

# Final Risk Evaluation for Trichloroethylene

### Systematic Review Supplemental File:

#### **Data Extraction for Environmental Hazard Studies**

#### CASRN: 79-01-6



November 2020

## **Environmental Hazard Data Extraction Table for Trichloroethylene (TCE)**

Test Species	Fresh/ Salt	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality Evaluation
<b>T</b> : 1	Water							
Fish								
Bluegill (Lepomis macrochirus)	Fresh	24-hour	$LC_{50} = >68,$ <100 mg/L	Not reported	Static, Nominal, Solvent: unknown	Mortality	( <u>Buccafusco et al.,</u> <u>1981</u> )	Medium
Bluegill (Lepomis macrochirus)	Fresh	96-hour	$LC_{50} = 45 \text{ mg/L}$	Not reported	Static, Nominal, Solvent: unknown	Mortality	( <u>Buccafusco et al.,</u> <u>1981</u> )	Medium
Fathead minnow (Pimephales promelas)	Fresh	96-hour	$LC_{50} = 44.1 \text{ mg}$ AI/L	<0.01, 8.43-9.64, 15.3-15.9, 27.1- 27.8, 43.4-44.8, 76.6-77.3 mg/L	Flow-through, Measured	Mortality	( <u>Geiger et al.,</u> <u>1985</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	24-hour	$LC_{50} = 52.4 \text{ mg}$ AI/L*	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Mortality	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	24-hour	$LC_{10} = 34.7 \text{ mg}$ AI/L*	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Mortality	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	24-hour	$LC_{90} = 79.1 \text{ mg}$ AI/L*	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Mortality	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	48-hour	$LC_{50} = 53.3 \text{ mg}$ AI/L*	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Mortality	( <u>Alexander et al.,</u> <u>1978</u> )	High

<sup>\*</sup> Purity was not reported, so value is as reported by authors.

Test Species	Fresh/ Salt	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality Evaluation
Fathead minnow (Pimephales promelas)	Fresh	48-hour	$LC_{10} = 27.7 \text{ mg}$ AI/L <sup>*</sup>	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Mortality	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	48-hour	$LC_{90} = 102.6$ mg AI/L*	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Mortality	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	72-hour	$\begin{array}{c} LC_{50}=39.0 \text{ mg} \\ \text{AI/L}^{*} \end{array}$	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Mortality	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	72-hour	$LC_{10} = 20.9 \text{ mg}$ $AI/L^*$	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Mortality	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	72-hour	$LC_{90} = 72.6 \text{ mg}$ AI/L*	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Mortality	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	96-hour	$\begin{array}{c} LC_{50} = 40.7 \mbox{ mg} \\ AI/L^{*} \end{array}$	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Mortality	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	96-hour	$\frac{LC_{10} = 17.4 \text{ mg}}{AI/L^*}$	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Mortality	( <u>Alexander et al.,</u> <u>1978</u> )	High

<sup>\*</sup> Purity was not reported, so value is as reported by authors.

Test Species	Fresh/ Salt	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality Evaluation
Fathead minnow (Pimephales promelas)	Water Fresh	96-hour	$LC_{90} = 95.0 \text{ mg}$ AI/L*	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Mortality	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	96-hour	$\begin{array}{c} LC_{50}=66.8 \text{ mg}\\ \text{AI/L}^* \end{array}$	Not reported	Static, Nominal, Solvent: Methyl or ethyl alcohol	Mortality	( <u>Alexander et al.,</u> <u>1978</u> )	Medium
Fathead minnow (Pimephales promelas)	Fresh	24-hour	$EC_{50} = 23 \text{ mg}$ AI/L*	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Loss of equilibrium	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	24-hour	$\frac{\text{EC}_{10} = 15.2 \text{ mg}}{\text{AI/L}^*}$	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Loss of equilibrium	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	24-hour	$EC_{90} = 16.2 \text{ mg}$ $AI/L^*$	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Loss of equilibrium	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	48-hour	$\frac{\text{EC}_{50} = 22.7 \text{ mg}}{\text{AI/L}^*}$	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Loss of equilibrium	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	48-hour	$EC_{10} = 16.9 \text{ mg}$ AI/L*	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Loss of equilibrium	( <u>Alexander et al.,</u> <u>1978</u> )	High

<sup>\*</sup> Purity was not reported, so value is as reported by authors.

Test Species	Fresh/ Salt	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality Evaluation
Fathead minnow (Pimephales promelas)	Fresh	48-hour	EC <sub>90</sub> = 30.6 mg AI/L*	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Loss of equilibrium	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	72-hour	$\frac{EC_{50} = 22.2 \text{ mg}}{AI/L^*}$	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Loss of equilibrium	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	72-hour	EC <sub>10</sub> = 15.5 mg AI/L*	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Loss of equilibrium	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	72-hour	$EC_{90} = 31.3 \text{ mg}$ AI/L*	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Loss of equilibrium	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	96-hour	$\frac{EC_{50} = 21.9 \text{ mg}}{AI/L^*}$	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Loss of equilibrium	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	96-hour	EC <sub>10</sub> = 13.7 mg AI/L*	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Loss of equilibrium	( <u>Alexander et al.,</u> <u>1978</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	96-hour	$EC_{90} = 34.9 \text{ mg}$ $AI/L^*$	Not reported	Flow-through, Measured, Solvent: Methyl or ethyl alcohol	Loss of equilibrium	( <u>Alexander et al.,</u> <u>1978</u> )	High

<sup>\*</sup> Purity was not reported, so value is as reported by authors.

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt Water							Evaluation
Fathead minnow (Pimephales promelas)	Fresh	32-day	EC <sub>50</sub> = 10.8 mg AI/L (Test 3)	Not reported	Flow-through, Measured	Growth: Wet weight	( <u>Broderius et al.,</u> 2005)	High
Fathead minnow (Pimephales promelas)	Fresh	32-day	$EC_{20} = 7.59 mg$ AI/L (Test 3)	Not reported	Flow-through, Measured	Growth: Wet weight	( <u>Broderius et al.,</u> <u>2005</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	96-hour	$LC_{50} = 55.2 \text{ mg}$ AI/L (Test 1)	Not reported	Flow-through, Measured	Mortality	( <u>Broderius et al.,</u> <u>2005</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	96-hour	LC <sub>50</sub> = 40.5 mg AI/L (Test 2)	Not reported	Flow-through, Measured	Mortality	( <u>Broderius et al.,</u> <u>2005</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	96-hour	$LC_{50} = 45.7 \text{ mg}$ AI/L (Test 3)	Not reported	Flow-through, Measured	Mortality	(Broderius et al., 2005)	High
Fathead minnow (Pimephales promelas)	Fresh	32-day	$\frac{\text{EC}_{50} = 11.9 \text{ mg}}{\text{AI/L (Test 1)}}$	Not reported	Flow-through, Measured	Growth: Wet weight	( <u>Broderius et al.,</u> <u>2005</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	32-day	$EC_{20} = 7.93 \text{ mg}$ AI/L (Test 1)	Not reported	Flow-through, Measured	Growth: Wet weight	( <u>Broderius et al.,</u> <u>2005</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	32-day	$\frac{\text{EC}_{50} = 10.5 \text{ mg}}{\text{AI/L (Test 2)}}$	Not reported	Flow-through, Measured	Growth: Wet weight	( <u>Broderius et al.,</u> <u>2005</u> )	High
Fathead minnow (Pimephales promelas)	Fresh	32-day	$\frac{EC_{20} = 7.71 \text{ mg}}{AI/L \text{ (Test 2)}}$	Not reported	Flow-through, Measured	Growth: Wet weight	( <u>Broderius et al.,</u> <u>2005</u> )	High
Fathead minnow (Pimephales promelas)	Cutlure medium	24-hour	EC <sub>50</sub> = 11,600 mg/L	Not reported	In vitro, Nominal, Carrier: liquid paraffin	Inhibition of total protein content	( <u>Dierickx</u> , 1993)	Low
Flagfish (Jordanella floridae)	Fresh	96-hour	$LC_{50} = 28.28$ mg AI/L	Not reported	Flow-through, Measured, Solvent: Acetone	Mortality	( <u>Smith et al., 1991</u> )	High

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt							Evaluation
	Water							
Flagfish	Fresh	12, 24, 36,	$LC_{50} = 29.46$	Not reported	Flow-through,	Mortality	(Smith et al., 1991)	High
(Jordanella		48, 72-	mg AI/L		Measured, Solvent:			
floridae)		hour			Acetone			
Flagfish	Fresh	96-hour	$LC_{50} = 3.1 \text{ mg/L}$	Not reported	Renewal, Nominal,	Mortality	(Smith et al., 1991)	Medium
(Jordanella					Solvent: Acetone			
floridae)								
Flagfish	Fresh	10-day	LOEC > 21.2	0, 1.683, 2.301,	Flow-through,	Egg hatchability	(Smith et al., 1991)	High
(Jordanella			mg AI/L	4.355, 5.758, 21.233	Measured, Solvent:			
floridae)				mg/L	Acetone			
Flagfish	Fresh	10-day	LOEC = 11 mg	0, 1.683, 2.301,	Flow-through,	Larval survival	(Smith et al., 1991)	High
(Jordanella			AI/L	4.355, 5.758, 21.233	Measured,			
floridae)				mg/L	Solvent: Acetone			
Flagfish	Fresh	28-day	LOEC = 14.85	0, 2.516, 3.623,	Flow-through,	Fry survival	( <u>Smith et al., 1991</u> )	High
(Jordanella			mg AI/L	7.769, 10.568,	Measured,			
floridae)				20.915 mg/L	Solvent: Acetone			
Flagfish	Fresh	28-day	LOEC >20.9	0, 2.516, 3.623,	Flow-through,	Fry growth	(Smith et al., 1991)	High
(Jordanella			mg AI/L	7.769, 10.568,	Measured, Solvent:			
floridae)				20.915 mg/L	Acetone			
Japanese medaka	Fresh	10-day	$LC_{50} = 82 \text{ mg}$	54, 59, 65, 72, 79,	Renewal, Nominal	Mortality	( <u>Schell, 1987</u> )	High
(Oryzias latipes)			AI/L	87 mg/L				
Japanese medaka	Fresh	10-day	$LC_{100} = 100 \text{ mg}$	54, 59, 65, 72, 79,	Renewal, Nominal	Mortality	( <u>Schell, 1987</u> )	High
(Oryzias latipes)			AI/L	87 mg/L				
Japanese medaka	Fresh	10-day	NOEC = 40 mg	54, 59, 65, 72, 79,	Renewal, Nominal	Mortality	( <u>Schell, 1987</u> )	High
(Oryzias latipes)			AI/L	87 mg/L				
Rose bitterling	Fresh	24-hour	NOAEL $= 30$	0, 0.03, 0.3, 3, 30	Static, Nominal	Micronuclei	( <u>Hayashi et al.,</u>	Medium
(Rhodeus			mg AI/L	mg/L (exposure			<u>1998</u> )	
ocellatus)				group 1)				
Rose bitterling	Fresh	24-hour	NOAEL $= 30$	0, 0.03, 0.3, 3, 30	Static, Nominal	Chromosomal	( <u>Hayashi et al.,</u>	Medium
(Rhodeus			mg AI/L	mg/L (exposure		aberrations,	<u>1998</u> )	
ocellatus)				group 1)		structural		
Rose bitterling	Fresh	24-hour	NOAEL $= 30$	0, 0.03, 0.3, 3, 30	Static, Nominal	Chromosomal	( <u>Hayashi et al.,</u>	Medium
(Rhodeus			mg AI/L	mg/L (exposure		aberrations,	<u>1998</u> )	
ocellatus)				group 1)		numerical		
Rose bitterling	Fresh	24-hour	NOAEL $= 300$	0, 0.03, 0.3, 3, 30,	Static, Nominal	Chromosomal	( <u>Hayashi et al.,</u>	Medium
(Rhodeus			mg AI/L	300 mg/L (exposure		aberrations,	<u>1998</u> )	
ocellatus)				group 2)		structural		

