

Index

A

Acetyl cedrene (AC), 45, 280
6-Acetylhexamethylindane (AHMI), 43, 81, 154, 170, 203, 234, 276
7-Acetylhexamethyltetralin (AHTN), 40, 80, 103, 154, 170, 234, 276, 304, 321, 338, 345, 360, 384
Advanced oxidation processes (AOPs), 298, 375, 377
Amberonne (AMB), 45
2-Amino musk ketone (2AMK), 276
2-Amino musk xylene (2AMX), 276
4-Amino musk xylene (4AMX), 276
p-Aminobenzoic acid (PABA), 180
Analysis/analytical methods, 191, 263
Anthropogenic pollutants, 95
Antibacterial resistance, 157
Antibiotic-resistant bacteria, 141
 genes (ARGs), 157
Antibiotics, resistance, 12, 18, 157
Antifoaming agents, 15
Antimicrobials, 13, 74, 99, 139, 152, 263, 282
Antioxidants, 153, 322
Antiseptics, 322
Aquatic environment, 1
Avobenzene, 131
2,2-Azino-bis(3-ethylbenzthiazoline-6-sulfonic acid) (ABTS), 301, 307, 358

B

Bacterial resistance, 139
Bayrepel, 52, 57, 59

Benzophenone-3 (BP-3), 17, 123, 126, 269, 302, 365, 386
 ozonation, 387
Benzophenone-4 (BP-4), 17, 123, 127
Benzophenone-8 (BP8), 127, 129
Benzophenones, 155, 298, 375
Benzotriazoles, 12, 19, 156, 248
Benzyl paraben (BzP), 239, 287
3-Benzylidene-camphor (3BC), 155
p-Benzylphenol, 55
Bioaccumulation, 4, 275, 404
Biocides, 12, 295
Biodegradation, 295
Biomagnification, 404
Biosolids, 102
Biota sampling, 17, 263, 267
Bisphenol A, 51, 322, 344
N,O-Bis(trimethylsilyl)trifluoroacetamide (BSTFA), 254
Blood, 17, 132, 166, 183, 286
Bromide, 125
Butyl methoxydibenzoylmethane (BM-DBM), 269
Butyl paraben (BuP), 55, 287, 305
Butylated hydroxyanisole (BHA), 153
Butylated hydroxytoluene (BHT), 153
t-Butyldimethylchlorosilane (TBDMSCl), 254
N-t-Butyldimethylsilyl-*N*-methyltrifluoroacetamide (MTBSTFA), 254
4-*tert*-Butyl-4'-methoxy-dibenzoylmethane (BDM), 123, 127
By-products, 375
 chlorinated, 123

C

Cape Cod (Massachusetts), 115
 Cashmeran (DPMI), 45, 81, 105, 154, 170, 234, 324, 341, 342, 349
 Celestolide (ABDI), 154, 234, 276
 Chemical analysis, 401, 404
 China, 22, 73, 167, 237, 403
 Chlorination, 123, 124
 Chloroform, 125, 129
 Chlorophene, 55
 Chlorophenols, 300, 364
 Chloroxylenol, 55
 Clean Water Act (U.S.), 21
 Coexisting constituents, 355
 Control strategies, 90
 Conventional activated sludge (CAS), 297
Corioliopsis polyzona, 305
 Cosmetic products, 1, 74, 88, 166, 274, 320
 Cross-linking of enzyme aggregates (CLEAs), 307
 Cytochrome P450, 166, 301

D

Decamethylcyclopentasiloxane (D5), 17, 112, 157
 Degradability, 143
 Degradation, in water, 375
 Denmark, groundwater, 51
 Deodorants, 322
 Detergents, 15, 40, 49, 99, 154, 170, 234, 382
 Diarylpropane oxygenase, 300
 Dichloroacetonitrile, 125
p-Dichlorobenzene, 322
 2,8-Dichlorodibenzo-*p*-dioxin (2,8-DCDD), 234
 Dichloromethylamine, 125
N,N-Diethyl-metatuamide (DEET), 16, 18, 56, 108, 153, 183, 305, 385, 387
N,N-Diethyl-*m*-methylbenzamide, 153
 Dihydroxy-4-methoxybenzophenone (DHMB), 391
 Disinfectant byproducts (DBPs), 124
 Disinfectants, 99, 150, 165, 167, 248
 Dodecamethylcyclohexasiloxane (D6), 17, 112, 157

E

Ecological structure activity relationships (ECOSAR), 143
 Ecotoxicity, 401, 403
 potential (EP), 143

Endocrine disruptors, 13, 18, 287
 Enoyl-acyl carrier protein reductase, 366
 Environmental analysis, 37
 Environmental legislation, 1
 Environmental risk assessment, 139
 Enzymes, 295
 17 β -Estradiol, 19
 Estrogenicity, 378, 384
 Estrogens, 19, 298
 Ethyl paraben (EtP), 287
 2-Ethylhexyl paraben, 19
 2-Ethylhexyl salicylate (ES), 126
 2-Ethylhexyl-4-methoxycinnamate (EHMC), 17, 46, 123, 130, 269, 386
 2-Ethylhexyl-*p*-dimethylaminobenzoate (EHDPABA), 123, 126, 269
 European water legislation, 20
 Extraction techniques, 196, 231, 236

