United States
Environmental Protection Agency

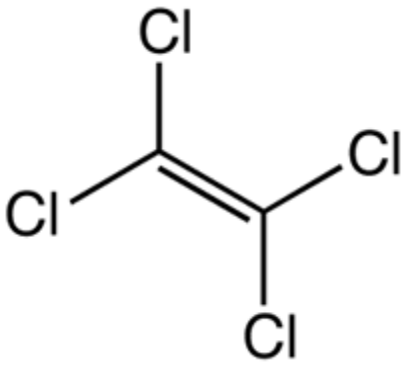
Office of Chemical Safety and
Pollution Prevention

Final Risk Evaluation for Perchloroethylene

Systematic Review Supplemental File:

Data Extraction Tables of Environmental Hazard Studies

CASRN: 127-18-4



December 2020

Table X. On-topic aquatic toxicity studies that were evaluated for Tetrachloroethylene								
Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Fish								
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	96-hour	LC_{50} = 5.84 mg AI/L	Not reported	Flow-through, Measured	Mortality	Shubat et al., 1982	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	96-hour	LC_{50} = 4.99 mg AI/L	Not reported	Flow-through, Measured	Mortality	Shubat et al., 1982	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	1-hour	LC_{50} = ~15 mg AI/L	Not reported	Flow-through, Measured	Mortality	Shubat et al., 1982	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	3-hour	LC_{50} = >11, <12 mg AI/L	Not reported	Flow-through, Measured	Mortality	Shubat et al., 1982	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	6-hour	LC_{50} = ~7 mg AI/L	Not reported	Flow-through, Measured	Mortality	Shubat et al., 1982	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	12-hour	LC_{50} = ~6 mg AI/L	Not reported	Flow-through, Measured	Mortality	Shubat et al., 1982	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	24-hour	LC_{50} = ~5 mg AI/L	Not reported	Flow-through, Measured	Mortality	Shubat et al., 1982	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	48-hour	LC_{50} = ~5 mg AI/L	Not reported	Flow-through, Measured	Mortality	Shubat et al., 1982	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	72-hour	LC_{50} = ~5 mg AI/L	Not reported	Flow-through, Measured	Mortality	Shubat et al., 1982	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	1-hour	LC_{50} = >11, <12 mg AI/L	Not reported	Flow-through, Measured	Mortality	Shubat et al., 1982	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	3-hour	LC_{50} = >8, <9 mg AI/L	Not reported	Flow-through, Measured	Mortality	Shubat et al., 1982	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	6-hour	LC_{50} = >7, <8 mg AI/L	Not reported	Flow-through, Measured	Mortality	Shubat et al., 1982	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	12-hour	LC_{50} = ~7 mg AI/L	Not reported	Flow-through, Measured	Mortality	Shubat et al., 1982	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	24-hour	LC_{50} = >6, <7 mg AI/L	Not reported	Flow-through, Measured	Mortality	Shubat et al., 1982	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	48-hour	LC_{50} = >6, <7 mg AI/L	Not reported	Flow-through, Measured	Mortality	Shubat et al., 1982	High

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Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	72-hour	LC_{50} = >6, <7 mg AI/L	Not reported	Flow-through, Measured	Mortality	Shubat et al., 1982	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	24-hour	LC_{50} = 4.99 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1983	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	48-hour	LC_{50} = 4.99 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1983	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	72-hour	LC_{50} = 4.99 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1983	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	24-hour	LC_{50} = 6.31 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1983	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	48-hour	LC_{50} = 5.95 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1983	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	72-hour	LC_{50} = 5.81 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1983	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	96-hour	EC_{50} = 5.38 mg AI/L	Not reported	Flow-through, Nominal	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	96-hour	EC_{50} = 4.68 mg AI/L	Not reported	Flow-through, Nominal	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	LC_{50} = >9, <12 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	LC_{50} = >6, <9 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	LC_{50} = >6, <9 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>20-,< 40-hour	LC_{50} = ~6 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>40-, <60-hour	LC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>60-, <80-hour	LC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	96-hour	LC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	LC_{50} = >6, <9 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High

Table X. On-topic aquatic toxicity studies that were evaluated for Tetrachloroethylene								
Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	LC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	LC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>20-, <40-hour	LC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>40-, <60-hour	LC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>60-, <80-hour	LC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	EC_{50} = >6, <9 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	EC_{50} = >6, <9 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	EC_{50} = >6, <9 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>20-, <40-hour	EC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>40-, <60-hour	EC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>60-, <80-hour	EC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	96-hour	EC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	EC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	EC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	EC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>20-, <40-hour	EC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>40-, <60-hour	EC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High