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt							Evaluation
Poso hittorling	Frach	24 hour	NOAEL = 200	0 0 02 0 2 2 20	Statia Nominal	Chromosomal	(Havashi at al	Madium
(Rhodeus	riesii	24-110u1	$m_{\sigma} \Delta I/I$	0, 0.05, 0.5, 5, 50, 300  mg/L (exposure	Static, Nominal	aberrations	( <u>Hayasiii et al.,</u> 1998)	Medium
ocellatus)			ing / ii/ L	group 2)		numerical	<u>1770</u> )	
Rose bitterling	Fresh	24-hour	NOAEL = 300	0, 0.03, 0.3, 3, 30,	Static, Nominal	Micronuclei	(Havashi et al.,	Medium
(Rhodeus			mg AI/L	300 mg/L (exposure			1998)	
ocellatus)			U	group 2)			/	
Rose bitterling	Fresh	24-hour	NOAEL = 300	0, 300, 3,000 mg/L	Static, Nominal	Chromosomal	(Hayashi et al.,	Medium
(Rhodeus			mg AI/L	(exposure group 3)		aberrations,	<u>1998</u> )	
ocellatus)			LOAEL = 3,000			structural		
			mg AI/L					
Rose bitterling	Fresh	24-hour	NOAEL = 300	0, 300, 3,000 mg/L	Static, Nominal	Chromosomal	( <u>Hayashi et al.,</u>	Medium
(Rhodeus			mg AI/L	(exposure group 3)		aberrations,	<u>1998</u> )	
ocellatus)			LOAEL = 3,000			numerical		
D 110 11	<b>F</b> 1	24.1	mg Al/L	0.000.0000				
Rose bitterling	Fresh	24-hour	NOAEL = $300$	0, 300, 3,000 mg/L	Static, Nominal	Micronuclei	( <u>Hayashi et al.,</u>	Medium
(Rhodeus			mg Al/L	(exposure group 3)			<u>1998</u> )	
ocellatus)			LOAEL = 3,000					
Sheensheed	Salt	06 hour	$\frac{\text{IIIg AI/L}}{\text{I C}_{10} - 90 \text{ mg}}$	0 14 34 78 148	Static Measured	Mortality	(Ward et al. 1986)	Medium
minnow	San	90-110u1	$\Delta I/I$ (based on	0, 14, 34, 70, 140, 357 mg/I	Static, Measured	wortanty	( <u>waite et al., 1980</u> )	Wiedium
(Cyprinodon			initial meas	557 mg/L				
(Cyprinouon variegatus)			conc.)					
Sheepshead	Salt	96-hour	$LC_{50} = 52 \text{ mg}$	0, 14, 34, 78, 148,	Static, Measured	Mortality	(Ward et al., 1986)	Medium
minnow	Suit	<i>y</i> 0 110 ul	AI/L	357 mg/L		11101101110	( <u>++ ui u vt uii, 1&gt;00</u> )	1,10010111
(Cyprinodon								
variegatus)								
Sheepshead	Salt	96-hour	LOAEL = 357	0, 14, 34, 78, 148,	Static, Measured	Intoxication	(Ward et al., 1986)	Medium
minnow			mg AI/L	357 mg/L				
(Cyprinodon								
variegatus)								
Japanese medaka	Fresh	48-hour	$LC_{50} = 1.9 \text{ mg}$	Not reported	Static, Nominal	Mortality	(Yoshioka et al.,	Unacceptable
(Orizias latipes)			AI/L				<u>1986</u> )	
Bluegill (Lepomis	Fresh	14-day	BCF = 17	0.00823 mg/L	Flow-through,	Residue	(Barrows et al.,	Unacceptable
macrochirus)				(mean water	Measured		<u>1980</u> )	
				concentration)				

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt							Evaluation
Bluegill (Lenomis	Fresh	14-day	Half-Life in	0.00823 mg/I	Flow-through	Half-Life of mean	(Barrows et al	Unaccentable
macrochirus)	1 10311	14-day	Tissue $< 1$ day	(mean water	Measured	measured	( <u>Dariows et al.,</u> 1980)	Onacceptable
				concertation)		residue	<u></u> ,	
				,		concentration in		
						tissues		
Golden orf	Fresh	48-hour	$LC_{50} = 120 \text{ mg}$	Not reported	Flow-through,	Mortality	(Umweltbundesam	Unacceptable
(Leuciscus idus)			AI/L		Measured		<u>t, 1984</u> )	
Zebrafish	Fresh	14-day	BCF = 12	2.5 mg/L	Semi-static,	Residue	(Umweltbundesam	Unacceptable
(Brachydanio			(initial		Measured		<u>t, 1984</u> )	
rerio)			concentration)					
Zebrafish	Fresh	14-day	BCF = 65	2.5 mg/L	Semi-static,	Residue	(Umweltbundesam	Unacceptable
(Brachydanio			(concentration		Measured		<u>t, 1984</u> )	
rerio)			after 48 hours)		a	<b>D</b> 11		<b>XX</b>
Zebrafish	Fresh	14-day	BCF = 19	2.5 mg/L	Semi-static,	Residue	(Umweltbundesam	Unacceptable
(Brachydanio			(concentration		Measured		<u>t, 1984</u> )	
rerio)			after 48 hours)					
Aquatic Invertebra	tes Enab	40 1	EC	Not non onto d	Statia Maninal	I	(Alsomethes et al	Madian
(Danhnia magna)	Fresh	48-nour	$EC_{50} =$	Not reported	Static, Nominal	Immobilization	( <u>Abernetny et al.</u> ,	Medium
(Daphnia magna)			7.7519451 mg				<u>1980</u> )	
Water flea	Fresh	48-hour	NOFC - 2.2	Not reported	Static Nominal	Mortality	(LeBlanc 1980)	High
(Daphnia magna)	1 10311	40 11001	mg/L	Not reported	Solvent: Unknown	Wortanty	( <u>LeDiane, 1900</u> )	mgn
Water flea	Fresh	48-hour	$LC_{50} = 18 \text{ mg/L}$	Not reported	Static, Nominal.	Mortality	(LeBlanc, 1980)	High
(Daphnia magna)			- 30 - 8	···· · <u>r</u> · ····	Solvent: Unknown			8
Water flea	Fresh	24-hour	$LC_{50} = 22 \text{ mg/L}$	Not reported	Static, Nominal,	Mortality	(LeBlanc, 1980)	High
(Daphnia magna)					Solvent: Unknown			
Water flea	Fresh	7-day	Minimum	0, 0, 0.62, 1.2, 2.5,	Flow-through,	Reproduction:	(Leblanc and	Unacceptable
(Daphnia magna)			Threshold	5.0, 10 mg/L	Nominal, Solvent:	Number of young	Surprenant, 1980)	
			Concentration		Triethylene glycol	produced per		
			(MTC) = >10,			adult		
XX - t Cl	<b>T</b> 1	14.1.	<18  mg Al/L	0 0 0 (2 1 2 2 5	<b>D</b> 1. (1	Daniel	(T. 1.1 1	TT
Water flea	Fresh	14-day	MIC = >10,	0, 0, 0.62, 1.2, 2.5,	Flow-through,	Keproduction:	(Leblanc and	Unacceptable
(Daphnia magna)			<18 mg AI/L	5.0, 10  mg/L	Triothylana alver1	number of young	Surprenant, 1980)	
					Thethylene glycol	produced per		
						adult		

Test Species	Fresh/	Duration	<b>End-point</b>	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt							Evaluation
	Water							
Water flea	Fresh	21-day	MTC = >10,	0, 0, 0.62, 1.2, 2.5,	Flow-through,	Reproduction:	(Leblanc and	Unacceptable
(Daphnia magna)			<18 mg AI/L	5.0, 10 mg/L	Nominal, Solvent:	Number of young	Surprenant, 1980)	
					Triethylene glycol	produced per		
						adult		
Water flea	Fresh	14-day	NOAEL = 10	0, 0, 0.62, 1.2, 2.5,	Flow-through,	Mortality	(Leblanc and	Unacceptable
(Daphnia magna)			mg AI/L	5.0, 10 mg/L	Nominal, Solvent:		Surprenant, 1980)	
					Triethylene glycol			
Water flea	Fresh	21-day	NOAEL = 10	0, 0, 0.62, 1.2, 2.5,	Flow-through,	Mortality	(Leblanc and	Unacceptable
(Daphnia magna)			mg AI/L	5.0, 10 mg/L	Nominal, Solvent:		Surprenant, 1980)	
					Triethylene glycol			
Water flea	Fresh	14-day	MTC = >10,	0, 0, 0.62, 1.2, 2.5,	Flow-through,	Mortality	(Leblanc and	Unacceptable
(Daphnia magna)			<18 mg AI/L	5.0, 10 mg/L	Nominal, Solvent:		Surprenant, 1980)	
					Triethylene glycol			
Water flea	Fresh	21-day	MTC = >10,	0, 0, 0.62, 1.2, 2.5,	Flow-through,	Mortality	(Leblanc and	Unacceptable
(Daphnia magna)			<18 mg AI/L	5.0, 10 mg/L	Nominal, Solvent:		Surprenant, 1980)	
					Triethylene glycol			
Water flea	Fresh	7-day	NOAEL = 10	0, 0, 0.62, 1.2, 2.5,	Flow-through,	Mortality	(Leblanc and	Unacceptable
(Daphnia magna)			mg AI/L	5.0, 10 mg/L	Nominal, Solvent:		Surprenant, 1980)	
					Triethylene glycol			
Water flea	Fresh	7-day	NOAEL = 10	0, 0, 0.62, 1.2, 2.5,	Flow-through,	Reproduction:	(Leblanc and	Unacceptable
(Daphnia magna)			mg AI/L	5.0, 10 mg/L	Nominal, Solvent:	Number of young	Surprenant, 1980)	
					Triethylene glycol	produced per		
						adult		
Water flea	Fresh	14-day	NOAEL = 10	0, 0, 0.62, 1.2, 2.5,	Flow-through,	Reproduction:	(Leblanc and	Unacceptable
(Daphnia magna)			mg AI/L	5.0, 10 mg/L	Nominal, Solvent:	Number of young	Surprenant, 1980)	
					Triethylene glycol	produced per		
						adult		
Water flea	Fresh	21-day	NOAEL = 10	0, 0, 0.62, 1.2, 2.5,	Flow-through,	Reproduction:	(Leblanc and	Unacceptable
(Daphnia magna)			mg AI/L	5.0, 10 mg/L	Nominal, Solvent:	Number of young	Surprenant, 1980)	
					Triethylene glycol	produced per		
						adult		
Water flea	Fresh	7-day	MTC = >10,	0, 0, 0.62, 1.2, 2.5,	Flow-through,	Mortality	(Leblanc and	Unacceptable
(Daphnia magna)			<18 mg AI/L	5.0, 10 mg/L	Nominal, Solvent:		Surprenant, 1980)	
					Triethylene glycol			
Water flea	Fresh	24-hour	$LC_{50} = 43.14$	0, 5, 10, 20, 30, 40,	Aquatic-not reported,	Mortality	(Dobaradaran et	Medium
(Daphnia magna)			mg/L	50, 75, 100 mg/L	Nominal		<u>al., 2012</u> )	