F

Ferrate(VI), 355, 406
 Focused microwave-assisted Soxhlet extraction (FMASE), 244
 Fragrances, 13, 40, 103, 154, 165, 170, 263, 295
 musk, 191
 Freshwater pollution, 4
 Fungi, 295

G

Galaxolide. *See* Hexahydro-hexamethylcyclopenta- γ -2-benzopyrane (HHCBB)
 Gas chromatography (GC), 231, 246, 253
 Glucose oxidase (GOD), 307
 β -Glucuronidase, 167
 Great Lakes, 100
 Groundwater, 95, 101

H

Haloacetic acids (HAA), 124
 Halobenzoquinones (HBQs), 123, 131
 Halomethanes, 126
 Hazard quotient (HQ), 139, 142
 Health risk, 1
 1-Hexadecyl-3-butyl imidazolium bromide, 244
 1-Hexadecyl-3-methyl imidazolium bromide, 244

- Hexahydro-hexamethylcyclopenta- γ -2-benzopyrane (HHCB), 154, 234, 276, 360, 384
- High-performance liquid chromatography (HPLC), 247
- Homosalate (HMS), 155, 269
- Humans, 4, 17, 165
- Hybrid plants/systems, 329, 343
- Hydraulic loading rates (HLRs), 340
- Hydrolysis upflow sludge bed (HUSB), 345
- p*-Hydroxybenzoic acid, 19
- 1-Hydroxybenzotriazole (1-HBT), 307
- Hydroxyl radical, 379
- I**
- Icaridin. *See* 1-piperidinecarboxylic acid 2-(2-hydroxyethyl) 1-methylpropyl ester
- Insect repellents, 16, 108, 153, 165, 183, 191, 219, 295, 322, 385
- Iso-butylparaben (iso-BP), 304
- Isopropyl dibenzoylmethane (IDM), 269
- K**
- Knowledge gaps, 401
- L**
- Laccases, 298–301, 305–311
- Lake Mead (Nevada), 113
- Lakes, 100
- Legislative framework, 20
- Lemna minor*, 349
- Lignin, 298
- Lignin peroxidases (LIPs), 299
- Ligninase, 300
- Lignin-modifying enzymes (LMEs), 298, 299, 306
- Lignocellulosic wastes, 299
- Liguria, 51
- Linear alkylbenzenesulfonates (LAS), 49
- Liquid chromatography (LC), 231, 247
- Los Angeles (California), 113, 403
- M**
- Manganese-dependent peroxidases (MnPs), 299
- Matrix effects, 220
- Matrix solid-phase dispersion (MSPD), 236, 244, 269
- Measured environmental concentration (MEC), 142
- Mediterranean, 44
- Membrane-assisted liquid-liquid extraction (MALLE), 211, 215
- Metabolites, 295
- Methyl dihydrojasmonate, 45
- Methyl paraben (MeP), 19, 55, 234, 287
- Methyl triclosan (M-TCS), 54, 234, 240, 282
- 4-Methyl-benzylidene-camphor (4-MBC), 46, 386
- 4-Methyl-benzylidene-camphor (4-MBC), 155
- Methylene blue active substances (MBAS), 338
- N*-Methyl-*N*-(trimethylsilyl)trifluoroacetamide (MSTFA), 254
- Microbeads, 111
- Microextraction, 245
- by packed sorbent (MEPS), 213
- Micropollutants, 322
- Microwave-assisted extraction (MAE), 243, 269
- Microwave-assisted headspace solid-phase microextraction (MA-HS-SPME), 245
- Molecularly imprinted solid-phase extraction (MISPE), 238
- Monitoring, 89
- Multidrug-resistant bacteria, 139, 157
- Multistage systems, 329
- Musk ambrette (MA), 40, 154, 170, 234, 276
- Musk fragrances, 80, 154, 170, 191, 214, 276, 384
- Musk ketone (MK), 10, 19, 40, 81, 104, 154, 234, 243, 276, 384
- Musk moskene (MM), 154, 234, 276
- Musk tibetene (MT), 154, 234, 276
- Musk xylene (MX), 19, 154, 234, 276
- Musks, macrocyclic, 14
- polycyclic, 14
- N**
- Nanoparticles, 111
- Nanotechnology, 111
- Nitrogen fertilisers, 20
- Nitromusks, 14, 19, 234
- N*-Nitrosodimethylamine (NDMA), 387
- No observed effective concentration (NOEC), 143
- Nonpoint-source pollution, 5
- Nonylphenol (NP), 15, 49
- ethoxylates (NPEOs), 15, 49

O

Occurrence, 401
 [Octahydro-tetramethyl-naphthalen-2-yl]ethan-1-one (OTNE), 40
 Octamethylcyclotetrasiloxane (D4), 17, 112, 157
 Octinoxate, 110
 Octocrylene, 17, 46, 86, 110, 123, 133, 155, 180, 234, 302, 386
 N-Octylbicycloheptenedicarboximide (MGK264), 57
 Oxidants, 359
 Oxidation, 355, 406
 ferrate(VI), 359
 Oxybenzone, 348
 Ozonation, 375, 378
 Ozone, 378