Table X. On-topic aquatic toxicity studies that were evaluated for Tetrachloroethylene								
Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>60-, <80-hour	EC_{50} = >3, <6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	LC_{50} = >8, <10 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	LC_{50} = >8, <10 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	LC_{50} = >6, <8 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	LC_{50} = >6, <8 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	LC_{50} = >6, <8 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>20-, <40-hour	LC_{50} = ~6 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>20-, <40-hour	LC_{50} = >6, <8 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>40-, <60-hour	LC_{50} = >4, <6 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>40-, <60-hour	LC_{50} = >6, <8 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>60-, <80-hour	LC_{50} = >6, <8 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>60-, <80-hour	LC_{50} = >4, <6 mg AI/L	Not reported	Flow-through, Measured	Mortality	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>60-, <80-hour	EC_{50} = >4, <6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>60-, <80-hour	EC_{50} = >4, <6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>40-, <60-hour	EC_{50} = >4, <6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>40-, <60-hour	EC_{50} = >4, <6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>20-, <40-hour	EC_{50} = ~6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High

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Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	>20-, <40-hour	EC_{50} = >4, <6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	EC_{50} = ~6 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	EC_{50} = >6, <8 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	EC_{50} = >6, <8 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Rainbow trout (*Oncorhynchus mykiss*)	Fresh	<20-hour	EC_{50} = >8, <10 mg AI/L	Not reported	Flow-through, Measured	Equilibrium	Call et al., 1979	High
Bluegill (*Lepomis macrochirus*)	Fresh	24-hour	LC_{50} = 46 mg AI/L	Not reported	Static, Nominal	Mortality	Buccafusco et al., 1981	Medium
Bluegill (*Lepomis macrochirus*)	Fresh	96-hour	LC_{50} = 13 mg AI/L	Not reported	Static, Nominal	Mortality	Buccafusco et al., 1981	Medium
Bluegill (*Lepomis macrochirus*)	Fresh	1-21 day	BCF = 49	0.00343 mg AI/L	Flow-through, Measured	Bioconcentration	Barrows et al., 1980	Medium
Fathead minnow (*Pimephales promelas*)	Fresh	32-day	NOAEL = 1.4 mg AI/L	Not reported	Flow-through, Measured	Mortality	Ahmad et al., 1984	High
Fathead minnow (*Pimephales promelas*)	Fresh	32-day	MATC = 0.5, 1.4 mg AI/L	Not reported	Flow-through, Measured	Growth: Wet weight	Ahmad et al., 1984	High
Fathead minnow (*Pimephales promelas*)	Fresh	32-day	NOAEL = 0.5 mg AI/L	Not reported	Flow-through, Measured	Growth: Wet weight	Ahmad et al., 1984	High
Fathead minnow (*Pimephales promelas*)	Fresh	32-day	LOAEL = 1.4 mg AI/L	Not reported	Flow-through, Measured	Growth: Wet weight	Ahmad et al., 1984	High
Fathead minnow (*Pimephales promelas*)	Fresh	32-day	LC_{100} = 4.1 mg AI/L	Not reported	Flow-through, Measured	Mortality	Ahmad et al., 1984	High
Fathead minnow (*Pimephales promelas*)	Fresh	96-hour	LC_{50} = 13.4 mg AI/L	Not reported	Flow-through, Measured	Mortality	Geiger et al., 1985	High

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Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Fathead minnow (*Pimephales promelas*)	Fresh	96-hour	LC_{50} = 20.3 mg/L	Not reported	Flow-through, Measured	Mortality	Geiger et al., 1985	High
Fathead minnow (*Pimephales promelas*)	Fresh	96-hour	LC_{50} = 23.8 mg AI/L	Not reported	Flow-through, Not reported	Mortality	Broderius and Kahl, 1985	High
Fathead minnow (*Pimephales promelas*)	Fresh	96-hour	LC_{50} = 10.8 mg AI/L	Not reported	Static, Measured	Mortality	Brooke, 1987	High
Fathead minnow (*Pimephales promelas*)	Fresh	32-day	LC_{100} = 4.1 mg AI/L	Not reported	Flow-through, Measured	Mortality	De Foe, 1980	Medium
Fathead minnow (*Pimephales promelas*)	Fresh	24-hour	LC_{50} = 23.5 mg AI/L	Not reported	Flow-through, Measured	Mortality	Alexander et al., 1978	High
Fathead minnow (*Pimephales promelas*)	Fresh	48-hour	LC_{50} = 19.6 mg AI/L	Not reported	Flow-through, Measured	Mortality	Alexander et al., 1978	High
Fathead minnow (*Pimephales promelas*)	Fresh	72-hour	LC_{50} = 18.9 mg AI/L	Not reported	Flow-through, Measured	Mortality	Alexander et al., 1978	High
Fathead minnow (*Pimephales promelas*)	Fresh	96-hour	LC_{50} = 18.4 mg AI/L	Not reported	Flow-through, Measured	Mortality	Alexander et al., 1978	High
Fathead minnow (*Pimephales promelas*)	Fresh	96-hour	LC_{50} = 21.4 mg AI/L	Not reported	Static, Nominal	Mortality	Alexander et al., 1978	High
Fathead minnow (*Pimephales promelas*)	Fresh	24-hour	EC_{50} = 14.4 mg AI/L	Not reported	Flow-through, Measured	Immobilization	Alexander et al., 1978	High
Fathead minnow (*Pimephales promelas*)	Fresh	48-hour	EC_{50} = 14.4 mg AI/L	Not reported	Flow-through, Measured	Immobilization	Alexander et al., 1978	High
Fathead minnow (*Pimephales promelas*)	Fresh	72-hour	EC_{50} = 14.4 mg AI/L	Not reported	Flow-through, Measured	Immobilization	Alexander et al., 1978	High