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
-	Salt		-					Evaluation
	Water							
Water flea	Fresh	48-hour	$LC_{50} = 33.85$	0, 5, 10, 20, 30, 40,	Aquatic-not reported,	Mortality	(Dobaradaran et	Medium
(Daphnia magna)			mg/L	50, 75, 100 mg/L	Nominal		<u>al., 2012</u> )	
Water flea	Fresh	72-hour	$LC_{50} = 28.39$	0, 5, 10, 20, 30, 40,	Aquatic-not reported,	Mortality	(Dobaradaran et	Medium
(Daphnia magna)			mg/L	50, 75, 100 mg/L	Nominal		<u>al., 2012</u> )	
Water flea	Fresh	96-hour	$LC_{50} = 26.55$	0, 5, 10, 20, 30, 40,	Aquatic-not reported,	Mortality	( <u>Dobaradaran et</u>	Medium
(Daphnia magna)			mg/L	50, 75, 100 mg/L	Nominal		<u>al., 2012</u> )	
Water flea	Fresh	10-day	NOAEL = 0.01	0, 0, 0.0001, 0.001,	Renewal, Nominal,	Glutathione S-	(Houde et al.,	High
(Daphnia magna)			mg AI/L	0.01 mg/L	Solvent: Methanol	transferase gene	<u>2015</u> )	
						expression		
Water flea	Fresh	10-day	NOAEL = 0.01	0, 0, 0.0001, 0.001,	Renewal, Nominal,	Ecdysone	(Houde et al.,	High
(Daphnia magna)			mg AI/L	0.01 mg/L	Solvent: Methanol	receptor A1 gene	<u>2015</u> )	
						expression		
Water flea	Fresh	10-day	NOAEL = 0.01	0, 0, 0.0001, 0.001,	Renewal, Nominal,	Ecdysone	( <u>Houde et al.,</u>	High
(Daphnia magna)			mg AI/L	0.01 mg/L	Solvent: Methanol	receptor B	<u>2015</u> )	
						isoform gene		
						expression		
Water flea	Fresh	10-day	NOAEL $= 0.01$	0, 0, 0.0001, 0.001,	Renewal, Nominal,	Vitellogenin 1	( <u>Houde et al.,</u>	High
(Daphnia magna)			mg Al/L	0.01 mg/L	Solvent: Methanol	gene expression	<u>2015</u> )	
Water flea	Fresh	10-day	NOAEL $= 0.01$	0, 0, 0.0001, 0.001,	Renewal, Nominal,	Vitellogenin 2	( <u>Houde et al.,</u>	High
(Daphnia magna)	<b>F</b> 1	10.1	mg Al/L	0.01 mg/L	Solvent: Methanol	gene expression	<u>2015</u> )	<b>XX</b> 1
Water flea	Fresh	10-day	NOAEL =	0, 0, 0.0001, 0.001,	Renewal, Nominal,	Chitinase activity	( <u>Houde et al.,</u>	Hıgh
(Daphnia magna)			0.001 mg AI/L	0.01 mg/L	Solvent: Methanol		<u>2015</u> )	
			LOAEL = 0.01					
Western Chara	Engl	10.1	mg AI/L	0 0 0 0001 0 001	D	X7'+ 11		TT' 1
(Danhuia maana)	Fresh	10-day	NOAEL = $0.01$	0, 0, 0.0001, 0.001, 0.001, 0.001	Kenewal, Nominal,	vitellogenin-like	$(\underline{\text{Houde et al.}}, 2015)$	High
(Daphnia magna)			IIIg AI/L	0.01 mg/L	Solvent. Methanol	protein	<u>2015</u> )	
Water flee	Frash	10 day	NOAEL = 0.01	0 0 0 0001 0 001	Panawal Naminal	Growth: body	(Houda at al	High
(Daphnia magna)	Piesii	10-uay	$mg \Lambda I/I$	0, 0, 0.0001, 0.001, 0.001, 0.001, 0.01	Solvent: Methanol	length	(110000  et al., 2015)	Ingn
(Duplinia magna) Water flea	Fresh	10 day	$\frac{110}{100}$ AFL $= 0.01$		Renewal Nominal	Reproduction:	(Houde et al	High
(Daphnia magna)	Piesii	10-uay	mg AI/I	0, 0, 0.0001, 0.001, 0.001, 0.001, 0.01	Solvent: Methanol	Time to first	( <u>110ude et al.,</u> 2015)	Ingn
(Dapinia magna)			1115 / 11/ L2	0.01 mg/L	Sorvent. Methanor	brood	2015)	
Water flea	Fresh	10-dav	NOAEL = 0.01	0 0 0 0001 0 001	Renewal Nominal	Reproduction:	(Houde et al	High
(Danhnia magna)	110511	10 auy	mg AI/L	0.01  mg/L	Solvent: Methanol	Number of	2015)	111,511
(=p				0101 mg 2		neonates	<u>=010</u> )	

Test Species	Fresh/	Duration	End-point	<b>Concentration</b> (s)	Test Analysis	Effect(s)	References	Data Quality
-	Salt		-					Evaluation
	Water							
Water flea	Fresh	10-day	NOAEL = 0.01	0, 0, 0.0001, 0.001,	Renewal, Nominal,	Reproduction:	(Houde et al.,	High
(Daphnia magna)			mg AI/L	0.01 mg/L	Solvent: Methanol	Total number of	<u>2015</u> )	
						molts		
Water flea	Fresh	10-day	NOAEL = 0.01	0, 0, 0.0001, 0.001,	Renewal, Nominal,	Nitric oxide	(Houde et al.,	High
(Daphnia magna)			mg AI/L	0.01 mg/L	Solvent: Methanol	synthase 2 gene	<u>2015</u> )	
		10.1				expression		~~
Water flea	Fresh	10-day	NOAEL $= 0.01$	0, 0, 0.0001, 0.001,	Renewal, Nominal,	Juvenile hormone	( <u>Houde et al.,</u>	High
(Daphnia magna)			mg Al/L	0.01 mg/L	Solvent: Methanol	esterase isoform	<u>2015</u> )	
						A gene		
	<b>.</b>	10.1		0 0 0 0001 0 001		expression		<b>TTT T</b>
Water flea	Fresh	10-day	NOAEL $= 0.01$	0, 0, 0.0001, 0.001,	Renewal, Nominal,	Vitelline outer	( <u>Houde et al.,</u>	Hıgh
(Daphnia magna)			mg Al/L	0.01 mg/L	Solvent: Methanol	layer membrane	<u>2015</u> )	
						protein I gene		
	<b>.</b>	10.1		0 0 0 0001 0 001		expression		<b>TTT T</b>
Water flea	Fresh	10-day	NOAEL $= 0.01$	0, 0, 0.0001, 0.001,	Renewal, Nominal,	Retinoid X	( <u>Houde et al.,</u>	Hıgh
(Daphnia magna)			mg Al/L	0.01 mg/L	Solvent: Methanol	Receptor alpha	<u>2015</u> )	
XX	<b>F</b> 1	0.1	L.C.	0 1 51 0 15 5 10		gene expression		TT' 1
Water flea	Fresh	2-day	$LC_{50} =$	0, 1.71, 3.15, 7.10,	Renewal, Measured	Mortality	( <u>Niederlehner et</u>	Hıgh
(Ceriodaphnia			17.080557 mg	11.8, 27.85 mg/L			<u>al., 1998</u> )	
dubia)	<b>T</b> 1		Al/L	0 1 51 0 15 5 10				<b>XX</b> 1
Water flea	Fresh	7-day	$LC_{50} =$	0, 1.71, 3.15, 7.10,	Renewal, Measured	Mortality	( <u>Niederlehner et</u>	Hıgh
(Ceriodaphnia			16.9491681 mg	11.8, 27.85 mg/L			<u>al., 1998</u> )	
dubia)	<b>F</b> 1		Al/L	0 1 51 0 15 5 10		D 1		TT' 1
Water flea	Fresh	/-day	NOEL =	0, 1./1, 3.15, /.10,	Renewal, Measured	Reproduction:	( <u>Niederlehner et</u>	High
(Cerioaaphnia			7.0950006 mg	11.8, 27.85 mg/L		mean number of	<u>al., 1998</u> )	
aubia)			AI/L LOEL =			young		
			11.825001 mg					
Watar flag	Enab	7 .4	AI/L IC	0 1 71 2 15 7 10	Deneral Measured	Denne de etiene	(Ni a da al alaman at	II: -1
(Corrigod ambasis	Fresh	/-day	$IC_{50} =$	0, 1./1, 5.15, /.10, 11.9.27.95 ma/	Kenewai, Measured	mean number of	( <u>iviederienner et</u>	High
(Cerioaaphnia			10.7738898 mg	11.8, 27.85 mg/L		mean number of	<u>al., 1998</u> )	
Dring shuirra	C -14	24 1	AI/L	Not non-anta d	Stat:-	young Montalitat	(Conchag Fortune )	I.e
Brine snrimp	Sait	24-nour	$LC_{50} = 30.2$	inot reported	Static, Nominal Salvart	wortality, for	( <u>Sanchez-Fortun et</u>	LOW
(Artemia salina)			mg/L		nominal, Solvent:	sump starting at	<u>ai., 1997</u> )	
	1		1		ethanoi	24-nours old		

<sup>\*</sup> Purity was not reported, so value is as reported by authors.

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt							Evaluation
Brine shrimp (Artemia salina)	Salt	24-hour	$LC_{50} = 5.3 \ mg/L^*$	Not reported	Static, Nominal, Solvent: ethanol	Mortality, for shrimp starting at 48-hours old	( <u>Sanchez-Fortun et</u> <u>al., 1997</u> )	Low
Brine shrimp (Artemia salina)	Salt	24-hour	$\begin{array}{c} LC_{50}=0.92\\ mg/L^{*} \end{array}$	Not reported	Static, Nominal, Solvent: ethanol	Mortality, for shrimp starting at 72-hours old	(Sanchez-Fortun et al., 1997)	Low
Asiatic clam (Corbiculaflumine a)	Fresh	5-day	NOAEL = 0.1 - 1.2 mg AI/L LOAEL = <0.1 - 3.58 mg AL/L	<0.1, 1.20, 3.58, 13.99, 69.44 mg/L (initial, day 0); <0.1, 0.10, <0.1, 0.22, 4.40 mg/L (final, day 5)	Static, Measured	Cytochrome P- 450 level	(Vidal et al., 2001)	High
Asiatic clam (Corbiculaflumine a)	Fresh	5-day	NOAEL = <0.1 - 3.58 mg AI/L LOAEL = 0.22 - 13.99 mg AI/L	<0.1, 1.20, 3.58, 13.99, 69.44 mg/L (initial, day 0); <0.1, 0.10, <0.1, 0.22, 4.40 mg/L (final, day 5)	Static, Measured	NADPH cytochrome reductase level	( <u>Vidal et al., 2001</u> )	High
Mysid shrimp (Mysidopsis bahia)	Salt	96-hour	$LC_{50} = 27 \text{ mg}$ AI/L	0, 5.6, 12, 26, 69, 130 mg/L	Static, Measured	Mortality (based on initial measured conc.)	( <u>Ward et al., 1986</u> )	Medium
Mysid shrimp (Mysidopsis bahia)	Salt	96-hour	$LC_{50} = 14 \text{ mg}$ AI/L	0, 5.6, 12, 26, 69, 130 mg/L	Static, Measured (based on avg. of initial/final measured conc.)	Mortality	(Ward et al., 1986)	Medium
Mysid shrimp (Mysidopsis bahia)	Salt	96-hour	NOAEL = 12 mg AI/L LOAEL = 26 mg AI/L	0, 5.6, 12, 26, 69, 130 mg/L	Static, Measured (based on avg. of initial/final measured conc.)	Intoxication	( <u>Ward et al., 1986</u> )	Medium
Ciliate (Tetrahymena pyriformis)	Fresh	24-hour	$EC_{50} = 410 \text{ mg}$ AI/L	Not reported	Static, Nominal	Population growth rate	( <u>Yoshioka et al.,</u> <u>1985</u> )	Unacceptable
Flatworm (Dugesia japonica)	Fresh	7-day	$LC_{50} = 1.7 \text{ mg}$ AI/L	Not reported	Renewal, Nominal	Mortality	( <u>Yoshioka et al.,</u> <u>1986</u> )	Low

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt Water							Evaluation
Flatworm (Dugesia japonica)	Fresh	7-day	$EC_{50} = 1.7 \text{ mg}$ AI/L	Not reported	Renewal, Nominal	Abnormal regeneration	( <u>Yoshioka et al.,</u> <u>1986</u> )	Low
Water flea (Moina macrocopa)	Fresh	3-hour	$LC_{50} = 2.3 \text{ mg}$ AI/L	Not reported	Static, Nominal	Mortality	( <u>Yoshioka et al.,</u> <u>1986</u> )	Unacceptable
Algae								
Green algae (Chlamydomonas reinhardtii)	Fresh	2-hour	$EC_{05} = 13 \text{ mg}$ AI/L	Not reported	Static, Nominal	Chlorophyll a fluorescence	( <u>Brack and Frank,</u> <u>1998</u> )	Unacceptable
Green algae (Chlamydomonas reinhardtii)	Fresh	72-hour	EC <sub>10</sub> = 12.3 mg AI/L	Not reported	Static, Nominal	Biomass	( <u>Brack and Rottler,</u> <u>1994</u> )	High
Green algae (Chlamydomonas reinhardtii)	Fresh	72-hour	$\frac{EC_{50} = 36.5 \text{ mg}}{AI/L}$	Not reported	Static, Nominal	Biomass	(Brack and Rottler, <u>1994</u> )	High
Green algae (Chlorella vulgaris)	Fresh	10-day	NOAEL = 3 mg AI/L	0, 0.003, 0.03, 0.3, 3 mg/L	Static, Nominal	Growth (chlorophyll A concentration)	( <u>Ando et al., 2003</u> )	Medium
Green algae (Pseudokirchnerie lla subcapitata)	Fresh	10-day	NOAEL = 3 mg AI/L	0, 0.003, 0.03, 0.3, 3 mg/L	Static, Nominal	Growth (chlorophyll A concentration)	( <u>Ando et al., 2003</u> )	Medium
Green algae (Volvulina steinii)	Fresh	10-day	LOAEL = 0.003 mg AI/L	0, 0.003, 0.03, 0.3, 3 mg/L	Static, Nominal	Growth (chlorophyll A concentration)	( <u>Ando et al., 2003</u> )	Medium
Green algae (Parachlorella kessleri)	Fresh	96-hour	$\begin{array}{c} EC_{50} = 240 \mbox{ mg} \\ AI/L \end{array}$	0, >0-~1,000 mg/L	Static, Nominal, Solvent: Methanol, Plate method	Growth (dry weight)	( <u>Lukavsky et al</u> <u>2011</u> )	Medium
Green algae (Pseudokirchnerie lla subcapitata)	Fresh	96-hour	$\frac{EC_{50} = 450}{AI/L}$ mg	0, >0-~1,000 mg/L	Static, Nominal, Solvent: Methanol, Plate method	Growth (dry weight)	( <u>Lukavsky et al.,</u> <u>2011</u> )	Medium
Green algae (Scenedesmus quadicauda)	Fresh	96-hour	$\frac{EC_{50} = 400 \text{ mg}}{AI/L}$	Not reported	Static, Nominal, Solvent: Methanol, Plate method	Growth (dry weight)	( <u>Lukavsky et al.,</u> <u>2011</u> )	Medium

