468
 - gases, 166, 168, 171
 - GDP, 536
 - GMP, 31
 - Human Medicines Regulations 2012, 477, 478, 506, 584, 585, 587, 592
 - import notifications, 12
 - ionising radiation, 196
 - numbers, 385
 - outsourced activities, 80
 - Qualified Person(s), 246, 409
 - quality reviews, 37
 - starting materials, 424
 - wholesale dealer's licence, 540
 - wholesale distribution, 540, 562, 576, 584, 585, 587, 592
- marketing authorisation holders (MAH)
 - licence conditions, 401
 - preface overview, xv
 - production, 71
 - Qualified Person(s), 407
 - Quality Control, 72
 - reference/retention samples, 262, 264
- Master Cell Banks (MCB), 122, 124, 140, 267
- Master Formulae, 209
- master production instructions, 291
- master seed lots, 124, 272
- material management, 294, 314, 328, 360
- maximum theoretical residual impurity, 176
- MCB *see* Master Cell Banks
- Mean Kinetic Temperature (MKT), 553
- media
 - cell culture/fermentation, 321
 - immunological products, 161
- medical examinations of personnel, 43
- medicated feedingstuffs, 151
- medicinal plants, 270
- medicinal products
 - basic requirements of GMP, 23
 - definitions, 270, 327
- Medicines and Healthcare products Regulatory Agency (MHRA)
 - active substances, 11, 435
 - authorisations, 11
 - brokering, 11, 568
 - compliance, 7, 14
 - contact details, 19
 - contract laboratories, 426, 427
 - Data Processing Group, 10
 - Directive 2011/62/EU, 11
 - DMRC, 12
 - enforcement, 7, 13
 - export certificates, 12
 - Falsified Medicines Directive 2011/62/EU, 11
 - GCP, 8, 10
 - GDP, 8, 9
 - GLP, 10
 - GMP, 8

GPvP, 8, 10
 Guidance/Guidelines, 9, 19
 Human Medicines Regulations 2012, 3, 9, 13
 IAG, 15
 importation, 11, 12
 IMPs, 426
 Innovation Office, 6
 Inspection, Enforcement and Standards Division, 7
 inspections, 7, 427
 Internet, 19
 licence applications, 393
 licensing, 8, 11, 18
 manufacturer's licences, 8, 11
 MIA (IMP), 11
 overviews, 3
 preface overview, 14
 Qualified Person(s), 406
 registration, 11, 435
 risk-based inspection programmes, UK
 manufacture guidance, 396
 "Specials" Licences, 8, 11, 12
 standards, 7
 supplier qualification, 556
 UK manufacture guidance, 393, 396
 veterinary products, 11
 wholesale distribution, 11, 556, 562
 Medicines for Human Use (Clinical Trials)
 Regulations 2004 (SI 2004 No. 1031) as amended, 605
 Medicines (Products for Human Use) (Fees)
 Regulations 2013 (2013 No. 532), 605
 meetings, inspections, 394
 Member States
 ACAA, 421
 active substances, 275, 434
 blood/plasma-derived products, 235
 brokers/brokering, 569, 582
 Directive 2001/83/EC, 454
 Directive 2003/94/EC, 467
 GDP, 514
 importation/manufacture, 454, 467
 IMPs, 221
 manufacture, 454, 467
 manufacturer's licence conditions, 401
 Qualified Person(s), 40, 407
 wholesale distribution, 576
 metered dose aerosol products, 188
 MHRA *see* Medicines and Healthcare products
 Regulatory Agency
 MIA (IMP), 11
 microbiological contamination, 90, 112, 146
 microbiological monitoring, 94, 203
 minimum pressure retention valves, 177
 MKT *see* Mean Kinetic Temperature
 mobile cryogenic vessels, 168, 171, 176, 177
 moist heat sterilisation, 105
 monitoring
 clean air devices, 92
 clean areas/rooms, 92

ICH Q10 Pharmaceutical Quality System, 372, 377
 ionising radiation, 203
 Quality Management, 516
 temperature, 553
 monoclonal antibodies, 132, 138
 monosepsis (axenic) organisms, 141
 mother liquors, 314, 328
 MRA *see* Mutual Recognition Agreements
 multi-product facilities, 141
 mutatis mutandis, 582
 Mutual Acceptance of Data, 10
 Mutual Recognition Agreements (MRA)
 batch certificates, 383, 385
 batch release, 251, 253, 255
 imports, 383
 IMPs, 216
 Manufacturing Authorisation, 422
 reference/retention samples, 263

N

name considerations, 427, 544
 nanotechnology, 6
 narcotics, 534, 581
 National Competent Authority, 567
 National Contingency Guidance, 444
 National Institute for Biological Standards and
 Control (NIBSC), 3, 4
 National Institute for Health and Care Excellence
 (NICE), 6
 natural organisms, 318
 NIBSC *see* National Institute for Biological Standards
 and Control
 NICE *see* National Institute for Health and Care
 Excellence
 non-compliance considerations, 429, 434
 non-EEA States
 brokers/brokering, 576
 Human Medicines Regulations 2012, 477, 482, 487, 499
 wholesale distribution, 541, 576
 non-investigational products, 205
 non-return valves, 177
 notification considerations, 278, 393, 576
 novel drug/device combinations, 6
 number and location considerations, 414

O

obligations of Qualified Person(s), 497
 obsolete goods destruction, 527
 OECD *see* Organisation for Economic Co-operation
 and Development
 offence investigations, 13
 ointment manufacture, 186
 one-shot filling systems, 188
 on-going stability programmes, 76