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Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Fathead minnow (*Pimephales promelas*)	Fresh	96-hour	EC_{50} = 14.4 mg AI/L	Not reported	Flow-through, Measured	Immobilization	Alexander et al., 1978	High
Fathead minnow (*Pimephales promelas*)	Fresh	96-hour	LC_{50} = 23.8 mg AI/L	Not reported	Flow-through, Measured	Mortality	Broderius and Kahl, 1985	High
Flagfish (*Jordanella floridae*)	Fresh	96-hour	LC_{50} = 8.43 mg AI/L	Not reported	Flow-through, Measured	Mortality	Smith et al., 1991	High
Flagfish (*Jordanella floridae*)	Fresh	10-day	LOEC = 3.1 mg AI/L	Not reported	Flow-through, Measured	Mortality	Smith et al., 1991	High
Flagfish (*Jordanella floridae*)	Fresh	28-day	LOEC = 3.69 mg AI/L	Not reported	Flow-through, Measured	Mortality	Smith et al., 1991	High
Flagfish (*Jordanella floridae*)	Fresh	28-day	LOEC >9.3 mg AI/L	Not reported	Flow-through, Measured	Growth: general	Smith et al., 1991	High
Japanese medaka (*Oryzias latipes*)	Fresh	10-day	LC_{50} = 25 mg AI/L	Not reported	Renewal, Nominal	Mortality	Schell, 1987	High
Japanese medaka (*Oryzias latipes*)	Fresh	10-day	LC_{100} = 40 mg AI/L	Not reported	Renewal, Nominal	Mortality	Schell, 1987	High
Japanese medaka (*Oryzias latipes*)	Fresh	10-day	NOEC = 17 mg AI/L	Not reported	Renewal, Nominal	Mortality	Schell, 1987	High
Japanese medaka (*Oryzias latipes*)	Not reported	96-hour	NOEL = 2.19 mg AI/L LOEL = 4.37 mg AI/L	0, 20, 40, 60, 80 mg/L	Renewal, Measured	Mortality	Spencer et al., 2002	High
Japanese medaka (*Oryzias latipes*)	Not reported	96-hour	LC50 = 26.8 mg AI/L	0, 20, 40, 60, 80 mg/L	Renewal, Measured	Mortality	Spencer et al., 2002	High
Japanese medaka (*Oryzias latipes*)	Not reported	96-hour	LC95 = 96.53 mg AI/L	0, 20, 40, 60, 80 mg/L	Renewal, Measured	Mortality	Spencer et al., 2002	High
Japanese medaka (*Oryzias latipes*)	Not reported	≤17 days	LOAEL = 1.5 mg AI/L	0, 1.5, 3, 6, 12, 25 mg/L	Static, Nominal	Reproduction: Hatch	Spencer et al., 2002	unacceptable

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Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Japanese medaka (*Oryzias latipes*)	Fresh	96-hour	LOAEL = 10 mg AI/L	0, 10 mg/L	Static, Nominal	Growth: Weight	Spencer et al., 2006	unacceptable
Japanese medaka (*Oryzias latipes*)	Fresh	96-hour	LOAEL = 10 mg AI/L	0, 10 mg/L	Static, Nominal	Growth: Weight	Spencer et al., 2006	unacceptable
Japanese medaka (*Oryzias latipes*)	Fresh	96-hour	LOAEL = 10 mg AI/L	0, 10 mg/L	Static, Nominal	Growth: Weight	Spencer et al., 2006	unacceptable
Japanese medaka (*Oryzias latipes*)	Fresh	96-hour	LOAEL = 10 mg AI/L	0, 10 mg/L	Static, Nominal	Growth: Weight	Spencer et al., 2006	unacceptable
Japanese medaka (*Oryzias latipes*)	Fresh	96-hour	LOAEL = 10 mg AI/L	0, 10 mg/L	Static, Nominal	Growth: Weight	Spencer et al., 2006	unacceptable
Japanese medaka (*Oryzias latipes*)	Fresh	96-hour	LOAEL = 10 mg AI/L	0, 10 mg/L	Static, Nominal	Growth: Weight	Spencer et al., 2006	unacceptable
Japanese medaka (*Oryzias latipes*)	Fresh	96-hour	LOAEL = 10 mg AI/L	0, 10 mg/L	Static, Nominal	Growth: Weight	Spencer et al., 2006	unacceptable
Japanese medaka (*Oryzias latipes*)	Fresh	96-hour	LOAEL = 10 mg AI/L	0, 10 mg/L	Static, Nominal	Growth: Weight	Spencer et al., 2006	unacceptable
Molly (*Poecilia sphenops*)	Not reported	59-day	LC_{100} = 0.005 mg AI/L	Not reported	Renewal, Nominal	Mortality	Loekle et al., 1983	Unacceptable
Sheepshead minnow (*Cyprinodon variegatus*)	Salt	24-hour	LC_{50} >52 mg AI/L	Not reported	Static, Nominal	Mortality	Heitmuller et al., 1981	Unacceptable
Sheepshead minnow (*Cyprinodon variegatus*)	Salt	48-hour	LC_{50} >52 mg AI/L	Not reported	Static, Nominal	Mortality	Heitmuller et al., 1981	Unacceptable
Sheepshead minnow (*Cyprinodon variegatus*)	Salt	96-hour	LC_{50} = >29, <52 mg AI/L	Not reported	Static, Nominal	Mortality	Heitmuller et al., 1981	Unacceptable
Sheepshead minnow (*Cyprinodon variegatus*)	Salt	96-hour	NOEC = 29 mg AI/L	Not reported	Static, Nominal	Mortality	Heitmuller et al., 1981	Unacceptable

