

Subject Index

A

- Accumulation, sediment and exposure route effects (*C. riparius*), 140
- Acetylenic alcohols, toxicity to embryos and larvae (*Xenopus*), 267
- Acute toxicity
 - dibenz(*b,f*)-1,4-oxazepine, 176
 - pentachlorophenol and carbaryl (*P. hoyi*, *M. relicta*), 278
 - pesticides, 247
- Alcaligenes denitrificans denitrificans*, 1,4-dibenz-oxazepine degradation, 60
- Alcohols, acetylenic (*See* Acetylenic alcohols)
- Algae, toxicity, flow cytometric techniques, 237
- Alkaline unwinding assay, for DNA strand breaks, 348
- Amphibians, paraquat toxicity assessment, 189
- Amphipods, sediment toxicity testing, 93
- Ankistrodesmus falcatus*, dibenz(*b,f*)-1,4-oxazepine toxicity, 176
- Antibody-producing cells, reduction after phenol exposure (rainbow trout), 331
- Aquatic toxicity, 1,4-dibenz-oxazepine, 60
- ASTM standards
 - E 1022-84: 5
 - E 1023-84: 5
 - E 1279-89: 29
- Atrazine, effects on algal cell viability, 237
- Autoradiography, stress proteins, 338
- 4-Azafluorene, toxicity (*E. coli*), 199
- Azinophosmethyl, acute toxicity, 247

B

- Bath immunization, rainbow trout with *Y. ruckeri* O-antigen, 331
- Benzo[*a*]pyrene, DNA repair in exposed diploid and polyploid cells (rainbow trout), 290
- Bioassays, sublethal, stress proteins for, 338

- Bioavailability
 - sediment metals to oysters, 110
 - sediment toxicity testing, 93
- Bioconcentration, pentachlorophenol and carbaryl (*P. hoyi*, *M. relicta*), 278
- Biodegradation
 - conventional testing versus microcosms, 48
 - 1,4-dibenz-oxazepine, 60
 - fate of xenobiotic compounds, 29
 - Toxic Substances Control Act, 77
- Biological sensitivity, sediment toxicity bioassays, 123
- Biomonitoring
 - pollutant-induced DNA damage (sunfish), 348
 - use of stress proteins for, 338
- Biphenyls, microcosms versus conventional biodegradation testing, 48
- Blue mussels, *in situ* biomonitoring with, 167

C

- Carbaryl, acute toxicity (*P. hoyi*, *M. relicta*), 278
- Cell viability, algae, SDS and atrazine effects, 237
- Chemical fate
 - microcosms versus conventional biodegradation testing, 48
 - Toxic Substances Control Act, 77
 - xenobiotic compounds, 29
- Chemical structure, INT, 222
- Chironomus riparius*
 - sediment toxicity testing, 93
 - toxicity and accumulation of MSM and NL compounds, 140
- Chromosome aberrations, produced water-related (*C. variegatus*), 356
- Chronic toxicity, dibenz(*b,f*)-1,4-oxazepine, 176
- Chronic values, after short-term copper exposure (*M. edulis*), 167

- Coastal oil drilling produced waters (*See* Produced waters)
 Complex Effluent Toxicity Testing Program, 167
 Copper, chronic values after short-term exposure (*M. edulis*), 167
Crassostrea virginica, bioavailability of sediment metals, 110
Cyprinodon variegatus, produced water-related chromosomal aberrations, 356

D

- Daphnia magna*
 dibenz(*b,f*)-1,4-oxazepine toxicity, 176
 1,4-dibenz-oxazepine biodegradation and toxicity reduction, 60
 DEHP (*See* Di(2-ethylhexyl)phthalate)
Dendroaster excentricus embryo abnormality test, 123
 Developmental toxicity, acetylenic alcohols on embryos and larvae (*Xenopus*), 267
 Dibenz(*b,f*)-1,4-oxazepine, aquatic toxicity, 176
 1,4-Dibenz-oxazepine, biodegradation, 60
 Di(2-ethylhexyl)phthalate, peroxisome proliferation (fish, rodents), 309
 Diploid cells, DNA repair after carcinogen exposure (rainbow trout), 290
 DNA adducts, in liver cells after benzo[*a*]pyrene exposure (rainbow trout), 290
 DNA damage, after exposure to genotoxic agents (sunfish), 348
 DNA repair, in diploid and polyploid cells after carcinogen exposure (rainbow trout), 290
 DNA strand breaks
 alkaline unwinding assay for (sunfish), 348
 pollutant-induced (sunfish), 348