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt							Evaluation
	Water							
Green algae	Fresh	96-hour	$EC_{50} = 350 \text{ mg}$	0, >0-~1,000 mg/L	Static, Nominal,	Growth (dry	(Lukavsky et al.,	Medium
(Desmodesmus			Al/L		Solvent: Methanol,	weight)	<u>2011</u> )	
subspicatus)	<b>F</b> 1	0.61	<b>FG</b> 000	0 0 1 000 7	Plate method			
Blue-green algae	Fresh	96-hour	$EC_{50} = 800 \text{ mg}$	$0, >0 \sim 1,000 \text{ mg/L}$	Static, Nominal,	Growth (dry	(Lukavsky et al.,	Medium
(Synechococcus			AI/L		Solvent: Methanol,	weight)	<u>2011</u> )	
elongatus)	Enab	06 have	EC 200 m a	0 > 0 = 1.000  m s/I	Plate method	Crearth (days	(Lulasuslav et al.	Madina
Sureahoooagus	riesh	90-nour	$EC_{50} = 500 \text{ mg}$	0, >0-~1,000 mg/L	Static, Nominal,	Growin (dry	$(\underline{\text{Lukavsky et al.}}, 2011)$	Medium
(Synechococcus			AI/L		Dista mathod	weight)	<u>2011</u> )	
Green algae	Fresh	06 hour	$FC_{ro} = 430 \text{ mg}$	0 > 0 = 1.000  mg/I	Static Nominal	Growth (dry	(Lukavsky at al	Medium
(Parachlorella	Picsii	90-110u1	$\Delta I/I$	0, >0-~1,000 mg/L	Solvent: Methanol	weight)	2011)	Wiedium
(I drachiorena kessleri)			7 H/ L/		Glass enclosure	weight)	<u>2011</u> )	
					method			
Green algae	Fresh	96-hour	$EC_{50} = 700 \text{ mg}$	0, >0-~1,000 mg/L	Static, Nominal,	Photosynthesis	(Lukavsky et al.,	Medium
(Parachlorella			AI/L		Solvent: Methanol,	$(O_2, production)$	2011)	
kessleri)					Glass enclosure			
					method			
Green algae	Fresh	96-hour	$EC_{50} = 700 \text{ mg}$	0, >0-~1,000 mg/L	Static, Nominal,	Photosynthesis	(Lukavsky et al.,	Medium
(Parachlorella			AI/L		Solvent: Methanol,	(pH change)	<u>2011</u> )	
kessleri)					Glass enclosure			
					method			
Green algae	Fresh	96-hour	$EC_{50} = 520 \text{ mg}$	Not reported	Static, Nominal,	Growth (dry	(Lukavsky et al.,	Medium
(Chlamydomonas			Al/L		Solvent: Methanol,	weight)	<u>2011</u> )	
reinhardfii)					Glass enclosure			
Crean alaga	Erech	06 hour	$EC_{-} = 700 m_{\pi}$	Not reported	Statia Naminal	Dhotogynthagia	(Lubouslay et al	Madium
(Chlamydomonas	Flesh	90-110u1	$EC_{50} = 700 \text{ mg}$	Not reported	Static, Nominal, Solvent: Methanol	$(\Omega_{\rm restruction})$	$(\underline{Lukavsky} \text{ et al.}, 2011)$	Medium
(Chianiyaomonas reinhardtii)					Glass enclosure	$(O_2, production)$	<u>2011</u> )	
<i>remaranty</i>					method			
Green algae	Fresh	96-hour	$EC_{50} = 700 \text{ mg}$	Not reported	Static. Nominal.	Photosynthesis	(Lukavsky et al.,	Medium
(Chlamydomonas			AI/L		Solvent: Methanol,	(pH change)	2011)	
reinhardtii)					Glass enclosure	VI 07		
,					method			
Green algae	Fresh	96-hour	$EC_{50} = 220 \text{ mg}$	0, >0-~1,000 mg/L	Static, Nominal,	Growth (dry	(Lukavsky et al.,	Medium
(Pseudokirchnerie			AI/L		Solvent: Methanol,	weight)	<u>2011</u> )	
lla subcapitata)					Glass enclosure			
					method			

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt							Evaluation
	Water							
Green algae	Fresh	96-hour	$EC_{50}$ ) = 700 mg	0, >0-~1,000 mg/L	Static, Nominal,	Photosynthesis	(Lukavsky et al.,	Medium
(Pseudokirchnerie			Al/L		Solvent: Methanol,	$(O_2, production)$	<u>2011</u> )	
lla subcapitata)					Glass enclosure			
				a a 4 a a a 7	method			
Green algae	Fresh	96-hour	$EC_{50} = 700 \text{ mg}$	0, >0-~1,000 mg/L	Static, Nominal,	Photosynthesis	( <u>Lukavsky et al.</u> ,	Medium
(Pseudokirchnerie			AI/L		Solvent: Methanol,	(pH change)	<u>2011</u> )	
lla subcapitata)					Glass enclosure			
	<b>F</b> 1	0.51	7.0		method			
Green algae	Fresh	96-hour	$EC_{50} = 500 \text{ mg}$	Not reported	Static, Nominal,	Growth (dry	(Lukavsky et al.,	Medium
(Scenedesmus			AI/L		Solvent: Methanol,	weight)	<u>2011</u> )	
quadicauda)					Glass enclosure			
0 1	F 1	0.6.1	F.C. 500		method			
Green algae	Fresh	96-hour	$EC_{50} = 500 \text{ mg}$	Not reported	Static, Nominal,	Photosynthesis	(Lukavsky et al.,	Medium
(Sceneaesmus			AI/L		Solvent: Methanol,	$(O_2, production)$	<u>2011</u> )	
quaaicauda)					Glass enclosure			
<u> </u>	E	061	FC (00	Not support of	method	Distant states and		Mallan
Green algae	Fresh	96-hour	$EC_{50} = 600 \text{ mg}$	Not reported	Static, Nominal,	Photosynthesis	(Lukavsky et al.,	Medium
(Sceneaesmus			AI/L		Solvent: Methanol,	(pH change)	<u>2011</u> )	
quaaicauaa)					Glass enclosure			
Crean alaga	Erech	06 hour	$EC = 920 m_{\pi}$	0 > 0 = 1.000  mg/I	Statia Naminal	Crowsth (day	(Lubouslay et al	Madium
Green algae	Fresh	96-nour	$EC_{50} = 820 \text{ mg}$	0, >0-~1,000 mg/L	Static, Nominal,	Growth (dry	$(\underline{Lukavsky et al.}, 2011)$	Medium
(Desmodesmus			AI/L		Glass analogura	weight)	<u>2011</u> )	
subspicalus)					mathod			
Groop algaa	Frash	06 hour	$FC_{10} = 400 \text{ mg}$	0 > 0 1 000 mg/I	Static Nominal	Photosynthesis	(Lukovsky of al	Modium
(Desmodesmus	Piesii	90-110u1	$LC_{50} = 400 \text{ mg}$	0, >0-~1,000 mg/L	Solvent: Methanol	$(\Omega_{\rm r}, {\rm production})$	$(\underline{\text{Lukavsky et al.}})$	Wedium
(Desmouesmus					Glass anclosure	$(O_2, production)$	<u>2011</u> )	
subspicaius)					method			
Green algae	Fresh	96-hour	$FC_{50} - 400 \text{ mg}$	0 > 0 - 1 000  mg/I	Static Nominal	Photosynthesis	(Lukavsky et al	Medium
(Desmodesmus	1 10.511	<i>yo</i> nour	AI/I	0, 20 1,000 mg/L	Solvent: Methanol	(pH change)	2011)	Wiedium
(Desmodesmus subspicatus)			7 H/ L		Glass enclosure	(pri chunge)	<u>2011</u> )	
Subspicanas)					method			
Blue-green algae	Fresh	96-hour	$EC_{50} = 800 \text{ mg}$	0. > 0 - 1.000  mg/L	Static, Nominal	Growth (drv	(Lukaysky et al	Medium
(Synechococcus	110011	20 11001	AJ/L	o, / o 1,000 mg/L	Solvent: Methanol	weight)	2011)	
elongatus)					Glass enclosure		/	
, , , , , , , , , , , , , , , , , , , ,					method			

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt Water							Evaluation
Blue-green algae (Synechococcus elongatus)	Fresh	96-hour	EC <sub>50</sub> = 600 mg AI/L	0, >0-~1,000 mg/L	Static, Nominal, Solvent: Methanol, Glass enclosure method	Photosynthesis (O <sub>2</sub> , production)	( <u>Lukavsky et al.,</u> <u>2011</u> )	Medium
Blue-green algae (Synechococcus elongatus)	Fresh	96-hour	EC <sub>50</sub> = 700 mg AI/L	0, >0-~1,000 mg/L	Static, Nominal, Solvent: Methanol, Glass enclosure method	Photosynthesis (pH change)	( <u>Lukavsky et al.,</u> <u>2011</u> )	Medium
Blue-green algae (Synechococcus leopoliensis)	Fresh	96-hour	$EC_{50} = 600 \text{ mg}$ AI/L	0, >0-~1,000 mg/L	Static, Nominal, Solvent: Methanol, Glass enclosure method	Growth (dry weight)	( <u>Lukavsky et al.,</u> <u>2011</u> )	Medium
Blue-green algae (Synechococcus leopoliensis)	Fresh	96-hour	$EC_{50} = 480 \text{ mg}$ AI/L	0, >0-~1,000 mg/L	Static, Nominal, Solvent: Methanol, Glass enclosure method	Photosynthesis (O <sub>2</sub> , production)	( <u>Lukavsky et al.,</u> <u>2011</u> )	Medium
Blue-green algae (Synechococcus leopoliensis)	Fresh	96-hour	$EC_{50} = 450 \text{ mg}$ AI/L	0, >0-~1,000 mg/L	Static, Nominal, Solvent: Methanol, Glass enclosure method	Photosynthesis (pH change)	( <u>Lukavsky et al.,</u> <u>2011</u> )	Medium
Blue-green algae (Microcystis aeruginosa)	Fresh	96-hour	$EC_{50} = 130 \text{ mg}$ AI/L	Not reported	Static, Nominal, Solvent: Methanol, Glass enclosure method	Growth (dry weight)	( <u>Lukavsky et al</u> <u>2011</u> )	Medium
Blue-green algae (Microcystis aeruginosa)	Fresh	96-hour	$EC_{50} = 100 \text{ mg}$ AI/L	Not reported	Static, Nominal, Solvent: Methanol, Glass enclosure method	Photosynthesis (O <sub>2</sub> , production)	( <u>Lukavsky et al.,</u> <u>2011</u> )	Medium
Blue-green algae (Microcystis aeruginosa)	Fresh	96-hour	EC <sub>50</sub> = 250 mg AI/L	Not reported	Static, Nominal, Solvent: Methanol, Glass enclosure method	Photosynthesis (pH change)	( <u>Lukavsky et al</u> <u>2011</u> )	Medium
Green algae (Pseudokirchnerie lla subcapitata)	Fresh	24-hour	NOAEL = 0.05 $LOAEL = 0.2$	0, 0.01, 0.02, 0.05, 0.2, 0.5 mg/L	Static, Nominal	Abundance (total algal number)	( <u>Labra et al., 2010</u> )	Medium