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Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Sheepshead minnow (*Cyprinodon variegatus*)	Salt	24-hour	LC_{100} = 31.63 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Sheepshead minnow (*Cyprinodon variegatus*)	Salt	24-hour	LC_{100} = 31.63 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Sheepshead minnow (*Cyprinodon variegatus*)	Salt	96-hour	LC_{50} = 9.8 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Inland silverside (*Menidia beryllina*)	Salt	96-hour	LC_{50} = 28.1 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Aquatic Invertebrates								
Water flea (*Daphnia magna*)	Fresh	48-hour	LC_{50} = 18 mg AI/L	Not reported	Static, Measured	Mortality	Richter et al., 1983	High
Water flea (*Daphnia magna*)	Fresh	48-hour	LC_{50} = 9.1 mg AI/L	Not reported	Static, Measured	Mortality	Richter et al., 1983	High
Water flea (*Daphnia magna*)	Fresh	48-hour	EC_{50} = 8.5 mg AI/L	Not reported	Static, Measured	Immobilization	Richter et al., 1983	High
Water flea (*Daphnia magna*)	Fresh	48-hour	EC_{50} = 7.5 mg AI/L	Not reported	Static, Measured	Immobilization	Richter et al., 1983	High
Water flea (*Daphnia magna*)	Fresh	24-hour	LC_{50} = 14.4 mg AI/L	Not reported	Static, Nominal	Mortality	LeBlanc, 1980	High
Water flea (*Daphnia magna*)	Fresh	48-hour	LC_{50} = 14.4 mg AI/L	Not reported	Static, Nominal	Mortality	LeBlanc, 1980	High
Water flea (*Daphnia magna*)	Fresh	48-hour	NOEC = 8 mg AI/L	Not reported	Static, Nominal	Mortality	LeBlanc, 1980	High
Water flea (*Daphnia magna*)	Fresh	28-day	NOEC = 0.505 mg AI/L	Not reported	Renewal, Measured	Growth: Length	Call et al., 1980	High
Water flea (*Daphnia magna*)	Fresh	28-day	NOEC = 0.505 mg AI/L	Not reported	Renewal, Measured	Reproduction: Reproductive success (general)	Call et al., 1980	High
Water flea (*Daphnia magna*)	Fresh	48-hour	LC_{50} = 18.1 mg AI/L	Not reported	Static, Measured	Mortality	Call et al., 1980	High
Water flea (*Daphnia magna*)	Fresh	48-hour	EC_{50} = 8.5 mg AI/L	Not reported	Static, Measured	Immobilization	Call et al., 1980	High