- OOS *see* out-of-specification
- opening meetings, inspections, 394
- operating principles
- biological products/substances, GMP, 125
 - documentation, 58
 - immunological products, GMP, 162
 - Qualified Person(s), 409
- operational phases of computerised systems, GMP, 192
- operational qualification (OQ), 239, 244, 308
- operations, wholesale distribution, 524
- OQ *see* operational qualification
- ordering IMPs, 204, 206, 209
- organisation considerations, complaints/defects/recalls, 84
- Organisation for Economic Co-operation and Development (OECD), 10, 430
- out-of-specification (OOS), 149, 294, 299, 304, 362
- outsourced activities
- Contract Acceptor, 80, 81
 - Contract Giver, 80
 - Contracts, 80, 82
 - definitions, 379
 - Directive 2003/94/EC, 472
 - GDP, 516, 531
 - GMP, 80, 83
 - ICH Q10 Pharmaceutical Quality System, 370
 - importation/manufacture, 472
 - manufacture, 472
 - Site Master Files, 336
 - wholesale distribution, 516, 531
- ownership changes, 370
- P**
- packaged gases transport, 175
- packaging
- see also* packaging materials
 - APIs, 291, 300, 316
 - definitions, 270
 - design, 362
 - exempt advanced therapy medicinal products, 404
 - GDP, 534
 - Human Medicines Regulations 2012, 479, 589
 - IMPs, 212
 - instructions, 55, 210
 - intermediate products, 300, 316
 - operations, 68
 - premises, 47, 48
 - Quality Risk Management, 362
 - wholesale distribution, 534, 541, 561, 589
- packaging materials
- APIs, 291, 300
 - definitions, 270, 328
 - IMPs, 210
 - production, 68
 - sampling, 184, 185
 - specifications, 53
- parallel distribution, 260, 264, 559
- parametric release, 256, 258
- parenteral administration, 141
- particle monitoring, 92
- particulate contamination, 90, 142
- penicillins, 152
- performance
- continual improvement, 371
 - ICH Q10 Pharmaceutical Quality System, 371, 376
 - indicators, 379
- performance qualification (PQ), 142, 240, 244, 308
- periodic evaluation/reviews, 37, 193, 310, 358
- Person Appointed Hearings, 18
- personnel
- see also* Qualified Person(s)
 - APIs, 282
 - biological products/substances, 114
 - brokers/brokering, 536
 - cell culture/fermentation, 321
 - clothing, 98
 - complaints/defects/recalls, GMP, 84
 - computerised systems, 190
 - contamination, 155
 - Directive 2003/94/EC, 468
 - EU legislation, 577
 - gases, 167
 - GDP, 517, 536
 - general requirements of GMP, 39
 - gene therapy, 135
 - GMP, 34, 39
 - health status, 115
 - Human Medicines Regulations 2012, 587
 - hygiene, 43, 97, 282, 519
 - immunological products, 154
 - importation/manufacture, 468
 - IMPs, 207
 - licence conditions, 400, 402
 - manufacture, 468
 - premises, 48
 - qualifications, 282
 - radiopharmaceuticals, 141
 - sampling, 184
 - Site Master Files, 337
 - sterile products, 97
 - training, 42, 97, 519
 - wholesale distribution, 517, 540, 577, 587
- pest control programmes, 151
- PHA *see* Preliminary Hazard Analysis
- Pharmaceutical Development, 363, 364, 371, 382
- Pharmaceutical Journal, 419
- pharmaceutical quality assurance, 466
- Pharmaceutical Quality System (PQS)
- APIs, 364, 365
 - CAPAs, 374
 - change management, 374
 - commercial manufacturing, 363, 371, 382
 - communication, 369
 - content considerations, 367
 - continual improvement, 364, 366, 371, 377, 382
 - control strategies, 366, 382

- definitions, 378, 379
- design, 367
- discontinued products, 364, 371, 382
- documentation, 367
- GMP, 32, 33, 363, 381
- ICH Q10 document, 33, 363, 381
- IMPs, 363, 382
- industry, 364
- innovation, 364
- ISO concepts, 363, 365, 378
- knowledge management, 366, 382
- lifecycles, 363, 382
- major features diagram, 382
- management responsibilities, 368, 382
- management reviews, 376, 377
- monitoring, 372, 377
- outsourced activities, 370
- performance, 371, 376
- process performance, 371, 376
- product quality, 371, 372
- product realisation, 365, 382
- purchased materials, 370
- Quality Manuals, 367
- quality monitoring, 372
- quality planning, 369
- quality policies, 368
- Quality Risk Management, 366, 382
- regulatory authorities, 364, 365
- resource management, 369
- senior management, 368
- state of control, 366, 382
- technology transfer, 363, 371, 382
- picking controls, 527
- “piggy-back” authorisation, 560
- pipework, 46, 49, 99, 284
- placebos, 205, 206, 211
- planning considerations, 238, 361, 369
- plants, 133, 178, 198, 200
- plasma-derived products
 - active substance starting materials, 276
 - addendum, 235
 - certification, 232
 - collection, 229, 235
 - data/information, 236
 - disposal procedures, 234
 - finished products, 234
 - fractionation/fractionation, 224, 228
 - GMP, 224
 - intermediate products, 234
 - manufacture, 231
 - post collection measures, 229
 - processing, 233
 - Quality Control, 234
 - Quality Management, 228
 - release procedures, 232, 234
 - sampling, 233, 234
 - starting materials, 226, 231
 - testing, 235
 - traceability, 229
 - waste disposal, 234
- Plasma Master Files (PMF), 225, 231
- plasma pools, 234
- plasmid, definitions, 141
- PLPI *see* Product Licence for Parallel Import
- PMF *see* Plasma Master Files
- Policy/Relationships management, 13
- policy validation, 307
- polyclonal antibodies, 138
- pool sampling, 233, 234
- positron emission, 140
- post collection measures, 229
- post-inspection letters, 396
- potency considerations, 385
- PQ *see* performance qualification
- PQS *see* Pharmaceutical Quality System
- practical experience considerations, 496
- Preliminary Hazard Analysis (PHA), 355
- premises
 - ancillary areas, 48
 - APIs, 283, 323
 - biological products/substances, 115
 - blood/plasma-derived products, 231
 - creams/liquids/ointments manufacture, 186
 - Directive 2003/94/EC, 469
 - dust, 99
 - gases, 168
 - GDP, 519
 - general requirements of GMP, 45
 - GMP, 45
 - herbal products/substances, 180
 - Human Medicines Regulations 2012, 587
 - immunological products, 155
 - importation/manufacture, 469
 - IMPs, 208
 - ionising radiation, 201
 - isolation, 48
 - licence conditions, 400
 - manufacture, 469
 - personnel, 48
 - pressurised aerosol products, 188
 - Quality Control, 48
 - Quality Risk Management, 359
 - radiopharmaceuticals, 141
 - separation requirements, 48
 - Site Master Files, 337
 - sterile products, 99
 - storage, 46, 47
 - wholesale distribution, 519, 540, 578, 587
- premix manufacture, 151
- preparation considerations, 96, 150
- pressure filling, 188
- pressurised aerosol products for inhalation
 - cold filling, 188
 - equipment, 188
 - filling, 188
 - GMP, 188
 - one-shot system filling, 188
 - premises, 188
 - pressure filling, 188
 - production, 188