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt							Evaluation
~ .	Water	10.1			~			
Green algae	Fresh	48-hour	NOAEL = $0.02$	0, 0.01, 0.02, 0.05,	Static, Nominal	Abundance (total	( <u>Labra et al., 2010</u> )	Medium
(Pseudokirchnerie			mg Al/L	0.2, 0.5  mg/L		algal number)		
lla subcapitata)			LOAEL = 0.05					
<u> </u>	<b>F</b> 1	70.1	mg Al/L	0.001.002.005			(1.1	
Green algae	Fresh	72-hour	NOAEL = $0.02$	0, 0.01, 0.02, 0.05,	Static, Nominal	Abundance (total	( <u>Labra et al., 2010</u> )	Medium
(Pseudokirchnerie			mg Al/L	0.2, 0.5  mg/L		algal number)		
lla subcapitata)			LOAEL = 0.05					
0 1	F 1	70.1	mg AI/L	0.001.002.005			(1 1	N 6 1'
Green algae	Fresh	72-hour	NOAEL = $0.05$	0, 0.01, 0.02, 0.05, 0	Static, Nominal	Damage/ FDA	( <u>Labra et al., 2010</u> )	Medium
(Pseudokirchnerie			mg Al/L	0.2, 0.5  mg/L		fluorescence		
lla subcapitata)			LOAEL = 0.2					
Carra alara	Enab	40 h	MOAEL 0.02	0 0 01 0 02 0 05	Statia Mansinal	Dama as / ED A	(Labra et al. 2010)	Madium
Green algae	Fresh	48-nour	NOAEL = $0.02$	0, 0.01, 0.02, 0.05, 0.2, 0.5, mg/I	Static, Nominal	Damage/ FDA	( <u>Labra et al., 2010</u> )	Medium
(Pseudokirchnerie			$\frac{\text{IIIg AI/L}}{\text{IOAEL} = 0.05}$	0.2, 0.3  mg/L		nuorescence		
na subcapitata)			LOAEL = 0.03					
Groop algaa	Frash	24 hour	$\frac{\text{IIIg AI/L}}{\text{NOAEL} = 0.05}$	0 0 01 0 02 0 05	Statia Nominal	Domogo/ FDA	$(I_{a})$ and $I_{a} = 2010$	Madium
(Psaudokirchnaria	Piesii	24-110u1	$mg \Delta I/I$	0, 0.01, 0.02, 0.03, 0.2, 0.03, 0.2, 0.5  mg/I	Static, Nominal	fluorescence	$\left(\frac{12010}{12010}\right)$	Wicdium
(I seudokirchiterie Ila subcapitata)			$I \cap \Delta FI = 0.2$	0.2, 0.5 mg/L		nuorescence		
iid subcapilaid)			$\frac{LOALL = 0.2}{mg \Delta I/I}$					
Diatom	Salt	96-hour	$EC_{50} = 150 \text{ mg}$	0 8 5 12 35 64	Static Measured	Chlorophyll a	(Ward et al 1986)	Medium
(Skeletonema	Suit	<i>y</i> 0 nour	AI/L (based on	150 mg/L	Statie, Measured	Cell count	( <u>ward et al., 1966</u> )	Wiedrum
costatum)			initial meas.	100 mg/L		een count		
			conc.)					
Diatom	Salt	96-hour	$EC_{50} = 95 \text{ mg}$	0, 8.5, 12, 35, 64,	Static, Measured	Chlorophyll a,	(Ward et al., 1986)	Medium
(Skeletonema			AI/L (based on	150 mg/L		Cell count		
costatum)			average					
			measured conc.)					
Blue-green algae	Fresh	12-hour	LOAEL = 1367	0, 1367 mg/L	Static, Nominal	Peroxidase	(Bacsi et al., 2013)	Unacceptable
(Synechococcus			mg/L			activity		
elongatus)								
Blue-green algae	Fresh	24-hour	$LOAEL = 1\overline{367}$	0, 1367 mg/L	Static, Nominal	Thiobarbituric	(Bacsi et al., 2013)	Unacceptable
(Synechococcus			mg/L			acid reactive		
elongatus)						substances,		
						Superoxide		
						dismutase		
						activities		

Test Species	Fresh/ Salt	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality Evaluation
	Water							Lyunuunon
Blue-green algae (Synechococcus elongatus)	Fresh	12-hour	LOAEL = 1367 mg/L	0, 1367 mg/L	Static, Nominal	Thiobarbituric acid reactive substances, Superoxide dismutase activities	( <u>Bacsi et al., 2013</u> )	Unacceptable
Blue-green algae (Synechococcus elongatus)	Fresh	24-hour	LOAEL = 1367 mg/L	0, 1367 mg/L	Static, Nominal	Peroxidase activity	( <u>Bacsi et al., 2013</u> )	Unacceptable
Blue-green algae (Synechococcus elongatus)	Fresh	4-hour	NOAEL = 1367 mg/L	0, 1367 mg/L	Static, Nominal	Chlorophyll A concentration	( <u>Bacsi et al., 2013</u> )	Unacceptable
Blue-green algae (Synechococcus elongatus)	Fresh	24-hour	NOAEL = 1367 mg/L	0, 1367 mg/L	Static, Nominal	Chlorophyll A concentration	( <u>Bacsi et al., 2013</u> )	Unacceptable
Blue-green algae (Synechococcus elongatus)	Fresh	4-hour	NOAEL = 1367 mg/L	0, 1367 mg/L	Static, Nominal	Peroxidase activity	( <u>Bacsi et al., 2013</u> )	Unacceptable
Blue-green algae (Synechococcus elongatus)	Fresh	8-hour	LOAEL = 1367 mg/L	0, 1367 mg/L	Static, Nominal	Peroxidase activity	( <u>Bacsi et al., 2013</u> )	Unacceptable
Blue-green algae (Synechococcus elongatus)	Fresh	24-hour	LOAEL = 1367 mg/L	0, 1367 mg/L	Static, Nominal	Abundance (cell count)	( <u>Bacsi et al., 2013</u> )	Unacceptable
Blue-green algae (Synechococcus elongatus)	Fresh	8-hour	LOAEL = 1367 mg/L	0, 1367 mg/L	Static, Nominal	Thiobarbituric acid reactive substances, Superoxide dismutase activities	( <u>Bacsi et al., 2013</u> )	Unacceptable