Table X. On-topic aquatic toxicity studies that were evaluated for Tetrachloroethylene								
Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Water flea (*Daphnia magna*)	Fresh	48-hour	LC_{50} = 9.09 mg AI/L	Not reported	Static, Measured	Mortality	Call et al., 1980	High
Water flea (*Daphnia magna*)	Fresh	48-hour	EC_{50} = 7.49 mg AI/L	Not reported	Static, Measured	Immobilization	Call et al., 1980	High
Water flea (*Ceriodaphnia dubia*)	Fresh	2-day	LC_{50} = 2.48751 mg AI/L	0, 0.17, 0.33, 0.66, 0.99, 1.5 mg/L	Renewal, Measured	Mortality	Niederlehner et al., 1998	High
Water flea (*Ceriodaphnia dubia*)	Fresh	7-day	LC_{50} = 0.82917 mg AI/L	0, 0.17, 0.33, 0.66, 0.99, 1.5 mg/L	Renewal, Measured	Mortality	Niederlehner et al., 1998	High
Water flea (*Ceriodaphnia dubia*)	Fresh	7-day	NOEL = 0.331668 mg AI/L LOEL = 0.663336 mg AI/L	0, 0.17, 0.33, 0.66, 0.99, 1.5 mg/L	Renewal, Measured	Reproduction: Progeny counts/numbers	Niederlehner et al., 1998	High
Water flea (*Ceriodaphnia dubia*)	Fresh	7-day	IC_{50} = 0.663336 mg AI/L	0, 0.17, 0.33, 0.66, 0.99, 1.5 mg/L	Renewal, Measured	Reproduction: Progeny counts/numbers	Niederlehner et al., 1998	High
Brine shrimp (*Artemia salina*)	Salt	24-hour	LC_{50} = 23.21676 mg AI/L	Not reported	Aquatic-not reported, Nominal	Mortality	Sanchez-Fortun et al., 1997	Low
Brine shrimp (*Artemia salina*)	Salt	24-hour	LC_{50} = 6.63336 mg AI/L	Not reported	Aquatic-not reported, Nominal	Mortality	Sanchez-Fortun et al., 1997	Low
Brine shrimp (*Artemia salina*)	Salt	24-hour	LC_{50} = 0.331668 mg AI/L	Not reported	Aquatic-not reported, Nominal	Mortality	Sanchez-Fortun et al., 1997	Low
Opossum shrimp (*Americamysis bahia*)	Salt	96-hour	LC50 = 2.85 mg AI/L	Not reported	Flow-through, Measured	Mortality	Hollister et al., 1968	High
Opossum shrimp (*Americamysis bahia*)	Salt	6-day	NOAEL = 1.4 mg AI/L	Not reported	Flow-through, Measured	Mortality	Hollister et al., 1968	High
Opossum shrimp (*Americamysis bahia*)	Salt	7-day	LOAEL = 1.4 mg AI/L	Not reported	Flow-through, Measured	Mortality	Hollister et al., 1968	High
Opossum shrimp (*Americamysis bahia*)	Salt	28-day	NOAEL = 0.37 mg AI/L, LOAEL = 0.67 ppm	Not reported	Flow-through, Measured	Mortality	Hollister et al., 1968	High

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Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Opossum shrimp (*Americamysis bahia*)	Salt	28-day	NOAEL = 1.39 mg AI/L	Not reported	Flow-through, Measured	Reproduction: progeny counts/ numbers	Hollister et al., 1968	High
Opossum shrimp (*Americamysis bahia*)	Salt	28-day	MATC = >0.3, <0.67 mg AI/L	Not reported	Flow-through, Measured	Endpoint reported without a specific effect	Hollister et al., 1968	High
Scud (*Gammarus minus*)	Fresh	24-hour	LC_{100} = 60 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Scud (*Gammarus minus*)	Fresh	96-hour	LC_0 = 21.6 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Stonefly (*Tallaperia maria*)	Fresh	96-hour	LC_{50} = 3.6 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Pond snail, pneumonate snail (*Physa heterostropha*)	Fresh	96-hour	LC_{50} = 93.4 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Scud (*Gammarus minus*)	Fresh	96-hour	LC_{50} = 28.6 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Scud (*Gammarus annulatus*)	Salt	24-hour	LC_{100} = 21 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Scud (*Gammarus annulatus*)	Salt	24-hour	LC_{100} = 24.7 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Scud (*Gammarus annulatus*)	Salt	96-hour	LC_{50} = 9.1 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Daggerblade grass shrimp (*Palaemonetes pugio*)	Salt	24-hour	LC_0 = 2.5 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Daggerblade grass shrimp (*Palaemonetes pugio*)	Salt	24-hour	LC_0 = 2.5 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Daggerblade grass shrimp (*Palaemonetes pugio*)	Salt	24-hour	LC_{100} = 18.85 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Calanoid copepod (*Acartia tonsa*)	Salt	96-hour	LC_{50} = 13.2 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High

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Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Bay shrimp, sand shrimp (*Cragnon septemspinosa*)	Salt	96-hour	LC_{50} = 17.4 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Daggerblade grass shrimp (*Palaemonetes pugio*)	Salt	96-hour	LC_{50} = 1.3 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Polychaete worm (*Neanthes arenaceodenta ta*)	Salt	96-hour	LC_{50} = 1.3 mg AI/L	Not reported	Static, Nominal	Mortality	Horne et al., 1983	High
Flatworm (*Dugesia japonica*)	Fresh	7-day	LC_{50} = 1.4 mg AI/L	Not reported	Renewal, Nominal	Mortality	Yoshioka et al., 1986	Low
Flatworm (*Dugesia japonica*)	Fresh	7-day	EC_{50} = 0.9 mg AI/L	Not reported	Renewal, Nominal	Limb/body part regeneration	Yoshioka et al., 1986	Low
Ciliate (*Tetrahymena pyriformis*)	Not reporte d	24-hour	EC_{50} = 100 mg AI/L	Not reported	Static, Nominal	Population growth rate	Yoshioka et al., 1985	Unacceptable
Midge (*Tanytarsus dissimilis*)	Fresh	24-hour	LC_{50} = 54.6 mg AI/L	Not reported	Static, Measured	Mortality	Call et al., 1983	High
Midge (*Tanytarsus dissimilis*)	Fresh	48-hour	LC_{50} = 30.8 mg AI/L	Not reported	Static, Measured	Mortality	Call et al., 1983	High
Midge (*Tanytarsus dissimilis*)	Fresh	48-hour	EC_{50} = 7 mg AI/L	Not reported	Aquatic-not reported, Nominal	Equilibrium	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	>0, <10-hour	LC_{50} = >60, <80 mg AI/L	Not reported	Aquatic-not reported, Measured	Mortality	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	>0, <10-hour	LC_{50} = >60, <80 mg AI/L	Not reported	Aquatic-not reported, Measured	Mortality	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	>0, <10-hour	LC_{50} = ~60 mg AI/L	Not reported	Aquatic-not reported, Measured	Mortality	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	>10, <20-hour	LC_{50} = ~60 mg AI/L	Not reported	Aquatic-not reported, Measured	Mortality	Call et al., 1979	High