E

- Ecocore tests, 29
 Ecosystems, stress responses, 16
 Effective concentration (EC₅₀)
 comparative sediment toxicity bioassays, 123
 NL and MSM compounds, 140
 Effluent toxicity, *in situ* monitoring (*M. edulis*), 167
 Electrochemistry, INT, 222

- Electron transport, quinoline and 4-azafluorene effects (*E. coli*), 199
 Endosulfan, acute toxicity, 247
 Environmental assessment, 5
 Environmental risk, 5
Eohaustorius estuarius mortality test, 123
 Epigenetic carcinogenesis, in fish models, 309
Escherichia coli, 4-azafluorene and quinoline effects, 199
 Exposure duration, effect on acute toxicity of pesticides, 247
 Exposure route, effects on toxicity and accumulation (*C. riparius*), 140

F

- Fate (*See* Chemical fate)
 Fenvalerate, acute toxicity, 247
 Fish (*See* specific fish)
 Flow cytometry, algal toxicity, 237
 Formazans, INT, 222
 Frog Embryo Teratogenesis Assay: *Xenopus*, 189, 267

G

- Genotoxicity
 environmental, DNA damage as indicator of (sunfish), 348
 produced waters (*C. variegatus*), 356
 Gill cells, phenol effects (rainbow trout), 331
 Growth, algal, SDS and atrazine effects, 237

H

- Hazard assessment, 5
 sediment metals bioavailability (*C. virginica*), 110
 Hazard identification, 5
 Hazard models, 247
 Heat shock proteins (*See* Stress proteins)
 Heavy metals (*See* Metals)
 Hepatocytes, response to carcinogens (rainbow trout), 290
 Herbicides, effect on algal cell viability, 237
Hyalella azteca, sediment toxicity testing, 93
 Hydrocarbons, in produced waters, genotoxicity (*C. variegatus*), 356

I

- Immunoassays, stress proteins, 338
 Immunosuppression, phenol effects
 (rainbow trout), 331
In situ biological monitoring (*M. edulis*),
 167
 INT (See 2-(*p*-Iodophenyl)-3-(*p*-
 nitrophenyl)-5-phenyl)-2H-
 tetrazolium chloride)
 Investigative tests, 29
 Iodonitrotetrazolium chloride, electron
 transport measurement with (*E.*
coli), 199
 2-(*p*-Iodophenyl)-3-(*p*-nitrophenyl)-5-
 phenyl)-2H-tetrazolium chloride,
 structure and electrochemistry, 222

L

- Lepomis macrochirus*, pollutant-induced
 DNA damage, 348
 Linear alkylbenzene sulfonates,
 microcosms versus conventional
 biodegradation testing, 48

M

- Membranes, effects of quinoline and 4-
 azafluorene (*E. coli*), 199
 Mesocosms, stress responses, 16
 Metals (See also specific metal)
 sediment, bioavailability (*C. virginica*),
 110
 sediment toxicity testing (*H. azteca*, *C.*
riparius), 93
N-Methyl-*N'*-nitro-*N*-nitrosoguanidine,
 DNA repair in exposed diploid and
 polyploid cells (rainbow trout), 290
 Microcosms, 48
 stress responses, 16
 tests, 29
 Midges
 sediment toxicity testing, 93
 toxicity and accumulation of NL and
 MSM compounds, 140
 Model ecosystem tests, 29
 Moderately water-soluble metabolizable
 compounds, toxicity and
 accumulation (*C. riparius*), 140
 MSM (See Moderately water-soluble
 compounds)
 Mutagenicity, INT, 222
Mysis relicta, carbaryl and
 pentachlorophenol toxicity, 278

- Mytilus edulis*
in situ biological monitoring with, 167
 water quality toxicity testing with, 167

N

- Neanthes arenaceodentata*
 biomass test, 123
 mortality test, 123
 Neutral lipophilic compounds, toxicity and
 accumulation (*C. riparius*), 140
 Nitrogen-containing compounds, toxicity
 (*E. coli*), 199
 NL (See Neutral lipophilic compounds)
 Nuclear magnetic resonance spectra, INT,
 INT formazan, and INT-treated *E.*
coli extract, 222