P

Parabens, 13, 17, 55, 88, 139, 263, 287, 295, 383
 chlorination, 131
 exposure, 173
 Parahydroxybenzoic acid, 13
 Pentaclosan, 282
 Peroxidases, 299
 Peroxone process, 390
 Persistent organic pollutants (POPs), 298
 Personal care products, 1, 37, 73, 95, 123, 165, 191, 231, 263, 295, 355, 375, 401
 abundance, 112
 main ingredients, 7
 Pesticides, 19, 108, 140, 243, 297, 377
 Phantolide (AHMI), 43, 81, 154, 170, 203, 234, 276
 Phenolic compounds, 49
 Phenylbenzimidazole sulfonic acid (PBS), 212
 Phthalates, 15, 18
 1-Piperidinecarboxylic acid 2-(2-hydroxyethyl) 1-methylpropyl ester, 52, 57, 153
 Piperonylbutoxide (PBO), 57
 Plasticisers, 15, 322
Pleurotus eryngii, 300
 Point-source contaminants, 4
 Polar contaminants, 5
 Polar organic chemical integrative samplers (POCIS), 196
 Pollution sources, 1

Predicted environmental concentration (PEC), 142
 Predicted no-effect concentration (PNEC), 143
 Preservatives, 13, 54, 88, 165, 191, 215
 Preservatives, exposure, 173
 Propyl paraben (PrP), 55, 234, 287
Pseudokirchneriella subcapitata, 366

R

REACH, 21, 144
 Reaction mechanisms, 355
 Redox mediators, 295
 Removal, 401, 405
 efficiencies, 295, 319
 mechanisms, 319
 redox mediator-catalyzed, 307
 Repellents, 56
 Research trends, 401
 Restoration wetlands, 329, 342
 Risk, 144, 158
 assessment, 403
 quotient (RQ), 142
 Rivers, 100

S

Sample contamination, 267
 Seasonality, 348
 Sediments, 73
 antimicrobial, 78
 synthetic musks, 85
 UV filters/stabilizers, 87
 Sequential dispersion extraction, 240
 Sewage, antimicrobial, 75
 sludge, 73, 295
 synthetic musks, 81
 Shaking, 237
 Siloxanes, 16, 112, 157
 Skin emollients, 15
 Sludge, antimicrobial, 75
 synthetic musks, 81
 Solid phase microextraction (SPME), 211
 Solid samples, 231
 Solid-phase extraction (SPE), 236
 Sonication-assisted extraction in small columns (SAESC), 238
 Soxhlet extraction, 239
 Species sensitivity distribution (SSD), 143
 Stabilizers, 155

Stir bar sorption extraction (SBSE), 211, 245, 258
Streams, 100
Sunscreens, 16, 19, 322, 386
 organic, 109
Superheated liquid extraction (SHLE), 242
Surface flow systems (SF), 329
Surface water, 73, 95
 antimicrobial, 76
 synthetic musks, 85
 UV filters/stabilizers, 87
Surfactants, 15, 49, 244, 322, 338, 377
 nonionic, 15, 49, 338, 348
Synthetic phenolic antioxidants (SPAs), 153

T

Temperature, 348
Terephthalilidene dicamphor sulfonic acid, 123, 131
Tetrabromo-*o*-cresol, 55
Tetradecamethylcycloheptasiloxane (D7), 17
m-Toluamide. *See* N,N-Diethyl-*m*-methylbenzamide
Tonalide. *See* 7-Acetylhexamethyltetralin (AHTN)
Trace organic contaminants, 95, 297
Trametes versicolor, 299
Transformations, in chlorinated water, 123
Traseolide (ATII), 45, 234, 276
Triazines, 180
Trichloramine, 125
Triclocarban, 13, 18, 54, 74, 99, 150, 167, 234, 282
Triclosan, 13, 18, 54, 74, 99, 150, 167, 234, 282, 295, 302, 382
Trihydroxybenzophenone (THB), 391
Trimethylchlorosilane (TMCS), 254
Trinitrotoluene (TNT), 300

U

Ultra-high performance liquid chromatography (UHPLC), 247
Ultrasonic extraction (USE), 237
Uptake, 142
Urine, 18, 124, 166
UV122, 20
UV392, 20
UV filters, 7, 16, 45, 86, 155, 165, 191, 212, 263, 268, 295, 386, 404
 chlorination, 126
 exposure, 180
UV light stabilisers (UVLS), 86, 234
UVP, 20

V

Vegetation, 349
Versatile peroxidases (VP), 299

W

Wastewater, 73, 95, 295
Wastewater reclamation plant (WWRP), 86
Wastewater treatment plants (WWTPs), 5, 142, 266
Water, natural, 37
 awareness initiatives, 20, 23
 monitoring, European, 37
Wetlands, constructed, 319
White-rot fungi, 295, 298, 406

X

Xenobiotics, 166
Xenoestrogens, 159