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Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Midge (*Tanytarsus dissimilis*)	Fresh	>20, <30-hour	LC_{50} = >40, <60 mg AI/L	Not reported	Aquatic-not reported, Measured	Mortality	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	>20, <30-hour	LC_{50} = >40, <60 mg AI/L	Not reported	Aquatic-not reported, Measured	Mortality	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	>30-, <40-hour	LC_{50} = >40, <60 mg AI/L	Not reported	Aquatic-not reported, Measured	Mortality	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	>30-, <40-hour	LC_{50} = >20, <40 mg AI/L	Not reported	Aquatic-not reported, Measured	Mortality	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	>30-, <40-hour	EC_{50} = >0, <20 mg AI/L	Not reported	Aquatic-not reported, Measured	Equilibrium	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	>30-, <40-hour	EC_{50} = >0, <20 mg AI/L	Not reported	Aquatic-not reported, Measured	Equilibrium	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	>20, <30-hour	EC_{50} = >0, <20 mg AI/L	Not reported	Aquatic-not reported, Measured	Equilibrium	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	>20, <30-hour	EC_{50} = >0, <20 mg AI/L	Not reported	Aquatic-not reported, Measured	Equilibrium	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	>10, <20-hour	EC_{50} = >0, <20 mg AI/L	Not reported	Aquatic-not reported, Measured	Equilibrium	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	>10, <20-hour	EC_{50} = >0, <20 mg AI/L	Not reported	Aquatic-not reported, Measured	Equilibrium	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	>0, <10-hour	EC_{50} = ~20 mg AI/L	Not reported	Aquatic-not reported, Measured	Equilibrium	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	>0, <10-hour	EC_{50} = ~20 mg AI/L	Not reported	Aquatic-not reported, Measured	Equilibrium	Call et al., 1979	High

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Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Midge (*Tanytarsus dissimilis*)	Fresh	>0, <10-hour	EC_{50} = >20, <40 mg AI/L	Not reported	Aquatic-not reported, Measured	Equilibrium	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	9-hour	LC_{100} = 101.8 mg/AI/L	Not reported	Aquatic-not reported, Measured	Mortality	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	< 10 hour	LC_{50} = >60, <80 mg AI/L	Not reported	Aquatic-not reported, Measured	Mortality	Call et al., 1979	High
Midge (*Tanytarsus dissimilis*)	Fresh	<10 hour	EC_{50} = >20, <40 mg AI/L	Not reported	Aquatic-not reported, Measured	Equilibrium	Call et al., 1979	High
Algae								
Green algae (*Chlamydomonas reinhardtii*)	Fresh	2-hour	EC_{20} = 8.1 mg AI/L	Not reported	Static, Nominal	Fluorescence	Brack and Frank, 1998	Unacceptable
Green algae (*Chlamydomonas reinhardtii*)	Fresh	72-hour	EC_{50} = 3.64 mg AI/L	Not reported	Static, Nominal	Biomass	Brack and Rottler, 1994	High
Green algae (*Chlamydomonas reinhardtii*)	Fresh	72-hour	EC_{10} = 1.77 mg AI/L	Not reported	Static, Nominal	Biomass	Brack and Rottler, 1994	High
Green algae (*Pseudokirchneriella subcapitata*)	Fresh	48-hour	EC_{50} = 10.54 mg AI/L	Not reported	Static, Nominal	Population growth rate	Tsai and Chen, 2007	High
Green algae (*Pseudokirchneriella subcapitata*)	Fresh	24-hour	NOAEL = 0.01 mg AI/L LOAEL = 0.02 mg AI/L	0, 0.01, 0.02, 0.05, 0.2, 0.5 mg/L	Static, Nominal	Abundance	Labra et al., 2010	Medium
Green algae (*Pseudokirchneriella subcapitata*)	Fresh	48-hour	NOAEL = 0.01 mg AI/L LOAEL = 0.02 mg AI/L	0, 0.01, 0.02, 0.05, 0.2, 0.5 mg/L	Static, Nominal	Abundance	Labra et al., 2010	Medium
Green algae (*Pseudokirchneriella subcapitata*)	Fresh	72-hour	NOAEL = 0.01 mg AI/L LOAEL = 0.02 mg AI/L	0, 0.01, 0.02, 0.05, 0.2, 0.5 mg/L	Static, Nominal	Abundance	Labra et al., 2010	Medium