- Quality Control, 188
 - two-shot system filling, 188
 - preventive action
 - see also* corrective actions and/or preventative actions
 - definitions, 379
 - price harmonisation, 560
 - primary containment, 268
 - primary reference standards, 304, 329
 - printouts, 192
 - procedures
 - see also* Standard Operating Procedures
 - definitions, 270, 328
 - documentation, 57, 523
 - process aids, 328
 - process controls, 327
 - processing operations
 - Beta radiation, 202
 - definitions, 225
 - Electron Irradiation, 202
 - fractionation, 233
 - Gamma Irradiation, 201
 - GMP, 68
 - herbal products/substances, 178
 - IMPs, 210, 210
 - instructions, 50, 54, 182, 209
 - ionising radiation, 201
 - plasma fractionation, 233
 - production, 68
 - radiopharmaceuticals, 140
 - sterile products, 101
 - process owners, computerised systems, 195
 - process performance, 371, 376
 - process validation (PV), 240, 244, 309, 324
 - procurement considerations, 538
 - product defects, 339
 - product discontinuation, 364, 371, 382
 - production
 - active substances, 65
 - activity responsibilities, 281
 - APIs, 281, 297, 324
 - areas, 46, 158, 180
 - biological products/substances, 120
 - bulk products, 68
 - clinical trials, APIs, 324
 - contamination, 46, 60, 62
 - creams/liquids/ointments manufacture, 186
 - definitions, 271, 328
 - Directive 2003/94/EC, 470
 - excipients, 66
 - finished products, 70
 - gases, 171
 - GMP, 32, 46, 60
 - immunological products, 161
 - importation/manufacture, 470
 - IMPs, 204, 210
 - intermediate products, 68
 - manufacture, 470
 - marketing authorisation holder, 71
 - packaging materials, 68
 - packaging operations, 68
 - personnel, 39, 41
 - planning, 361
 - pressurised aerosol products, 188
 - processing operations, 68
 - Quality Risk Management, 361
 - radiopharmaceuticals, 148, 150
 - recovery, 70
 - rejected materials, 70
 - returned materials, 71
 - shortage reports, 71
 - Site Master Files, 338
 - starting materials, 65
 - supply chain traceability, 60, 65
 - validation, 64, 361
 - Product Licence for Parallel Import (PLPI), 560
 - Product Licences, 12
 - product lifecycles, 349, 363, 382
 - product ownership changes, 370
 - product quality
 - continual improvement, 371
 - ICH Q10 Pharmaceutical Quality System, 371, 372
 - reviews, 37, 120, 281, 337
 - product realisation, 365, 380, 382
 - product recalls
 - Directive 2003/94/EC, 472
 - GDP, 528, 530
 - GMP, 83, 87
 - Human Medicines Regulations 2012, 564
 - importation/manufacture, 472
 - manufacture, 472
 - wholesale distribution, 528, 530, 540, 564
 - product release, 246
 - Product Specification Files, 207, 209
 - professional conduct, 416
 - professional development, 416
 - project phases, computerised systems, 191
 - Prosecution Unit, 13
 - prospective validation, 241, 245, 309
 - protection
 - protective clothing, 43
 - radiopharmaceuticals, 138
 - protocols
 - documentation, 51
 - Euro-Mediterranean Agreement, 421
 - qualification/validation, 238, 330
 - provision of information *see* information provision
 - psychotropic substances, 534, 581
 - purchased materials, 370
 - purges, gases, 177
 - purification, 140, 166, 320, 321
 - PV *see* process validation
 - pyrogen contamination, 90
- Q**
- QC *see* Quality Control
 - QP *see* Qualified Person(s)

- QRM *see* Quality Risk Management
- qualification(s)
- APIs, 308
 - change control, 243, 244
 - customers, 526
 - definitions, 244, 271, 328, 538
 - documentation, 238, 243
 - equipment, 240
 - established facilities/systems, 240
 - GDP, 522, 525
 - GMP, 238, 243
 - Human Medicines Regulations 2012, 494
 - medicinal products, 238
 - personnel, APIs, 282
 - Qualified Person(s), 460, 494
 - Quality Risk Management, 360
 - radiopharmaceuticals, 142
 - suppliers, 60, 525, 556
 - wholesale distribution, 522, 525, 556
- Qualified Person(s) (QP)
- active substances/APIs, 444
 - batch certification, 408, 413
 - batch release, 246, 252
 - biological products/substances, 128
 - blood/plasma-derived products, 225, 227, 232
 - certification, 246, 408, 413
 - Code of Practice, 406
 - Competent Authorities, 409, 417
 - compliance, 412
 - conduct, 416
 - contracted persons, 414
 - contract manufacture, 415
 - CPD, 416, 418, 419, 420
 - definitions, 225, 254, 255
 - diplomas, 494
 - Directive 75/319/EEC, 461
 - Directive 2001/82/EC, 246, 407, 414, 417
 - Directive 2001/83/EC, 246, 406, 408, 414, 417, 460
 - Directive 2003/94/EC, 407, 411, 466
 - disciplinary proceedings, 409, 416, 417
 - documentation, 52, 248
 - duty performance, 412
 - education, 460, 494
 - EEA, 246, 407
 - experience, 496
 - general requirements of GMP, 39
 - GMP, 32, 40, 246
 - Human Medicines Regulations 2012, 479, 483, 494
 - importation/importers/imports, 248, 251, 255, 460, 466
 - IMPs, 207, 216, 409
 - Inspection Action Group, 17
 - inspections, 17, 406, 417
 - intermediate products, 249
 - legislation, 409
 - licences/licensing, 401, 406
 - location considerations, 414
 - long experience, 496
 - manufacture, 460, 466
 - manufacturer's licence conditions, 401, 406
 - Marketing Authorisation, 246, 409
 - MHRA, 406
 - number considerations, 414
 - number of persons, 414
 - obligations, 497
 - outsourced activities, 80
 - practical experience, 496
 - product release, 246
 - professional conduct, 416
 - professional development, 416
 - qualifications, 460, 494
 - Quality Management, 410, 417
 - radiopharmaceuticals, 141, 149, 150
 - reference/retention samples, 262, 263
 - responsibilities, 412
 - routine duties, 252, 410
 - Royal Pharmaceutical Society, 418, 419
 - Society of Biology, 420
 - training, 460, 494
 - UK manufacture guidance, 401, 406
 - university courses, 460, 495
 - veterinary products, 406, 411
 - wholesale distribution, 546
- quality
- see also* Quality...
- APIs, 319, 323
 - cell culture/fermentation, 319
 - defects, 83, 357, 564
 - definitions, 350, 380
 - monitoring, 372
 - objectives, 380
 - planning, 369, 380
 - policies, 368, 380
 - reviews, 37, 281, 347, 350
 - units, 39, 41, 280, 329
- Quality Assurance
- APIs, 278
 - definitions, 328
 - Directive 2003/94/EC, 468
 - importation/manufacture, 468
 - personnel, 39, 41
 - Qualified Person(s), 412
 - radiopharmaceuticals, 139, 141
 - sampling, 184
- Quality Control (QC)
- APIs, 278
 - biological products/substances, 127
 - blood/plasma-derived products, 234
 - definitions, 271, 328
 - Directive 2003/94/EC, 471
 - documentation, 73
 - gases, 174
 - general GMP guidelines, 72
 - GMP, 36, 72
 - good laboratory practices, 73
 - herbal products/substances, 182
 - immunological products, 165
 - importation/manufacture, 471