Salt Water         Salt Water         Construction         Revaluation           Blue-green algae (symechococcus elongatus)         Fresh (symechococcus elongatus)         4-hour hour         LOAEL = 1367 mg/L         0, 1367 mg/L mg/L         Static, Nominal static, Nominal         Thiobarbituric acid reactive substances, Superoxide dismutase activities         (Bacsi et al., 2013)         Unacceptable           Algae (not reported)         Fresh         24-hour         LOAEL = 1365         0, 0, 1365 mg/L mg/L         Lentic, Nominal         Abundance (# of individuals)         (Bacsi et al., 2013)         Unacceptable           Algae (not reported)         Fresh         48-hour mg/L         LOAEL = 1365         0, 0, 1365 mg/L         Lentic, Nominal         Abundance (# of individuals)         (Bacsi et al., 2013)         Unacceptable           Algae (not reported)         Fresh         72-hour         LOAEL = 1365         0, 0, 1365 mg/L         Lentic, Nominal         Chlorophyll A content of assemblages         (Bacsi et al., 2013)         Unacceptable           Algae (not reported)         Fresh         72-hour         NOAEL = 1366         0, 1,366 mg/L         Lentic, Nominal         Chlorophyll A concentration         (Bacsi et al., 2015)         Unacceptable           Algae (not reported)         Fresh         1-day         NOAEL = 1,366 mg Al/L         0, 1,366 mg/L         Lentic, Nominal	Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
Bue-green algae (Symechococcus elongatus)Fresh4-hourLOAEL = 1367 mg/L0, 1367 mg/LStatic, NominalThiobarbituric acid reactive substances, Superoxide dismutase activities(Bacsi et al., 2013)UnacceptableAlgae (not reported)Fresh24-hourLOAEL = 1365 mg/L0, 0, 1365 mg/LLentic, NominalAbundance (# of individuals)(Bacsi et al., 2013)UnacceptableAlgae (not reported)Fresh48-hourNOAEL = 1365 mg/L0, 0, 1365 mg/LLentic, Nominal mg/LAbundance (# of individuals)(Bacsi et al., 2013)UnacceptableAlgae (not reported)Fresh72-hourLOAEL = 1365 mg/L0, 0, 1365 mg/LLentic, Nominal mg/LChlorophyll A content of assemblages(Bacsi et al., 2013)UnacceptableAlgae (not reported)Fresh72-hourNOAEL = 1365 mg/L0, 0, 1365 mg/LLentic, NominalChlorophyll A content of assemblages(Bacsi et al., 2013)UnacceptableAlgae (not reported)Fresh72-hourNOAEL = 1 1.366 mg/L0, 1,366 mg/LLentic, NominalChlorophyll A concentration(Bacsi et al., 2015)Unacceptable concentrationAlgae (not reported)Fresh1-day I.366 mg A/L0, 1,366 mg/LLentic, Nominal concentrationChlorophyll A concentration(Bacsi et al., 2015)Unacceptable concentrationAlgae (not reported)Fresh3-day I.366 mg A/L0, 1,366 mg/LLentic, Nominal concentrationChlorophyll A concentration(		Salt							Evaluation
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Blue green algee	Frash	1 hour	IOAEI = 1367	0.1367 mg/I	Static Nominal	Thiobarbituria	(Receipt of 2012)	Unaccontable
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	(Synechococcus	Flesh	4-110u1	LOAEL = 1507 mg/L	0, 1507 llig/L	Static, Nominai	acid reactive	( <u>Dacsi et al., 2015</u> )	Unacceptable
Algae (not reported)Fresh24-hour LOAEL = 1365LOAEL = 13650, 0, 1365 mg/L mg/LLentic, Nominal 	elongatus)			ing, L			substances.		
Algae (not reported)Fresh Presh24-hour MOAEL = 1365 mg/LLOAEL = 1365 mg/L0, 0, 1365 mg/L on, 1365 mg/LLentic, Nominal Lentic, NominalAbundance (# of individuals)(Bacsi et al., 2013) individuals)UnacceptableAlgae (not reported)Fresh48-hourNOAEL = 1365 mg/L0, 0, 1365 mg/L mg/LLentic, NominalAbundance (# of individuals)(Bacsi et al., 2013) individuals)UnacceptableAlgae (not reported)Fresh72-hourLOAEL = 1365 mg/L0, 0, 1365 mg/L mg/LLentic, NominalChlorophyll A content of assemblages(Bacsi et al., 2013) individuals)UnacceptableAlgae (not reported)Fresh72-hourNOAEL = 1365 mg/L0, 0, 1365 mg/L mg/LLentic, NominalChlorophyll A content of assemblages(Bacsi et al., 2013) activeUnacceptableAlgae (not reported)Fresh1-day 1.366 mg AIL0, 1,366 mg/L mg/LLentic, NominalChlorophyll A concentration(Bacsi et al., 2015) concentrationUnacceptable concentrationAlgae (not reported)Fresh 3-day3-day NOAEL = 1.366 mg AIL0, 1,366 mg/L ng AILLentic, Nominal concentrationChlorophyll A concentration(Bacsi et al., 2015) concentrationUnacceptable concentrationAlgae (not reported)Fresh 3-day3-day NOAEL = 1.366 mg AIL0, 1,366 mg/L ng AILLentic, Nominal concentrationChlorophyll A concentration(Bacsi et al., 2015) concentrationUnacceptable concentration <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Superoxide</td> <td></td> <td></td>							Superoxide		
Algae (not reported)Fresh Presh24-hour LoAEL = 1365LoAEL = 1365 0,0,1365 mg/L0,0,1365 mg/L Lentic, NominalLentic, Nominal Abundance (# of individuals)(Bacsi et al., 2013) (Bacsi et al., 2013)Unacceptable UnacceptableAlgae (not reported)Fresh Presh72-hour LoAEL = 13650,0,1365 mg/L mg/LLentic, Nominal LOAEL = 1365Chlorophyll A content of assemblages(Bacsi et al., 2013) (Bacsi et al., 2013)Unacceptable UnacceptableAlgae (not reported)Fresh Presh72-hour LoAEL = 13650,0,1365 mg/L mg/LLentic, Nominal LoAEL = 1365Chlorophyll A content of assemblages(Bacsi et al., 2013) (Bacsi et al., 2013)Unacceptable UnacceptableAlgae (not reported)Fresh Presh1-day LOAEL = 1,3660,1,366 mg/L NOAEL = 1,366 mg Al/LLentic, Nominal LoAEL = 1,366Chlorophyll A concentration(Bacsi et al., 2015) (Bacsi et al., 2015)Unacceptable concentrationAlgae (not reported)Fresh Presh1-day LOAEL = 1,3660,1,366 mg/L NOAEL =Lentic, Nominal concentrationChlorophyll A (Bacsi et al., 2015)Unacceptable concentrationAlgae (not reported)Fresh Presh3-day LOAEL = 1,3660,1,366 mg/L NOAEL =Lentic, Nominal Chlorophyll A (Bacsi et al., 2015)Unacceptable concentrationAlgae (not reported)Fresh Presh3-day LOAEL = 1,3660,1,366 mg/L NOAEL =Lentic, Nominal NOAEL =Chlorophyll A (Bacsi et al., 2015)Bacsi et al., 2015) Unacceptable <br< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>dismutase</td><td></td><td></td></br<>							dismutase		
Algae (not reported)Fresh reported)24-hour mg/LLOAEL = 1365 mg/L $0, 0, 1365 mg/L$ mg/LLentic, Nominal Lentic, NominalAbundance (# of andividuals)(Bacsi et al., 2013) (Bacsi et al., 2013)UnacceptableAlgae (not reported)Fresh reported)72-hour mg/LLOAEL = 1365 mg/L $0, 0, 1365 mg/L$ mg/LLentic, Nominal Lentic, NominalAbundance (# of andividuals)(Bacsi et al., 2013) (Bacsi et al., 2013)UnacceptableAlgae (not reported)Fresh reported)72-hour mg/LLOAEL = 1365 mg/L $0, 0, 1365 mg/L$ mg/LLentic, Nominal Lentic, NominalChlorophyll A content of assemblages(Bacsi et al., 2013) (Bacsi et al., 2013)UnacceptableAlgae (not reported)Fresh reported)72-hour l, 366 mg Al/L $0, 0, 1365 mg/L$ mg/LLentic, Nominal Lentic, NominalChlorophyll A concentration(Bacsi et al., 2015) (Bacsi et al., 2015)Unacceptable unacceptableAlgae (not reported)Fresh l, 364 mg Al/L $0, 1, 366 mg/L$ mg Al/LLentic, Nominal Lentic, NominalChlorophyll A concentration(Bacsi et al., 2015) Unacceptable concentrationUnacceptable concentrationAlgae (not reported)Fresh l, 364 mg Al/L $0, 1, 366 mg/L$ mg Al/LLentic, Nominal Lentic, NominalChlorophyll A concentration(Bacsi et al., 2015) Unacceptable concentrationAlgae (not reported)Fresh l, 364 mg Al/L $0, 1, 366 mg/L$ mg Al/LLentic, Nominal Lentic, NominalAlgal abundance Algal abundance							activities		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Algae (not	Fresh	24-hour	LOAEL = 1365	0, 0, 1365 mg/L	Lentic, Nominal	Abundance (# of	( <u>Bacsi et al., 2013</u> )	Unacceptable
Algae (not reported)Fresh mg/L48-hour mg/LNOAEL = 1365 mg/L0, 0, 1365 mg/L mg/LLentic, Nominal Lentic, NominalAbundance (# of (flacsi et al., 2013) individuals)Unacceptable undividuals)Algae (not reported)Fresh reported)72-hour mg/LLOAEL = 1365 mg/L0, 0, 1365 mg/L mg/LLentic, Nominal Lentic, NominalChlorophyll A content of assemblages(Bacsi et al., 2013) content of assemblagesUnacceptableAlgae (not reported)Fresh reported)72-hour mg/LNOAEL = 1366 mg/L0, 0, 1365 mg/L mg/LLentic, NominalThiobarbituric acid reactive substancesBacsi et al., 2013) acid reactiveUnacceptableAlgae (not reported)Fresh reported)1-day mg Al/LNOAEL = 1,366 mg Al/LLentic, Nominal on 1,366 mg/LChlorophyll A concentration(Bacsi et al., 2015) concentrationUnacceptable concentrationAlgae (not reported)Fresh reported)3-day mg Al/LNOAEL = 1,366 mg Al/LLentic, Nominal on 1,366 mg/LChlorophyll A concentration(Bacsi et al., 2015) concentrationUnacceptable concentrationAlgae (not reported)Fresh reported)3-day mg Al/LNOAEL = 1,366 mg Al/LLentic, Nominal on 1,366 mg/LAlgal abundance (individual #; 2012(Bacsi et al., 2015) 2015Unacceptable concentrationAlgae (not reported)Fresh reported3-day mg Al/LNOAEL = n,366 mg Al/L0, 1,366 mg/L nLentic, Nominal nAlgal abundance	reported)			mg/L			individuals)		
Algae (not reported)Fresh a72-hour mg/LLOAEL = 1365 mg/L0, 0, 1365 mg/L mg/LLentic, Nominal acid reactive substancesChlorophyll A content of assemblagesBacsi et al., 2013 acid reactive substancesUnacceptableAlgae (not reported)Fresh a72-hour mg/LNOAEL = 1365 mg/L0, 0, 1365 mg/L mg/LLentic, Nominal content of assemblagesChlorophyll A content of acid reactive substancesBacsi et al., 2013 unacceptableUnacceptableAlgae (not reported)Fresh a1-day aNOAEL = 1,366 mg AI/L0, 1,366 mg/L mg AI/LLentic, Nominal concentrationChlorophyll A concentrationBacsi et al., 2015) unacceptableUnacceptableAlgae (not reported)Fresh a3-day aNOAEL = ng AI/L0, 1,366 mg/L mg AI/LLentic, Nominal concentrationChlorophyll A concentrationBacsi et al., 2015) unacceptableUnacceptableAlgae (not reported)Fresh a3-day aNOAEL = ng AI/L0, 1,366 mg/L aLentic, Nominal concentrationChlorophyll A concentrationBacsi et al., 2015) aUnacceptableAlgae (not reported)Fresh a3-day aNOAEL = ng AI/L0, 1,366 mg/L aLentic, Nominal concentrationChlorophyll A concentrationBacsi et al., 2015) aUnacceptableAlgae (not reported)Fresh a3-day ng AI/LNOAEL = ng AI/L0, 1,366 mg/L aLentic, Nominal aAlgal abundance (individual #; 2011<	Algae (not	Fresh	48-hour	NOAEL = $1365$	0, 0, 1365 mg/L	Lentic, Nominal	Abundance (# of	( <u>Bacsi et al., 2013</u> )	Unacceptable
Algae (not reported)Fresh a72-hour mg/LLOAEL = 1365 mg/L0, 0, 1365 mg/L mg/LLentic, Nominal aChlorophyl A content of assemblages(Bacsi et al., 2015)UnacceptableAlgae (not reported)Fresh a72-hour mg/LNOAEL = 1365 mg/L0, 0, 1365 mg/L mg/LLentic, Nominal Lentic, NominalThiobarbituric acid reactive(Bacsi et al., 2015)UnacceptableAlgae (not reported)Fresh a1-day aNOAEL = 1,366 mg/L0, 1,366 mg/L mg Al/LLentic, Nominal LoAEL = 1,366Chlorophyl A concentration(Bacsi et al., 2015)UnacceptableAlgae (not reported)Fresh a2-day aLOAEL = 1,3660, 1,366 mg/L aLentic, Nominal concentrationChlorophyl A concentration(Bacsi et al., 2015)UnacceptableAlgae (not reported)Fresh a3-dayNOAEL = a0, 1,366 mg/L aLentic, Nominal concentrationChlorophyl A concentration(Bacsi et al., 2015)UnacceptableAlgae (not reported)Fresh a3-dayLOAEL = 1,366 mg Al/L0, 1,366 mg/L aLentic, NominalAlgal abundance (individual #; 2012 assemblages)(Bacsi et al., 2015)UnacceptableAlgae (not reported)Fresh a2-dayNOAEL = ng Al/L0, 1,366 mg/L aLentic, NominalAlgal abundance (individual #; 2011 assemblages)(Bacsi et al., 2015)UnacceptableAlgae (not reported)Fresh a1-dayLOAEL = 1,366 ng Al/L0, 1,366	reported)	Tran 1	70.1	mg/L	0.0.1265	Tant's Nam's 1	individuals)	(D 1	T.T
Algae (not reported)       Fresh       72-hour ng/L       NOAEL = 1365 mg/L       Lentic, Nominal ng/L       Thiobarbituric acid reactive substances       Bassimblages       Lentic, 2013)       Unacceptable         Algae (not reported)       Fresh       1-day       NOAEL = 1,366 mg/L       Lentic, Nominal       Chlorophyll A       Bassi et al., 2015)       Unacceptable         Algae (not reported)       Fresh       1-day       NOAEL = 1,366 mg/L       Lentic, Nominal       Chlorophyll A       Bassi et al., 2015)       Unacceptable         Algae (not reported)       Fresh       2-day       LOAEL = 1,366 mg/L       Lentic, Nominal       Chlorophyll A       Bassi et al., 2015)       Unacceptable         Algae (not reported)       Fresh       3-day       NOAEL =       0, 1,366 mg/L       Lentic, Nominal       Chlorophyll A       Bassi et al., 2015)       Unacceptable         Algae (not reported)       Fresh       3-day       NOAEL =       0, 1,366 mg/L       Lentic, Nominal       Chlorophyll A       Bassi et al., 2015)       Unacceptable         reported)       Fresh       3-day       LOAEL = 1,366       0, 1,366 mg/L       Lentic, Nominal       Algal abundance       Bassi et al., 2015)       Unacceptable         reported)       Fresh       2-day       NOAEL =       0, 1,366 mg/L       Lentic,	Algae (not	Fresh	/2-nour	LOAEL = 1303	0, 0, 1365 mg/L	Lenuc, Nominai	Chlorophyll A	( <u>Bacsi et al., 2015</u> )	Unacceptable
Algae (not reported)Fresh reported)72-hour ndNOAEL = 1365 mg/L0, 0, 1365 mg/L ng/LLentic, Nominal Lentic, NominalIndustriation acid reactive substances(Bacsi et al., 2013)UnacceptableAlgae (not reported)Fresh 2-day1-dayNOAEL = 1,366 mg AI/L0, 1,366 mg/L 0, 1,366 mg/LLentic, Nominal Lentic, NominalChlorophyll A concentration(Bacsi et al., 2015)UnacceptableAlgae (not reported)Fresh 3-day2-day 1,366 mg AI/L0, 1,366 mg/L 0, 1,366 mg/LLentic, Nominal Lentic, NominalChlorophyll A concentration(Bacsi et al., 2015)UnacceptableAlgae (not reported)Fresh 3-day3-dayNOAEL = 1,366 mg AI/L0, 1,366 mg/L 0, 1,366 mg/LLentic, Nominal Lentic, NominalChlorophyll A concentration(Bacsi et al., 2015)UnacceptableAlgae (not reported)Fresh 3-day3-dayNOAEL = 1,366 mg AI/L0, 1,366 mg/L mg AI/LLentic, Nominal Lentic, NominalChlorophyll A concentration(Bacsi et al., 2015)UnacceptableAlgae (not reported)Fresh 1,366 mg AI/L2-dayNOAEL = ng AI/L0, 1,366 mg/L ng AI/LLentic, Nominal Lentic, NominalAlga abundance (Individual #; 2011 assemblages)(Bacsi et al., 2015)UnacceptableAlgae (not reported)Fresh n1-dayLOAEL = 1,366 ng AI/L0, 1,366 mg/L ng AI/LLentic, Nominal Lentic, NominalAlga abundance (Individual #; 2011 assemblages)(Bacsi et al., 2015)Unaccep	Teported)			mg/L			assemblages		
reported)Image	Algae (not	Fresh	72-hour	NOAEL = 1365	0. 0. 1365 mg/L	Lentic, Nominal	Thiobarbituric	(Bacsi et al., 2013)	Unacceptable
Algae (not reported)Fresh algae (not reported)1-day algae (not reported)NOAEL = 1,366 mg AI/L0, 1,366 mg/L algae (not reported)Lentic, Nominal concentrationChlorophyll A concentration(Bacsi et al., 2015)UnacceptableAlgae (not reported)Fresh algae (not reported)2-day algae (not reported)LOAEL = 1,366 mg AI/L0, 1,366 mg/L algae (not reported)Lentic, Nominal algae (not reported)Chlorophyll A concentration(Bacsi et al., 2015) (Bacsi et al., 2015)Unacceptable unacceptableAlgae (not reported)Fresh algae (not reported)3-day algae (not reported)NOAEL = 1,366 mg AI/L0, 1,366 mg/L algae (not reported)Lentic, Nominal algae (not reported)Algae (not reported)Bacsi et al., 2015) algae (not reported)Unacceptable algae (not mg AI/LAlgae (not reported)Fresh algae (not reported)2-day algae (not reported)NOAEL = 1,366 mg AI/L0, 1,366 mg/L algae (not reported)Lentic, Nominal algae (not reported)Algae (not reported)Bacsi et al., 2015) algae (not reported)Unacceptable algae (not reported)NOAEL = algae (not reported)0, 1,366 mg/L algae (not reported)Lentic, Nominal algae (not reported)Algae (not reported)Bacsi et al., 2015) algae (not reported)Unacceptable algae (not reported)Unacceptable (individual #; algae (not reported)Unacceptable algae (not reported)Indicate (lagae	reported)	1 10011	/ = 110 01	mg/L	o, o, 1000 mg 2	201100, 1 (0111101	acid reactive	( <u></u> )	Charteptacte
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Teported)Img AI/LImg AI	Algae (not	Fresh	5-day	LOAEL = 1,300	0, 1,300 mg/L	Lenuc, Nominai	Algal abundance	( <u>Bacsi et al., 2015</u> )	Unacceptable
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Algae (not reported)       Fresh       1-day       LOAEL = 1,366 mg/L mg AI/L       Lentic, Nominal mg AI/L       Algal abundance (individual #)       Bacsi et al., 2015)       Unacceptable         Algae (not reported)       Fresh       1-day       LOAEL = 1,366       0, 1,366 mg/L       Lentic, Nominal       Algal abundance (individual #)       Unacceptable         Algae (not       Fresh       1-day       LOAEL = 1,366       0, 1,366 mg/L       Lentic, Nominal       Diversity,       (Bacsi et al., 2015)       Unacceptable	reported)		2	1,366 mg AI/L			(individual #;	` <u> </u>	1
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	Algae (not	Fresh	1-day	LOAEL = 1,366	0, 1,366 mg/L	Lentic, Nominal	Diversity,	( <u>Bacsi et al., 2015</u> )	Unacceptable
reported) mg AI/L Evenness (2011	reported)			mg AI/L			Evenness (2011		