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Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Green algae (*Pseudokirchneriella subcapitata*)	Fresh	72-hour	NOAEL = 0.02 mg AI/L LOAEL = 0.05 mg AI/L	0, 0.01, 0.02, 0.05, 0.2, 0.5 mg/L	Static, Nominal	Damage	Labra et al., 2010	Medium
Green algae (*Pseudokirchneriella subcapitata*)	Fresh	48-hour	NOAEL = 0.02 mg AI/L LOAEL = 0.05 mg AI/L	0, 0.01, 0.02, 0.05, 0.2, 0.5 mg/L	Static, Nominal	Damage	Labra et al., 2010	Medium
Green algae (*Pseudokirchneriella subcapitata*)	Fresh	24-hour	NOAEL = 0.02 mg AI/L LOAEL = 0.05 mg AI/L	0, 0.01, 0.02, 0.05, 0.2, 0.5 mg/L	Static, Nominal	Damage	Labra et al., 2010	Medium
Blue-green algae (*Synechococcus elongatus*)	Fresh	24-hour	LOAEL = 23 µL	0, 23 µL	Static, Nominal	Peroxidase activity	Bacsi et al., 2013	Unacceptable
Blue-green algae (*Synechococcus elongatus*)	Fresh	24-hour	LOAEL = 23 µL	0, 23 µL	Static, Nominal	Abundance	Bacsi et al., 2013	Unacceptable
Blue-green algae (*Synechococcus elongatus*)	Fresh	4-hour	LOAEL = 23 µL	0, 23 µL	Static, Nominal	Chlorophyll A concentration	Bacsi et al., 2013	Unacceptable
Blue-green algae (*Synechococcus elongatus*)	Fresh	24-hour	NOAEL = 23 µL	0, 23 µL	Static, Nominal	Chlorophyll A concentration	Bacsi et al., 2013	Unacceptable
Blue-green algae (*Synechococcus elongatus*)	Fresh	4-hour	NOAEL = 23 µL	0, 23 µL	Static, Nominal	Peroxidase activity	Bacsi et al., 2013	Unacceptable
Blue-green algae (*Synechococcus elongatus*)	Fresh	8-hour	LOAEL = 23 µL	0, 23 µL	Static, Nominal	Peroxidase activity	Bacsi et al., 2013	Unacceptable
Blue-green algae (*Synechococcus elongatus*)	Fresh	12-hour	LOAEL = 23 µL	0, 23 µL	Static, Nominal	Peroxidase activity	Bacsi et al., 2013	Unacceptable
Blue-green algae (*Synechococcus elongatus*)	Fresh	24-hour	LOAEL = 23 µL	0, 23 µL	Static, Nominal	Thiobarbituric acid reactive substances	Bacsi et al., 2013	Unacceptable

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Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Blue-green algae (*Synechococcus elongatus*)	Fresh	12-hour	LOAEL = 23 µL	0, 23 µL	Static, Nominal	Thiobarbituric acid reactive substances	Bacsi et al., 2013	Unacceptable
Blue-green algae (*Synechococcus elongatus*)	Fresh	8-hour	LOAEL = 23 µL	0, 23 µL	Static, Nominal	Thiobarbituric acid reactive substances	Bacsi et al., 2013	Unacceptable
Blue-green algae (*Synechococcus elongatus*)	Fresh	4-hour	LOAEL = 23 µL	0, 23 µL	Static, Nominal	Thiobarbituric acid reactive substances	Bacsi et al., 2013	Unacceptable
Algae (not reported)	Fresh	24-hour	LOAEL = 92 µL	0, 0, 92 µL	Lentic, Nominal	Abundance	Bacsi et al., 2013	Unacceptable
Algae (not reported)	Fresh	48-hour	LOAEL = 92 µL	0, 0, 92 µL	Lentic, Nominal	Abundance	Bacsi et al., 2013	Unacceptable
Algae (not reported)	Fresh	72-hour	LOAEL = 92 µL	0, 0, 92 µL	Lentic, Nominal	Chlorophyll A concentration	Bacsi et al., 2013	Unacceptable
Algae (not reported)	Fresh	48-hour	LOAEL = 92 µL	0, 0, 92 µL	Lentic, Nominal	Thiobarbituric acid reactive substances	Bacsi et al., 2013	Unacceptable
Algae (not reported)	Fresh	1-day	LOAEL = 150 mg AI/L	0, 150 mg/L	Lentic, Nominal	Chlorophyll A concentration	Bacsi et al., 2015	Unacceptable
Algae (not reported)	Fresh	2-day	LOAEL = 150 mg AI/L	0, 150 mg/L	Lentic, Nominal	Chlorophyll A concentration	Bacsi et al., 2015	Unacceptable
Algae (not reported)	Fresh	3-day	NOAEL = 150 mg AI/L	0, 150 mg/L	Lentic, Nominal	Chlorophyll A concentration	Bacsi et al., 2015	Unacceptable
Algae (not reported)	Fresh	3-day	NOAEL = 150 mg AI/L	0, 150 mg/L	Lentic, Nominal	Abundance	Bacsi et al., 2015	Unacceptable
Algae (not reported)	Fresh	2-day	NOAEL = 150 mg AI/L	0, 150 mg/L	Lentic, Nominal	Abundance	Bacsi et al., 2015	Unacceptable
Algae (not reported)	Fresh	1-day	LOAEL = 150 mg AI/L	0, 150 mg/L	Lentic, Nominal	Abundance	Bacsi et al., 2015	Unacceptable
Algae (not reported)	Fresh	1-day	LOAEL = 150 mg AI/L	0, 150 mg/L	Lentic, Nominal	Diversity, evenness	Bacsi et al., 2015	Unacceptable
Algae (not reported)	Fresh	2-day	LOAEL = 150 mg AI/L	0, 150 mg/L	Lentic, Nominal	Diversity, evenness	Bacsi et al., 2015	Unacceptable
Algae (not reported)	Fresh	3-day	NOAEL = 150 mg AI/L	0, 150 mg/L	Lentic, Nominal	Diversity, evenness	Bacsi et al., 2015	Unacceptable
Algae (not reported)	Fresh	1-day	LOAEL = 150 mg AI/L	0, 150 mg/L	Lentic, Nominal	Chlorophyll A concentration	Bacsi et al., 2015	Unacceptable