- IMPs, 215
- laboratory practices, 73
- manufacture, 471
- manufacturer's licence conditions, 402
- on-going stability programmes, 76
- personnel, 39, 41
- plasma-derived products, 234
- premises, 48
- pressurised aerosol products, 188
- radiopharmaceuticals, 141, 148, 150
- sampling, 74
- Site Master Files, 339
- sterile products, 109
- testing, 74, 78
- Quality Management
 - APIs, 278, 317
 - blood, 228
 - blood/plasma-derived products, 228
 - documentation, 50, 278
 - GDP, 515
 - GMP, 29, 30, 32
 - IMPs, 207
 - manufacturers, 335
 - plasma, 228
 - Qualified Person(s), 410, 417
 - release procedures, 278
 - Site Master Files, 335
 - wholesale distribution, 515
- Quality Manuals, 367, 380
- Quality Risk Management (QRM)
 - animal materials, 128
 - APIs, 278
 - assessment activities, 358
 - auditing, 357
 - biological products/substances, 112, 115
 - calibration, 360
 - capping containers, 362
 - change control, 358
 - change management, 358
 - communication, 347
 - computerised systems, 360
 - contamination, 62
 - continual improvement, 358
 - contract manufacturers, 360
 - dating, 362
 - decision-making, 352
 - defects, 357
 - definitions, 349, 380, 538
 - development activities, 359
 - distribution, 361
 - education, 357
 - environmental control, 360
 - equipment, 359
 - expiry dating, 362
 - facilities, 359
 - filtering, 355
 - FMEA, 352
 - FMECA, 353
 - FTA, 353
 - GDP, 517
 - gene therapy, 134
 - GMP, 32, 38, 341, 363, 366, 381
 - HACCP, 353
 - HAZOP, 354
 - hygiene, 360
 - ICH Q9 document, 38, 341, 363, 366, 381
 - ICH Q10 Pharmaceutical Quality System, 366, 382
 - industry, 348, 357
 - initiation, 344
 - in-process controls, 361
 - inspections, 357, 358
 - integrated quality management, 357
 - integration into industry/regulatory obligations, 348
 - labelling, 362
 - laboratory practices, 362
 - logistics, 361
 - maintenance, 360
 - materials management, 360
 - methodology, 347
 - methods, 352
 - out-of-Specification, 362
 - packaging, 362
 - periodic reviews, 358
 - PHA, 355
 - Pharmaceutical Quality System, 366, 382
 - premises, 359
 - principles, 343
 - production, 361
 - production planning, 361
 - qualification, 360
 - quality defects, 357
 - quality reviews, 347
 - ranking, 355
 - regulators, 357
 - regulatory obligations, 348
 - responsibilities, 344
 - retest dating, 362
 - reviews, 347
 - risk assessment, 345
 - risk filtering, 355
 - risk ranking, 355
 - sampling, 361
 - Site Master Files, 336
 - stability, 362
 - starting materials, 361
 - statistical tools, 356
 - storage, 361
 - suppliers, 360
 - testing, 361
 - tools, 352
 - training, 357
 - transport, 361
 - use of materials, 361
 - utilities, 359
 - validation, 361
- Quality Systems
 - brokers/brokering, 535
 - definitions, 350, 538

GDP, 515, 535
 Human Medicines Regulations 2012, 589
 IMPs, 207
 wholesale distribution, 541, 579, 589
 quarantine status, 47, 271, 295, 329

R

radiation

see also ionising radiation
 energy, 139
 protection, 138
 radiopharmaceuticals, 139
 sterilisation, 105

radioactive materials, 520, 534

radioactive precursors, 140

radiolabelling, 150

radionuclide contaminants, 139

radionuclide Generators, 138, 140

radiopharmaceuticals

clinical trials, 138, 141
 contamination, 139, 142
 definitions, 271
 distribution, 150
 documentation, 147, 148
 equipment, 142
 GMP, 138
 hazards, 139
 hot-cells, 147, 150
 licensing, 138
 personnel, 141
 premises, 141
 production, 148, 150
 Qualified Person(s), 141, 149, 150
 Quality Assurance, 139, 141
 Quality Control, 141, 148, 150
 radiolabelling, 150
 reference samples, 150
 retention samples, 150
 sampling, 150
 "Specials" Licences, 138
 specifications, 141, 147
 sterile production, 147
 wholesale distribution, EU legislation, 581

randomisation, 207

randomisation code, 207, 212

ranking, risk management, 355

Rapporteur, 5

rating risk, 398

raw materials

animal materials, 129
 APIs, 277, 291, 297, 323
 biological products/substances, 121
 clinical trials, 323
 definitions, 141, 329