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt Water							Evaluation
Algae (not reported)	Fresh	2-day	LOAEL = 1,366 mg AI/L	0, 1,366 mg/L	Lentic, Nominal	Diversity, Evenness (2011 assemblages)	( <u>Bacsi et al., 2015</u> )	Unacceptable
Algae (not reported)	Fresh	3-day	LOAEL = 1,366 mg AI/L	0, 1,366 mg/L	Lentic, Nominal	Diversity, Evenness (2011 assemblages)	( <u>Bacsi et al., 2015</u> )	Unacceptable
Algae (not reported)	Fresh	1-day	LOAEL = 1,366 mg AI/L	0, 1,366 mg/L	Lentic, Nominal	Chlorophyll A concentration	( <u>Bacsi et al., 2015</u> )	Unacceptable
Algae (not reported)	Fresh	2-day	LOAEL = 1,366 mg AI/L	0, 1,366 mg/L	Lentic, Nominal	Algal abundance (individual #; 2012 assemblages)	( <u>Bacsi et al., 2015</u> )	Unacceptable
Algae (not reported)	Fresh	3-day	NOAEL = 1,366 mg AI/L	0, 1,366 mg/L	Lentic, Nominal	Algal bundance (individual #; 2011 assemblages)	( <u>Bacsi et al., 2015</u> )	Unacceptable
Algae (not reported)	Fresh	1-day	NOAEL = 1,366 mg AI/L	0, 1,366 mg/L	Lentic, Nominal	Diversity, evenness (2012 assemblages)	( <u>Bacsi et al., 2015</u> )	Unacceptable
Algae (not reported)	Fresh	2-day	NOAEL = 1,366 mg AI/L	0, 1,366 mg/L	Lentic, Nominal	Diversity, evenness (2012 assemblages)	( <u>Bacsi et al., 2015</u> )	Unacceptable
Algae (not reported)	Fresh	3-day	LOAEL = 1,366 mg AI/L	0, 1,366 mg/L	Lentic, Nominal	Diversity, evenness (2012 assemblages)	( <u>Bacsi et al., 2015</u> )	Unacceptable
Green algae (Pseudokirchnerie lla subcapitata)	Fresh	48-hour	EC <sub>50</sub> = 26.24 mg AI/L	Not reported	Static, Nominal	Population growth rate	( <u>Tsai and Chen,</u> <u>2007</u> )	High
Green algae (Pseudokirchnerie lla subcapitata)	Fresh	NA	No data reported; test discontinued	NA	NA	Population growth rate	( <u>Umweltbundesam</u> <u>t, 1984</u> )	Unacceptable
Amphibians African clawed frog (Xenopus laevis)	Fresh	96-hour	$\begin{array}{c} LC_{50} = 434 \mbox{ mg} \\ AI/L \end{array}$	Not reported	Renewal, Nominal, Solvent: DMSO, without activation	Mortality	(Fort et al., 1993)	High

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt Water							Evaluation
African clawed frog (Xenopus laevis)	Fresh	96-hour	$EC_{50} = 36 \text{ mg}$ AI/L	Not reported	Renewal, Nominal, Solvent: DMSO, without activation	Terata	( <u>Fort et al., 1993</u> )	High
African clawed frog ( <i>Xenopus</i> <i>laevis</i> )	Fresh	96-hour	Minimum Concentrations to Inhibit Growth (MCIG) = 29 mg AI/L	Not reported	Renewal, Nominal, Solvent: DMSO, without activation	Embryo growth	(Fort et al., 1993)	High
African clawed frog (Xenopus laevis)	Fresh	96-hour	LC <sub>50</sub> = 241.0 mg AI/L	Not reported	Renewal, Nominal, Solvent: DMSO, with activation	Mortality	(Fort et al., 1993)	High
African clawed frog (Xenopus laevis)	Fresh	96-hour	$EC_{50} = 9.5 \text{ mg}$ AI/L	Not reported	Renewal, Nominal, Solvent: DMSO, with activation	Terata	(Fort et al., 1993)	High
African clawed frog (Xenopus laevis)	Fresh	96-hour	MCIG = 9.0 mg AI/L	Not reported	Renewal, Nominal, Solvent: DMSO, with activation	Embryo growth	(Fort et al., 1993)	High
African clawed frog (Xenopus laevis)	Fresh	96-hour	$LC_{50} = 398 \text{ mg}$ AI/L	Not reported	Renewal, Nominal, Solvent: DMSO, with carbon monoxide- inhibited activation	Mortality	(Fort et al., 1993)	High
African clawed frog (Xenopus laevis)	Fresh	96-hour	EC <sub>50</sub> = 22 mg AI/L	Not reported	Renewal, Nominal, Solvent: DMSO, with carbon monoxide- inhibited activation	Terata	(Fort et al., 1993)	High
African clawed frog (Xenopus laevis)	Fresh	96-hour	MCIG = 20 mg AI/L	Not reported	Renewal, Nominal, Solvent: DMSO, with carbon monoxide- inhibited activation	Embryo growth	(Fort et al., 1993)	High
African clawed frog (Xenopus laevis)	Fresh	96-hour	$LC_{50} = 39 \text{ mg}$ AI/L	Not reported	Renewal, Nominal, Solvent: DMSO, with cyclohexene oxide- inhibited activation	Mortality	(Fort et al., 1993)	High
African clawed frog (Xenopus laevis)	Fresh	96-hour	$\frac{EC_{50} = 0.07 \text{ mg}}{AI/L}$	Not reported	Renewal, Nominal, Solvent: DMSO, with cyclohexene oxide- inhibited activation	Terata	(Fort et al., 1993)	High

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt							Evaluation
African alawad	<b>Water</b>	06 hour	MCIC = 0.05	Not reported	Panawal Naminal	Embruo grouth	(Fort at al. 1002)	High
frog (Yenopus	Fresh	90-nour	$mg \Delta I/I$	Not reported	Solvent: DMSO with	Embryo growin	( <u>Fort et al., 1995</u> )	nigii
laevis)			ing / ii/ L		cyclohexene oxide-			
					inhibited activation			
African clawed	Fresh	96-hour	$LC_{50} = 412 \text{ mg}$	Not reported	Renewal, Nominal,	Mortality	(Fort et al., 2001)	Medium
frog (Xenopus laevis)			AI/L (Test 1)		without activation			
African clawed	Fresh	96-hour	$EC_{50} = 40.9 \text{ mg}$	Not reported	Renewal, Nominal.	Developmental:	(Fort et al., 2001)	Medium
frog (Xenopus			AI/L (Test 1)	L	without activation	Deformation	( <u> </u>	
laevis)			· · · ·					
African clawed	Fresh	96-hour	MCIG = 150	Not reported	Renewal, Nominal,	Embryo growth	(Fort et al., 2001)	Medium
frog (Xenopus			mg AI/L (Test		without activation			
laevis)			1)					
African clawed	Fresh	96-hour	$LC_{50} = 426 \text{ mg}$	Not reported	Renewal, Nominal,	Mortality	( <u>Fort et al., 2001</u> )	Medium
Irog (Xenopus			AI/L (Test 2)		without activation			
African clawed	Fresh	06 hour	$FC_{10} = 36.2 \text{ mg}$	Not reported	Renewal Nominal	Developmental	(Fort et al. 2001)	Medium
frog (Xenonus	TTCSII	90-110ui	AI/L (Test 2)	Not reported	without activation	Deformation	( <u>1011 ct al., 2001</u> )	Wiedium
laevis)					without addivation	Derormation		
African clawed	Fresh	96-hour	MCIG = 150	Not reported	Renewal, Nominal,	Embryo growth	(Fort et al., 2001)	Medium
frog (Xenopus			mg AI/L (Test		without activation			
laevis)			2)					
African clawed	Fresh	96-hour	$LC_{50} = 490 \text{ mg}$	Not reported	Renewal, Nominal,	Mortality	( <u>Fort et al., 2001</u> )	Medium
frog (Xenopus			AI/L (Prelim.		without activation			
laevis)	<b>T</b> 1	0.61	Test)	NY		<b>D</b> 1 1		
African clawed	Fresh	96-hour	$EC_{50} = 51 \text{ mg}$	Not reported	Renewal, Nominal,	Developmental:	( <u>Fort et al., 2001</u> )	Medium
ling (Xenopus			AI/L (Prelim. Test)		without activation	Deformation		
African clawed	Fresh	96-hour	MCIG = 400	Not reported	Renewal Nominal	Embryo growth	(Fort et al 2001)	Medium
frog (Xenopus	110511	yo nour	mg AI/L	rior reported	without activation	Linor jo growin	( <u>1 off of an, 2001</u> )	1010uluii
laevis)			(Prelim. Test)					
African clawed	Fresh	96-hour	$LC_{50} = 378.1$	Not reported	Renewal, Nominal,	Mortality	(Fort et al., 2001)	Medium
frog (Xenopus			mg AI/L (Test		Activation (Aroclor			
laevis)			1)		1254)			
African clawed	Fresh	96-hour	$EC_{50} = 40.2 \text{ mg}$	Not reported	Renewal, Nominal,	Developmental:	(Fort et al., 2001)	Medium
trog (Xenopus			AI/L (Test 1)		Activation (Aroclor	Deformation		
laevis)					1254)			