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Test Species	**Fresh/ Salt Water**	**Duration**	**End-point**	**Concentration(s)**	**Test Analysis**	**Effect(s)**	**References**	**Data Quality Evaluation**
Algae (not reported)	Fresh	2-day	LOAEL = 150 mg AI/L	0, 150 mg/L	Lentic, Nominal	Abundance	Bacsi et al., 2015	Unacceptable
Algae (not reported)	Fresh	3-day	NOAEL = 150 mg AI/L	0, 150 mg/L	Lentic, Nominal	Abundance	Bacsi et al., 2015	Unacceptable
Algae (not reported)	Fresh	3-day	NOAEL = 150 mg AI/L	0, 150 mg/L	Lentic, Nominal	Diversity, Evenness	Bacsi et al., 2015	Unacceptable
Amphibians								
Wood frog (*Lithobates sylvaticus*)	Fresh	96-hour	EC_{50} = 7.8 mg AI/L	0, 2.5, 7.5, 12.5, 20, 30, 45 mg/L	Renewal, Measured	Deformation	McDaniel et al., 2004	High
Bronze frog (*Lithobates clamitans ssp. Clamitans*)	Fresh	96-hour	EC_{50} = 7.9 mg AI/L	0, 2.5, 7.5, 12.5, 20, 30, 45 mg/L	Renewal, Measured	Deformation	McDaniel et al., 2004	High
American toad (*Bufo americanus*)	Fresh	96-hour	EC_{50} >45 mg AI/L	0, 2.5, 7.5, 12.5, 20, 30, 45 mg/L	Renewal, Nominal	Deformation	McDaniel et al., 2004	High
Spotted salamander (*Ambystoma maculatum*)	Fresh	96-hour	EC_{50} = 14.5 mg AI/L	0, 2.5, 7.5, 12.5, 20, 30, 45 mg/L	Renewal, Measured	Deformation	McDaniel et al., 2004	Medium
Fungi								
Fungi (*Aspergillus versicolor*)	Fresh	~30-hour	LT_{50} = 1,900 mg AI/L	0, 1,900 mg/L	Static, Not reported	Mortality	Steiman et al., 1995	Low
Fungi (*Aspergillus cejpii*)	Fresh	~20-hour	LT_{50} = 1,900 mg AI/L	0, 1,900 mg/L	Static, Not reported	Mortality	Steiman et al., 1995	Low
Fungi (*Coniothrium sp.*)	Fresh	~30-hour	LT_{50} = 1,900 mg AI/L	0, 1,900 mg/L	Static, Not reported	Mortality	Steiman et al., 1995	Low
Fungi (*Acremonium tubakii*)	Fresh	~30-hour	LT_{50} = 1,900 mg AI/L	0, 1,900 mg/L	Static, Not reported	Mortality	Steiman et al., 1995	Low
Fungi Class: *Basidiomycetes*	Fresh	~20-hour	LT_{50} = 1,900 mg AI/L	0, 1,900 mg/L	Static, Not reported	Mortality	Steiman et al., 1995	Low
Fungi Class:, *Basidiomycetes*	Fresh	~10-hour	LT_{50} = 1,900 mg AI/L	0, 1,900 mg/L	Static, Not reported	Mortality	Steiman et al., 1995	Low
Fungi (*Phoma putaminum*)	Fresh	~30-hour	LT_{50} = 1,900 mg AI/L	0, 1,900 mg/L	Static, Not reported	Mortality	Steiman et al., 1995	Low