reactors, radiopharmaceuticals, 140

recalls

APIs, 315, 318
 biological products/substances, 127

Directive 2003/94/EC, 472

GDP, 528, 530

GMP, 83, 87, 219

Human Medicines Regulations 2012, 564

importation/manufacture, 472

IMPs, 219

intermediate products, 315, 318

manufacture, 472

Site Master Files, 339

wholesale distribution, 528, 530, 540, 564

receipts, 57, 295, 526, 540

reception areas, 47

recombinant nucleic acid sequence(s), 134

recombinant organisms, 318

recombinant products, 131

Recommendation No. R (95) 15 (Council of Europe),
 237

re-commissioning, ionising radiation, 198, 200

reconciliation considerations, 271

reconstitution considerations, 205

records

action taken/conclusions reached, 58
 APIs, 289, 291, 292, 293
 brokers/brokering, 536
 cell banks, 320
 cell culture/fermentation, 320
 definitions, 271
 gases, 169
 GDP, 523, 528, 536
 GMP, 50, 51, 55, 57
 Human Medicines Regulations 2012, 588, 594
 immunological products, 159
 licence conditions, 403
 reviews, 294
 special medicinal products, 594
 wholesale distribution, 523, 528, 579, 588, 594

recoveries, 70, 271, 313

re-evaluation programs, 297

Reference Member States (RMS), 562

reference samples

documentation, 262
 GMP, 150, 215, 260
 IMPs, 215
 radiopharmaceuticals, 150
 size considerations, 261
 storage, 261, 262

reference standards, 304, 329

referral considerations, 15

refreshment rooms, 48, 521

refrigerators, 554

refuse considerations, 139, 160, 234, 286

regional GMP requirements, 365

registration

active substances, 435, 504
 applications, 568, 600
 brokers/brokering, 568, 582, 600
 Community Database, 435
 conditions, 438
 criteria, 569, 601
 Human Medicines Regulations 2012, 504, 600

- importation/manufacture, 463
- manufacture, 463
- MHRA, 11, 435
- wholesale distribution, 540, 568
- Regulation (EC) No 726/2004
 - brokering, 569, 582, 599
 - Human Medicines Regulations 2012, 479, 586, 599, 604
 - wholesale distribution, 576, 586
- Regulation (EC) No 1234/2008, 479, 586
- Regulation (EC) No 1394/2007, 479, 586
- regulatory considerations
 - ICH Q10 Pharmaceutical Quality System, 364, 365
 - Qualified Person(s), 407, 412, 417
 - Quality Risk Management, 348, 357
 - wholesale distribution, 559, 576, 586
- rejection considerations, 58, 70, 313
- relabelling, 316, 561
- Relationships Management, 13
- release procedures
 - see also* batch release
 - accidental release, 126, 135, 162
 - APIs, 278
 - blood/plasma-derived products, 232, 234
 - deliberate release, 139
 - documentation, 58
 - finished products, 234
 - intermediate products, 234, 249
 - parametric release, 256, 258
 - plasma-derived products, 232, 234
 - product release, 246
 - Qualified Person(s), 246, 252
 - Quality Management, 278
- relevant EU provisions, definitions, 479
- repackaging, 316, 561
- repeal of Directive 91/356/EEC, 473
- reports
 - GMP documentation, 50, 51
 - inspections, 396
 - qualification/validation, 238
- reprocessing considerations, 271, 313, 329
- re-qualification considerations, 557
- requirements, definitions, 350
- reserve samples, 307
- residual contamination, 300
- resource management, 369
- responsibilities
 - GMP, 8
 - ionising radiation, 196
 - Qualified Person(s), 412
 - Quality Risk Management, 344
 - Responsible Person(s), 546
- Responsible Person(s) (RP)
 - appointment, 546
 - biological products/substances, 122
 - blood/plasma-derived products, 225, 227, 232
 - definitions, 141, 225
 - duties, 546
 - GDP, 517
 - Gold Standard, 548
 - Human Medicines Regulations 2012, 592
 - immunological products, 154
 - Inspection Action Group, 17
 - responsibilities, 546
 - wholesale distribution, 517, 540, 543, 546, 592
- restrooms, 48, 521
- retail sale or supply, 401
- retention of documentation, 52, 289
- retention samples
 - APIs, 307
 - documentation, 262
 - GMP, 260
 - imports, 260
 - IMPs, 215
 - parallel distribution, 260
 - plasma pools, 234
 - radiopharmaceuticals, 150
 - size considerations, 261
 - storage, 261, 262
 - veterinary products, 152
- retest dating, 306, 329, 362
- retrospective validation, 242, 245, 309
- returns
 - APIs, 314, 318
 - definitions, 271
 - GDP, 528, 529
 - IMPs, 204, 219
 - intermediate products, 314, 318
 - materials production, 71
 - wholesale distribution, 528, 529
- re-validation, 243, 245
- reviews
 - definitions, 350
 - GDP, 516
 - management, 370, 376, 377, 516
 - periodic evaluation, 37, 193, 310, 358
 - product quality, 37, 120, 281, 337
 - quality, 37, 281, 347, 350
 - Quality Risk Management, 347
 - records, 294
 - risk reviews, 37
 - rolling quality reviews, 37
- reworking considerations, 313, 329
- risk
 - see also* Quality Risk Management
 - acceptance, 346, 350
 - analysis, 245, 257, 345, 350
 - assessments, 345
 - communication, 347, 350
 - control, 346, 350
 - definitions, 350
 - estimation tools, 397
 - evaluation, 345, 350
 - filtering, 355
 - identifications, 345, 350
 - inspection programmes, 396, 398
 - management, 190, 350, 355, 357, 358, 396, 579
 - ranking, 355
 - reduction, 87, 346, 350
 - reviews, 350

RMS *see* Reference Member States
 rolling quality reviews, 37
 root cause analysis, 34, 86
 routine duties of Qualified Person(s), 252, 410
 Royal Pharmaceutical Society, 406, 418, 419
 Royal Society of Chemistry, 406
 RP *see* Responsible Person