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt							Evaluation
	Water	061	MOIC 150	Not menode 1	Descent Newsburgh	Facha a say th	(E 1 . 2001)	Ma l'an
African clawed	Fresh	96-nour	MCIG = 150	Not reported	Activation (Arcolor	Embryo growth	( <u>Fort et al., 2001</u> )	Medium
laguis)			1)		1254)			
A frican clawod	Frash	06 hour	1)	Not reported	Panawal Nominal	Mortality	(Fort at al. 2001)	Madium
frog (Yenopus	TTCSII	90-110ui	$LC_{50} = +12.1$	Not reported	Activation	Wortanty	(1011  ct al., 2001)	Wiedium
laevis)			1)		(Phenobarbital)			
African clawed	Fresh	96-hour	$EC_{50} = 18 \text{ mg}$	Not reported	Renewal Nominal	Developmental <sup>.</sup>	(Fort et al 2001)	Medium
frog (Xenonus	110511	<i>y</i> 0 nour	AI/L (Test 1)	itorieponea	Activation	Deformation	( <u>1011 ct ul., 2001</u> )	Wiedrum
laevis)					(Phenobarbital)	Derormation		
African clawed	Fresh	96-hour	MCIG = 150	Not reported	Renewal, Nominal.	Embryo growth	(Fort et al., 2001)	Medium
frog (Xenopus			mg AI/L (Test	L. L.	Activation	<i>J B c c c c c c c c c c</i>	(	
laevis)			1)		(Phenobarbital)			
African clawed	Fresh	96-hour	$LC_{50} = 390.1$	Not reported	Renewal, Nominal,	Mortality	(Fort et al., 2001)	Medium
frog (Xenopus			mg AI/L (Test	-	Activation(β-	-		
laevis)			1)		Naphthoflavone)			
African clawed	Fresh	96-hour	$EC_{50} = 39.7 \text{ mg}$	Not reported	Renewal, Nominal,	Developmental:	(Fort et al., 2001)	Medium
frog (Xenopus			AI/L (Test 1)		Activation(β-	Deformation		
laevis)					Naphthoflavone)			
African clawed	Fresh	96-hour	MCIG = 150	Not reported	Renewal, Nominal,	Embryo growth	( <u>Fort et al., 2001</u> )	Medium
frog (Xenopus			mg AI/L (Test		Activation(β-			
laevis)			1)		Naphthoflavone)			
African clawed	Fresh	96-hour	$LC_{50} = 190.4$	Not reported	Renewal, Nominal,	Mortality	( <u>Fort et al., 2001</u> )	Medium
frog (Xenopus			mg AI/L (Test		Activation (Isoniazid)			
laevis)	<b>D</b> 1	0.61	1)				(F 1, 2001)	
African clawed	Fresh	96-hour	$EC_{50} = 11.9 \text{ mg}$	Not reported	Renewal, Nominal,	Developmental:	(Fort et al., 2001)	Medium
frog (Xenopus			AI/L (Test 1)		Activation (Isoniazid)	Deformation		
laevis)	Erech	06 hour	MCIC = 50 ma	Not reported	Danamal Naminal	Emphanic anosysth	(East at al. 2001)	Madium
frog (Venopus	Fresh	90-nour	MCIG = 50  mg	Not reported	Activation (Isoniazid)	Emoryo growin	( <u>Fort et al., 2001</u> )	Medium
laevis)			AI/L (Test I)		Activation (Isomaziu)			
African clawed	Fresh	96-hour	$IC_{50} = 181.3$	Not reported	Renewal Nominal	Mortality	(Fort et al. 2001)	Medium
frog (Xenopus	110511	20 11001	mg AI/L (Test	rior reported	Activation (mixed)	monunty	( <u>1 oft et al., 2001</u> )	mourum
laevis)			1)					
African clawed	Fresh	96-hour	$EC_{50} = 7.5 \text{ mg}$	Not reported	Renewal, Nominal.	Developmental:	(Fort et al., 2001)	Medium
frog (Xenopus			AI/L (Test 1)	···· F · ··-	Activation (mixed)	Deformation	()	
laevis)			``´´		, ,			

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt Water							Evaluation
African clawed frog (Xenopus laevis)	Fresh	96-hour	MCIG = 50 mg AI/L (Test 1)	Not reported	Renewal, Nominal, Activation (mixed)	Embryo growth	(Fort et al., 2001)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	LC <sub>50</sub> = 383.5 mg AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (Aroclor 1254)	Mortality	(Fort et al., 2001)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$EC_{50} = 37.3 \text{ mg}$ AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (Aroclor 1254)	Developmental: Deformation	( <u>Fort et al., 2001</u> )	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	MCIG = 150 mg AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (Aroclor 1254)	Embryo growth	( <u>Fort et al., 2001</u> )	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$LC_{50} = 410.8$ mg AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (Phenobarbital)	Mortality	( <u>Fort et al., 2001</u> )	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$EC_{50} = 19.5 \text{ mg}$ AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (Phenobarbital)	Developmental: Deformation	(Fort et al., 2001)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	MCIG = 100 mg AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (Phenobarbital)	Embryo growth	(Fort et al., 2001)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$LC_{50} = 388.9$ mg AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (β- Naphthoflavone)	Mortality	(Fort et al., 2001)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$EC_{50} = 40.2 \text{ mg}$ AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (β- Naphthoflavone)	Developmental: Deformation	(Fort et al., 2001)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	MCIG = 150 mg AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (β- Naphthoflavone)	Embryo growth	(Fort et al., 2001)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$LC_{50} = 175.3$ mg AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (Isoniazid)	Mortality	(Fort et al., 2001)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$EC_{50} = 11.5 mg$ AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (Isoniazid)	Developmental: Deformation	(Fort et al., 2001)	Medium

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt Water							Evaluation
African clawed frog (Xenopus laevis)	Fresh	96-hour	MCIG = 50 mg AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (Isoniazid)	Embryo growth	( <u>Fort et al., 2001</u> )	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$LC_{50} = 169.1$ mg AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (mixed)	Mortality	( <u>Fort et al., 2001</u> )	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$EC_{50} = 7.6 \text{ mg}$ AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (mixed)	Developmental: Deformation	( <u>Fort et al., 2001</u> )	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	MCIG = 25 mg AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (mixed)	Embryo growth	( <u>Fort et al., 2001</u> )	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$LC_{50} = 425 \text{ mg}$ AI/L (Test 1)	Not reported	Renewal, Nominal, without activation	Mortality	( <u>Fort et al., 1991</u> )	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$EC_{50} = 34 \text{ mg}$ AI/L (Test 1)	Not reported	Renewal, Nominal, without activation	Terata	(Fort et al., 1991)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$\frac{LC_{50} = 443 \text{ mg}}{AI/L \text{ (Test 2)}}$	Not reported	Renewal, Nominal, without activation	Mortality	(Fort et al., 1991)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$EC_{50} = 37 \text{ mg}$ AI/L (Test 2)	Not reported	Renewal, Nominal, without activation	Terata	(Fort et al., 1991)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	MCIG = 29 mg AI/L (Test 2)	Not reported	Renewal, Nominal, without activation	Embryo growth	(Fort et al., 1991)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$\frac{LC_{50} = 423 \text{ mg}}{AI/L \text{ (Test 1)}}$	Not reported	Renewal, Nominal, Activation (Aroclor 1254)	Mortality	(Fort et al., 1991)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$EC_{50} = 45 \text{ mg}$ AI/L (Test 1)	Not reported	Renewal, Nominal, Activation (Aroclor 1254)	Terata	(Fort et al., 1991)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$\frac{\text{LC}_{50} = 397 \text{ mg}}{\text{AI/L (Test 2)}}$	Not reported	Renewal, Nominal, Activation (Aroclor 1254)	Mortality	(Fort et al., 1991)	Medium

Test Species	Fresh/	Duration	End-point	Concentration(s)	Test Analysis	Effect(s)	References	Data Quality
	Salt Water							Evaluation
African clawed frog (Xenopus laevis)	Fresh	96-hour	$EC_{50} = 27 mg$ AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (Aroclor 1254)	Terata	( <u>Fort et al., 1991</u> )	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	MCIG = 29 mg AI/L (Test 1)	Not reported	Renewal, Nominal, Activation (Aroclor 1254)	Embryo growth	( <u>Fort et al., 1991</u> )	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	MCIG= 37 mg AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (Aroclor 1254)	Embryo growth	(Fort et al., 1991)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$LC_{50} = 261 \text{ mg}$ AI/L (Test 1)	Not reported	Renewal, Nominal, Activation (Isoniazid)	Mortality	( <u>Fort et al., 1991</u> )	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$EC_{50} = 9 mg$ AI/L (Test 1)	Not reported	Renewal, Nominal, Activation (Isoniazid)	Terata	(Fort et al., 1991)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$\frac{LC_{50} = 228 \text{ mg}}{AI/L \text{ (Test 2)}}$	Not reported	Renewal, Nominal, Activation (Isoniazid)	Mortality	(Fort et al., 1991)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$EC_{50} = 10 \text{ mg}$ AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (Isoniazid)	Terata	(Fort et al., 1991)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	MCIG = 13 mg AI/L (Test 1)	Not reported	Renewal, Nominal, Activation (Isoniazid)	Embryo growth	(Fort et al., 1991)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	MCIG = 9 mg AI/L (Test 2)	Not reported	Renewal, Nominal, Activation (Isoniazid)	Embryo growth	(Fort et al., 1991)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$\frac{LC_{50} = 249 \text{ mg}}{AI/L \text{ (Test 1)}}$	Not reported	Renewal, Nominal, Activation (mixed)	Mortality	(Fort et al., 1991)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$EC_{50} = 13 mg$ AI/L (Test 1)	Not reported	Renewal, Nominal, Activation (mixed)	Terata	(Fort et al., 1991)	Medium
African clawed frog (Xenopus laevis)	Fresh	96-hour	$\frac{LC_{50} = 204 \text{ mg}}{AI/L \text{ (Test 2)}}$	Not reported	Renewal, Nominal, Activation (mixed)	Mortality	(Fort et al., 1991)	Medium

Test Species	Fresh/	Duration	End-point	<b>Concentration</b> (s)	Test Analysis	Effect(s)	References	Data Quality
-	Salt		-					Evaluation
	Water							
African clawed	Fresh	96-hour	$EC_{50} = 9 mg$	Not reported	Renewal, Nominal,	Terata	(Fort et al., 1991)	Medium
frog (Xenopus			AI/L (Test 2)		Activation (mixed)			
laevis)								
African clawed	Fresh	96-hour	MCIG = 11 mg	Not reported	Renewal, Nominal,	Embryo growth	(Fort et al., 1991)	Medium
frog (Xenopus			AI/L (Test 1)		Activation (mixed)			
laevis)								
African clawed	Fresh	96-hour	MCIG = 7 mg	Not reported	Renewal, Nominal,	Embryo growth	( <u>Fort et al., 1991</u> )	Medium
frog (Xenopus			AI/L (Test 2)		Activation (mixed)			
laevis)								
Clawed frog	Fresh	96-hour	$LC_{50} = 350 \text{ mg}$	Not reported	Static, Nominal	Mortality	( <u>Rayburn et al.</u> ,	Unacceptable
(Xenopus sp.)			Al/L (Test 1)				<u>1991</u> )	
Clawed frog	Fresh	96-hour	$EC_{50} = 70.1 \text{ mg}$	Not reported	Static, Nominal	Malformation	( <u>Rayburn et al.</u> ,	Unacceptable
(Xenopus sp.)		0.61	Al/L (Test 1)	NY			<u>1991</u> )	<b>XX</b> . 11
Clawed frog	Fresh	96-hour	$LC_{50} = 423 \text{ mg}$	Not reported	Static, Nominal	Mortality	( <u>Rayburn et al.,</u>	Unacceptable
(Xenopus sp.)			AI/L (Test 2)		~		<u>1991</u> )	
Clawed frog	Fresh	96-hour	$EC_{50} = 33.6 \text{ mg}$	Not reported	Static, Nominal	Malformation	( <u>Rayburn et al.,</u>	Unacceptable
(Xenopus sp.)		0.61	AI/L (Test 2)			<b>.</b>	<u>1991</u> )	××
Clawed frog	Fresh	96-hour	MCIG = 292	Not reported	Static, Nominal	Embryo growth	( <u>Rayburn et al.,</u>	Unacceptable
(Xenopus sp.)	<b>F</b> 1	0.61	mg Al/L	NT 1			<u>1991</u> )	XX . 11
Clawed frog	Fresh	96-hour	$LC_{25} = 511 \text{ mg}$	Not reported	Static, Nominal	Mortality	( <u>Rayburn et al.,</u>	Unacceptable
(Xenopus sp.)		0.61	AI/L				<u>1991</u> )	<b>XX</b> 11
Clawed frog	Fresh	96-hour	$EC_{25} = 29 \text{ mg}$	Not reported	Static, Nominal	Abnormal	( <u>Rayburn et al.</u> ,	Unacceptable
(Xenopus sp.)	E I.	061	AI/L	0 10 5 00 40 60	Dense 1 Marson 1	D. 1	<u>1991</u> )	TT' . 1.
Wood frog	Fresh	96-hour	$EC_{50} = 32.2 \text{ mg}$	0, 12.5, 20, 40, 60	Renewal, Measured	Developmental:	(McDaniel et al.,	High
(Lithobates			AI/L	mg/L		Deformation	<u>2004</u> )	
Sylvalicus)	Enach	06 hour	EC = 22 mc	0 12 5 20 40 60	Demouval Macaumad	Davialonmantali	(MaDanial at al	Iliah
Green frog (Rana	riesii	90-nour	$EC_{50} = 22 \text{ mg}$	0, 12.3, 20, 40, 00	Renewal, Measured	Developmental:	( <u>McDaniel et al.,</u> 2004)	nign
A morizon tood	Erach	06 hour	$\frac{AI/L}{EC} > 25 mg$	111g/L	Danawal Naminal	Detormation	(MaDanial at al	Uich
(Rufo amaricanus)	TTESH	90-110uľ	$\Delta I/I$	55 60 85  mg/I	Renewal, Nommal	Developmental:	2004)	ringii
Spotted	Frash	06 hour	$FC_{ro} = 40 \text{ mg}$	0 12 5 20 40 60	Panawal Massurad	Developmental	(McDaniel et al	Medium
salamander	110511	90-110ui	$\Delta I/I$	0, 12.3, 20, 40, 00 mg/I	ivene wai, ivicasuieu	Deformation	2004)	wicululli
(Ambystoma				iiig/L		Derormation	<u>2004</u> )	
maculatum)								