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HIGHLIGHTS

Acute toxicities of 63 chemicals including an antioxidant, emulsifier, fungicide, silt flocculant, herbicides, insecticides, an insect growth regulator, miticide, piscicide and several industrial chemicals were determined for a variety of cold, cool and warm water species at Columbia and at the Jackson and LaCrosse field stations.

Rainbow trout eggs are more sensitive to chlordane when they are exposed continuously from immediately after fertilization through hatching than similarly-exposed eyed eggs, fry or fingerlings.

The infective, preparasitic stages of a potential biological control nematode for mosquito larvae did not invade or have any observable effects on two crustaceans nor rainbow trout swim-up fry.

The silt flocculant Purifloc® C-31 appears to have an exceedingly "small" margin of safety if used to control suspended solids in reservoirs.

Planned use of a plastomeric binder to build small, porous rock dams was discontinued when we found that treated rocks caused severe exophthalmia and mortalities in rainbow trout.

The toxicities of most natural and synthetic pyrethrins (potential forest insect controls) were affected by water quality, but toxicities of two synthetic pyrethrins was not.

Continuous exposure of daphnids to 2.4, 4.9 or 10 ppm of field grade, total formulation TFM did not impair reproduction during three generations.

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However, a concentration of 18 mg/l impaired production of young during the first generation.

The cis-isomer of chlordane is stored in bluegill ovaries at concentrations more than 100 times those of the trans-isomer.

Control of rooted vegetation in ponds with simazine increased predation of bluegills by largemouth bass and decreased susceptibility of bass to fishing.

Invertebrate species diversity in ponds treated with Dylox® (trichlorfon) returns to normal within 2 weeks after applying the chemical at concentrations used to control ectoparasites of fish.

Mirex in diets of adult channel catfish at rates of 0.2 or 0.6 ppm reduced growth, and hatch and survival of their offspring.

Toxaphene interferes with growth and reproduction of brook trout at concentrations above 0.12 µg/l.

Exposure of rainbow trout to 5.3 mg/l of xylene for 2 hours produced an off-flavor taste which may last several days. Continuous exposure of trout to 1 mg/l of xylene caused severe pathologic conditions in gill, kidney, liver, and gonadal tissue.

Dietary chlordane and di-2-ethylhexyl phthalate did not affect growth or cause gross toxication in brook trout.

Aroclor 1248 and 1254 were more toxic than dieldrin, chlordane or DDT when injected into fertilized coho salmon eggs.

Hexachlorobenzene has approximately the same propensity for accumulation in aquatic food chains as DDT, but accumulation of methoxychlor was only 0.02 that of DDT.

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The plasticizer n-dibutyl phthalate is quickly degraded aerobically and anerobically in pond hydrosols, but di-2-ethylhexyl phthalate is resistant to degradation.

Two enzyme systems in hepatic microsomes from channel catfish metabolize phthalic acid esters (plasticizers) in vitro. One system produces 4 to 6 unidentified metabolites whereas the other forms only the monoesters.

Polyurethane foam extracts PCBs and certain pesticides from water containing concentrations as low as 0.03 µg/l.

Ova from striped bass in Maryland contained PCB residues ranging from 2.6 to 47 µg/g.

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