S

safety

Directive 2001/83/EC, 459
 importation/manufacture, 459
 licence conditions, 403
 manufacture, 459
 special medicinal products, 595
 wholesale distribution, 545

sampling

see also reference samples; retention samples
 APIs, 295, 298, 303, 307
 batch release certification, 254
 documentation, 57, 262
 gases, 174
 GMP

packaging materials, 184, 185
 personnel, 184
 Quality Control, 74
 starting materials, 184

herbal products/substances, 182

IMPs, 215

licence conditions, 400

packaging materials, 184, 185

personnel, 184

plasma-derived products, 233, 234

premises, 47

Quality Assurance, 184

Quality Control, 74

Quality Risk Management, 361

radiopharmaceuticals, 150

starting materials, 184

veterinary products, 152

sanitation, 100, 160, 286, 290, 338

SAWP *see* Scientific Advice Working Party

scaffolds, definitions, 141

Schedule 4 Standard Provisions of Licences,
 485, 593

Schedule 6 Manufacturer's and Wholesale Dealer's
 Licences, 492, 596

Schedule 7A - registration information, 508

Schedule 7 Qualified Person(s), 494

Schedule 9 Undertakings by non-EEA Manufacturers,
 499

science-based regulatory approaches, 381

scientific advice from the EU, 6

scientific advice from the UK, 7

Scientific Advice Working Party (SAWP), 6

seal units, 95

secondary containment, 268

secondary reference standards, 304, 329

security of computerised systems, 193

seed lots, 123, 161, 271

segregation considerations, 168, 201, 233

self inspections

see also audits/auditing

APIs, 281

Directive 2003/94/EC, 473

GDP, 532

GMP, 89

importation/manufacture, 473

Site Master Files, 340

wholesale distribution, 532

senior management, 34, 39, 368, 380

Sentinel risk information modules, 397

separation requirements, 48

service providers, computerised systems, 190

severity, Quality Risk Management, 350

sewage, 286

shelf-lives, 140, 149

shipments/shipping, 136, 204, 207, 218

see also transport

shortage reports, 71

signatures/signed documents, 330

simulated product validation, 245

sinks, 99

site inspections, 394

Site Master Files (SMF)

complaints, 339

defects, 339

distribution, 339

documentation, 50, 333, 338

D-U-N-S Numbers, 335

equipment, 337

general manufacture information, 335

GMP, 50, 333, 338

licence applications, 392

manufacturers, 335

personnel, 337

premises, 337

product defects, 339

production, 338

purpose of, 333

Quality Control, 339

Quality Management, 335

Quality Risk Management, 336

recalls, 339

self inspections, 340

size considerations, sampling, 261

small refrigerators, 554

SMF *see* Site Master Files

Society of Biology, 406, 420

software, 195, 195

solvents, 314, 330

somatic cells therapy, 136, 141, 432

SOP *see* Standard Operating Procedures

special medicinal products

advertisements, 595

documentation, 594

Human Medicines Regulations 2012, 586,

588, 593

- importation, 594
- records, 594
- safety, 595
- wholesale dealer's licence, 543, 593
- wholesale distribution, 543, 586, 588, 593
- "Specials" Licences, 8, 11, 12, 138, 392
- "Specials" patients, 432, 430
- specifications
 - APIs, 289, 303
 - biological products/substances, 112
 - bulk products, 53
 - definitions, 272, 330
 - documentation, 50, 53
 - finished products, 54
 - IMPs, 207, 208
 - intermediate products, 53
 - ionising radiation, 197
 - packaging materials, 53
 - radiopharmaceuticals, 141, 147
 - starting materials, 53
- specified pathogen free (SPF) materials, 141
- specified person transactions, 590
- SPF *see* specified pathogen free materials
- spillages, 126, 162
- sponsors, 207, 205, 212, 215, 217
- stability considerations, 306, 317, 362
- stakeholders, 350
- stand alone contract laboratories, 425
- Standard Operating Procedures (SOP), 50
- standard provisions, licences/licensing, 480, 485, 543, 545, 593
- standards
 - Good Practice Standards, 16
 - Inspection, Enforcement and Standards Division, 7
 - ISO, 363, 365, 378
 - MHRA, 7
 - NIBSC, 3, 4
 - reference standards, 304, 329
- starting materials
 - active substances, 275, 275
 - animal materials, 129
 - APIs, 259, 277, 325
 - biological products/substances, 111, 121
 - blood/plasma-derived products, 226, 231
 - definitions, 142, 272
 - GMP, 65, 184, 259, 275, 277, 424
 - Good distribution, 275
 - herbal products/substances, 178, 180
 - immunological products, 161
 - licence conditions, 399
 - plasma-derived products, 226, 231
 - production, 65
 - Quality Risk Management, 361
 - radiopharmaceuticals, 149
 - sampling, 184
 - specification, 53
 - testing, 60
 - UK manufacture guidance, 424
- state of control, 366, 380, 382
- State of Israel, 421
- statistical tools, 356
- Steering Committee, 341, 363
- sterile products
 - air-cleanliness, 90, 91
 - aseptic operations, 94, 96, 101
 - aseptic preparation, 96
 - blow/fill/seal units, 95
 - clean air devices, 91
 - clean areas/rooms, 90, 91
 - cleanliness, 90
 - compliance, 257
 - containers, 107
 - contamination, 90
 - definitions, 258
 - equipment, 100
 - filling, 97
 - fill/seal units, 95
 - filtration, 107
 - finishing, 108
 - GMP, 43, 90, 256
 - grades, 91
 - handling, 96
 - hygiene, 43
 - isolator technology, 95
 - microbiological contamination, 90
 - parametric release, 256
 - particulate contamination, 90
 - personnel, 97
 - premises, 99
 - processing operations, 101
 - pyrogen contamination, 90
 - Quality Control, 109
 - radiopharmaceuticals, 147
 - risk analysis, 257
 - sanitation, 100
 - seal units, 95
 - sterilisation, 96, 103, 257
 - terminal sterilisation, 96
 - testing, 256
 - validation, 257
 - veterinary products, 153
- sterilisation
 - APIs, 290
 - biological products/substances, 112, 122
 - containers, 107
 - dry heat, 105
 - ethylene oxide, 106
 - filtration, 107
 - heat, 104
 - immunological products, 159
 - moist heat, 105
 - radiation, 105
 - radiopharmaceuticals, 140
 - sterile products, 96, 103, 257
- sterility, 137, 272
- storage
 - APIs, 296, 302
 - biological products/substances, 115, 124
 - blood/plasma-derived products, 232, 233
 - duration considerations, 261