O

- Octanol/water partition coefficients, 140
Oncorhynchus mykiss
 diploid- and polyploid-cell response to
 carcinogen exposure, 290
 phenol-exposed, immunosuppression in,
 331
 Oxygen consumption, quinoline and 4-
 azafluorene effects (*E. coli*), 199
 Oysters, sediment metals bioavailability, 110

P

- Panope generosa* mortality test, 123
 Paraquat, toxicity assessment, 189
 Partition coefficients, 140
 Pentachlorophenol, acute toxicity (*P. hoyi*,
M. relicta), 278
 Peroxisome proliferation, in fish and
 rodents, 309
 Pesticides, acute toxicity, 247
 Phenol, immunosuppressive effects
 (rainbow trout), 331
 Phosphate esters, microcosms versus
 conventional biodegradation testing,
 48
Photobacterium phosphoreum saline extract
 test, 123
 Phthalate esters, microcosms versus
 conventional biodegradation testing,
 48
Pimephles promelas, dibenz(*b,f*)-1,4-
 oxazepine toxicity, 176
 Polychlorinated biphenyls, sediment
 toxicity testing (*H. azteca*, *C.*
riparius), 93

Polycyclic aromatic compounds, sediment toxicity testing (*H. azteca*, *C. riparius*), 93
 Polyploid cells, DNA repair after carcinogen exposure (rainbow trout), 290
Pontoporeia hoyi, carbaryl and pentachlorophenol toxicity, 278
 Postlabeling assays, ³²P-labeled, 290
 Produced waters, genotoxicity (*C. variegatus*), 356

Q

Quantitative structure-activity relationships, 267
 Quinoline, toxicity in *E. coli*, 199

R

Rainbow trout
 bath immunization with *Y. ruckeri* O-antigen, 331
 diploid- and polyploid-cell response to carcinogen exposure, 290
 peroxisome proliferation, 309
 phenol-exposed, immunosuppression in, 331
Rana pipiens, paraquat toxicity, 189
 Reduction potential, INT, 222
Rhepoxynius abronius mortality test, 123
 Risk assessment, 5
 River die-away test, 29

S

Scope for growth index (*M. edulis*), 167
 Screening tests, 29
 SDS (See Sodium dodecyl sulfate)
 Sediment bioassays, comparative sensitivity, 123
 Sediments
 effects on toxicity and accumulation, 140
 K_{ow} bioconcentration, 140
 metals bioavailability to oysters, 110
 test systems, 29
 Sediment toxicity
 bioassays, comparative sensitivity, 123
 to *C. riparius*, 140
 test methods (*H. azteca*, *C. riparius*), 93
 Sediment/water partition coefficients, 140
Selenastrum capricornutum
 1,4-dibenz-oxazepine toxicity, 60
 toxicant effects, flow cytometric techniques, 237
 Sensitivity, sediment toxicity bioassays, 123
 Sewage inocula tests, 29

Shake-flask tests, 29
 Sodium dodecyl sulfate, effects on algal cell viability, 237
 Stress, aquatic community response, 16
 Stress proteins, detection and uses, 338
 Sublethal bioassays, stress proteins for, 338
 Sublethal effects, phenol (rainbow trout), 331
 Sunfish, pollutant-induced DNA damage, 348

T

Teratogenicity, acetylenic alcohols on embryos and larvae (*Xenopus*), 267
 Test methods
 sediment toxicity (*H. azteca*, *C. riparius*), 93
 Toxic Substances Control Act, 77
 Tetrazolium salts, 222
 Tiered testing, 5
 Toxicity
 acetylenic alcohols on embryos and larvae (*Xenopus*), 267
 acute (See Acute toxicity)
 algal, flow cytometric techniques, 237
 4-azafluorene, 199
 dibenz(*b,f*)-1,4-oxazepine, 176
 effluent, testing, 167
 exposure route effects, 140
 INT, 222
 paraquat, 189
 quinoline, 199
 of sediments (See Sediment toxicity)
 Toxicity reduction, 1,4-dibenz-oxazepine, 60
 Toxicokinetics, pentachlorophenol and carbaryl (*P. hoyi*, *M. relicta*), 278
 Toxic Substances Control Act, 77
 Triphenyltetrazolium chloride, 222

W

Water quality, toxicity testing (*M. edulis*), 167

X

Xenopus laevis
 Frog Embryo Teratogenesis Assay, 189, 267
 toxicity of
 acetylenic alcohols, 267
 paraquat, 189

Y

Yersinia ruckeri O-antigen, 331