- gases, 168
 - GDP, 519, 526
 - herbal products/substances, 178, 180
 - Human Medicines Regulations 2012, 587
 - immunological products, 164
 - IMPs, 215
 - licence conditions, 400
 - premises, 46, 47
 - Quality Risk Management, 361
 - reference samples, 261, 262
 - retention samples, 262
 - temperature control/monitoring, 553
 - veterinary products, 152
 - wholesale distribution, 519, 526, 540, 553, 587
 - stratified medicines, 6
 - strength/potency considerations, 385
 - subcontracting, 81, 168
 - summary meetings, inspections, 394
 - suppliers
 - API materials management, 295
 - computerised systems, 190
 - definitions, 538
 - qualification(s), 60, 525, 556
 - Quality Risk Management, 360
 - Site Master Files, 336
 - wholesale distribution, 556
 - supplies
 - active substances/APIs, 434
 - ATMP products, 432
 - GDP, 527
 - individual patients (“Specials”), 431
 - UK guidance, 434
 - unlicensed medicines, 430, 432
 - wholesale distribution, 527
 - supply chains, 60, 65, 561
 - suspected defects, 564
 - suspension of licences, 589
 - system, definitions, 245, 272
 - systematic processes, 343
 - system owners, computerised systems, 195
- T**
- tankers, 167, 169, 171, 175, 177
 - tanks, 169, 177
 - Technical Agreements, 51, 215
 - technical prevention measures, 63
 - technology transfer, 78, 363, 371, 382
 - temperature
 - calibration, 555
 - control strategies, 521, 553
 - GDP, 521, 532
 - monitoring, 550
 - storage area control/monitoring, 553
 - wholesale distribution, 521, 532, 552
 - terminal sterilisation, 96
 - testing
 - APIs, 295, 303, 304, 306
 - batch release certification, 249
 - blood/plasma-derived products, 235
 - documentation, 58
 - herbal products/substances, 181
 - IMPs, 210
 - intermediates, APIs, 304
 - licence conditions, 404
 - parametric release, 256
 - plasma-derived products, 235
 - Qualified Person(s), 411, 415
 - Quality Control, 74, 78
 - Quality Risk Management, 361
 - radiopharmaceuticals, 149
 - starting materials, 60
 - sterile products, 256
 - technical transfer, 78
 - theft, 532
 - theoretical yields, 330
 - third countries
 - active substances, 439, 441, 506
 - batch release certification, 246, 251
 - contract fractionation program, 225, 227, 228
 - GDP, 520, 525, 528
 - Human Medicines Regulations 2012, 479, 506, 586, 590
 - imports, 420, 439, 441
 - Qualified Person(s), 40
 - wholesale distribution, 520, 525, 528, 581, 586, 590
 - third party considerations, 81, 190, 195, 533
 - time limits considerations, 298
 - tissue
 - biological products/substances, 111, 114, 122
 - engineering, 136, 433
 - Title IV, Directive 2001/83/EC, 454
 - Title VII, Directive 2001/83/EC, 575, 576
 - toilets, 48
 - toxicological assessments, 60
 - traceability
 - APIs, 315, 316
 - biological products/substances, 120
 - blood, 229
 - blood/plasma-derived products, 229
 - intermediate products, 315, 316
 - plasma, 229
 - radiopharmaceuticals, 149
 - wholesale distribution, 546
 - trader restrictions, 316
 - traditional herbal products/preparations *see* herbal products/substances
 - training
 - gases, 167
 - personnel, 42, 97, 519
 - Qualified Person(s), 460, 494
 - Quality Risk Management, 357
 - transgenic products, 132, 133, 142
 - Transmissible Spongiform Encephalopathies (TSE), 118, 121, 605
 - transport/transportation
 - active substance gases, 167
 - blood/plasma-derived products, 232, 233

cryogenic gases, 171
 definitions, 538
 gases, 167, 169, 171, 175
 GDP, 532
 liquefied gases, 171
 Quality Risk Management, 361
 radiopharmaceuticals, 138
 shipments/shipping, 136, 204, 207, 218
 third parties, 533
 wholesale distribution, 532
 transposition, Directive 2003/94/EC, 473
 Treaty of Rome, 559
 TSE *see* Transmissible Spongiform Encephalopathies
 two-shot filling systems, 188

U

UK *see* United Kingdom
 unauthorised medicinal products, 540
 unblinding *see* blinding
 undertakings for imported products, 498
 uniformity of APIs, 291
 United Kingdom (UK)
 guidance
 ACAA, 421
 active substances/APIs, 434
 brokers/brokering, 567
 Certificates of Analysis, 423
 contract laboratories, 403, 425
 distribution, 434
 GMP, 393, 398, 399, 424
 human use unlicensed medicines, 430
 importation/importers/imports, 420, 434
 IMPs, 425
 inspections, 393
 licences/licensing, 393, 399, 403, 425
 manufacture/manufacturing, 391, 434
 MHRA, 393, 396
 product licence conditions, 399
 Qualified Person(s), 401, 406
 risk-based inspection programmes, 396, 398
 stand alone contract laboratories, 425
 starting materials, 424
 supply, 434
 third country imports, 420
 unlicensed medicines, 430
 wholesale distribution, 539
 importation/importers/import guidance, 420, 434
 legislation
 active substances, 502
 brokers/brokering, 598
 definitions, 604
 preface overview, 15
 wholesale distribution, 583
 scientific advice, 7
 university courses, 460, 495
 unlicensed medicines
 ATMP products, 432
 human use, 430, 605

 importation/manufacture, 430
 “Specials” patients, 430
 TSE safety, 605
 UK manufacture guidance, 430
 usage
 ionising radiation, 196
 language, 600
 materials management, 361
 use-by-dates, 306, 327, 362, 385
 utility management, 284, 359

V

vaccinations/vaccines, 131
 validation
 analytical methods, 311
 APIs, 305, 307, 310, 324
 blood/plasma-derived products, 231
 change control, 243, 244
 cleaning, 242, 244, 310
 clinical trials, 324
 computerised systems, 191
 definitions, 244, 272, 330, 538
 documentation, 238, 243, 308
 GDP, 522
 GMP, 238, 243
 immunological products, 164
 ionising radiation, 197, 202
 medicinal products, 238
 planning, 238
 policies, APIs, 307
 production, 64, 361
 Quality Risk Management, 361
 radiopharmaceuticals, 148
 sterile products, 257
 wholesale distribution, 522
 valves, 171, 177, 188
 vectors, 134, 142
 vegetable drugs, definitions, 269
 ventilation, 46, 156, 284
 vents, gases, 177
 verification of bona fides, 556
 Veterinary Medicines Directorate, 406, 411
 veterinary products
 Directive 2001/82/EC, 30, 151
 ectoparasiticide manufacture, 152
 European authority addresses, 609
 GMP, 30, 151
 immunological products, 154, 163, 165
 medicated feedingstuffs, 151
 MHRA, 11
 penicillins, 152
 premix manufacture, 151
 Qualified Person(s), 406, 411
 retention samples, 152
 sampling, 152
 sterile products, 153
 storage, 152
 viable organisms, 135

vial capping, 108, 164
 viral safety, 320, 322
 viral vectors, 134, 142
 virus(es)
 blood/plasma-derived products, 231, 233
 gene therapy, 134
 inactivation, 126, 322

W

waivers, 438, 441, 443
 walk-in cold rooms, 554
 warehousing procedures, 302
 washrooms, 521
 waste disposal, 139, 160, 234, 286
 water
 APIs, 285
 buildings/facilities, 285
 sterile products, 100, 102
 weighing equipment/premises, 47, 49
 “white” list, 441
 WHO *see* World Health Organization
 wholesale dealer’s licences
 see also wholesale distribution
 authorisations, 11
 conditions, 587
 EU legislation, 576
 exempt advanced therapy medicinal products, 492, 545, 596
 GDP, 539, 587, 590
 holders, 539, 587
 Human Medicines Regulations 2012, 492, 587
 import notifications, 12
 information provision, 545
 manufacturer’s licence conditions, 401
 Schedule 4 Standard provisions of licences, 593
 special medicinal products, 593
 specified person transactions, 590
 wholesale distribution
 see also wholesale dealer’s licences
 Article 126a authorisation, 541, 584, 588, 592
 ATMP, 545
 blood-derived products, 575, 581
 bona fides, 556
 breaches, 559
 brokers/brokering, 513, 515, 535
 dealer’s licence, 540
 Human Medicines Regulations 2012, 584, 590
 imports, 576
 registration, 568
 CAPA, 523
 cold rooms, 554
 commercial refrigerators, 554
 competent authorities, 559, 562, 576
 complaints, 528
 compliance, 557, 579
 computerised systems, 522
 containers, 534
 continued supply, 562, 587

Contract Acceptors, 531
 Contract Givers, 531
 Defective Medicines Report Centre, 564
 defective products, 564
 deliveries, 532
 Department of Health, 563
 destruction procedures, GDP, 527
 Directive 2001/83/EC, 514, 575
 Directive 2002/98/EC, 584
 Directive 2004/23/EC, 584
 Directive 2011/62/EU, 541, 576
 Directive 2012/26/EU, 576
 discontinuations, 563
 diversion/diverted medicines, 559
 documentation, 523, 540, 579, 580, 588, 591, 594
 due diligence, 557
 EEA, 540, 556, 584, 588, 590
 electronic communication, 584
 EMA, 541
 emergency plans, 579, 588
 environmental controls, 521
 equipment, 519, 521, 540, 555, 578, 587
 EU legislation, 575, 576
 exempt advanced therapy medicinal products, 492, 545, 584, 595, 596
 exports, 528, 540, 576, 584, 588, 590
 falsified medicinal products
 EU legislation, 578
 GDP, 528, 530
 Human Medicines Regulations 2012, 584
 UK guidance, 541, 557, 564
 fees, 585
 follow-up actions, 566
 freezers, 555
 GDP, 514, 539, 557, 581
 herbal products/substances, 540, 585
 homeopathic medicinal products, 581, 585
 Human Medicines Regulations 2012, 539, 583, 588
 immunological products, 581
 importation/importers/imports, 544, 576, 585, 594
 information provision, 545
 inspectors, 585
 installations, 519
 integrity maintenance, 561
 intellectual property rights, 559
 interruptions to supplies, 562
 labelling, 534, 544, 561
 large commercial refrigerators, 554
 licences/licensing, 539, 585, 587
 management, 515, 579
 manufacturer’s licence, 585, 596
 Manufacturing Authorisation, 515, 577, 591
 Marketing Authorisation, 540, 562, 576, 584, 585, 587, 592
 medicinal product subject to general sale, 585
 Member States, 576
 MHRA, 11, 556, 562
 narcotics, 534, 581
 non-EEA countries, 541, 576

- notifications, 576
 - obsolete goods destruction, 527
 - operations, 524
 - outsourced activities, 516, 531
 - packaging, 534, 541, 561, 589
 - parallel distribution, 559
 - personnel, 517, 540, 577, 587
 - picking controls, 527
 - preface overview, 15
 - premises, 519, 540, 578, 587
 - psychotropic substances, 534, 581
 - qualification(s), 522, 525, 556
 - Qualified Person(s), 546
 - quality defects, 564
 - Quality Management, 515
 - Quality Systems, 541, 579, 589
 - radioactive materials, 520, 534
 - radiopharmaceuticals, 581
 - recalls, 528, 530, 540, 564
 - receipts, 526, 540
 - records, 523, 528, 579, 588, 594
 - refrigerators, 554
 - registration, 540, 568
 - Regulation (EC) No 726/2004, 576, 586
 - Regulation (EC) No 1234/2008, 586
 - Regulation (EC) No 1394/2007, 586
 - regulatory considerations, 559, 576, 586
 - relabelling, 561
 - repackaging, 561
 - re-qualification, 557
 - Responsible Person(s), 517, 540, 543, 546, 592
 - returns, 528, 529
 - risk management, 579
 - safety, 545
 - Schedule 4 Standard provisions of licences, 593
 - self inspections, 532
 - small refrigerators, 554
 - special medicinal products, 543, 586, 588, 593
 - standard provisions, 543, 545
 - storage, 519, 526, 540, 553, 587
 - suppliers, 556
 - supplies, 527
 - supply chains, 561
 - suspected defects, 564
 - temperature considerations, 521, 532, 553
 - third countries, 520, 525, 528, 581, 586, 590
 - Title VII, Directive 2001/83/EC, 576
 - traceability, 546
 - traditional herbal registration, 586, 588, 592
 - transportation, GDP, 532
 - Treaty of Rome, 559
 - UK guidance, 539
 - UK legislation, 583
 - unauthorised medicinal products, 540
 - validation, 522
 - verification of bona fides, 556
 - walk-in cold rooms, UK guidance, 554
 - withdrawals, 564
 - work contracted out *see* outsourced activities
 - working cell banks, 124, 142, 267, 320
 - working seed lots, 124, 272
 - working virus seeds (WVS), 142
 - World Health Organization (WHO), 8, 12, 237
 - worst case conditions, 245
 - written documentation
 - see also* documentation
 - active substances/APIs, 440
 - equipment, APIs, 287
 - GMP, 50, 57
 - reference/retention samples, 262
 - templates, 387
 - WVS *see* working virus seeds
- X**
- xenogenic cells, 130, 136
- Y**
- yield considerations, 330
- Z**
- zoonosis, 129, 142