

Toxicity of PAHs to soil organisms, soil microbial processes and enzyme activity

species/process/activity	species properties	sediment type	pH	o.m. [%]	clay [%]	temp [deg. C]	exp. time	criterion	test endpoint	result test sediment [mg/kg dw]	NOEC stand. sediment [mg/kg dw]	notes	reference
naphthalene													
Crustacea													
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	LC50	mortality	770	2990	22, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	EC50	reburial	751	2910	22, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	LC50	mortality	761	2950	23, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	EC50	reburial	737	2860	23, 24	Boese et al., 1998
benzo[a]anthracene													
Crustacea													
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	LC50	mortality	>28	>110	22, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	EC50	reburial	>28	>110	22, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	LC50	mortality	>28	>110	23, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	EC50	reburial	>28	>110	23, 24	Boese et al., 1998
benzo[b]fluoranthene													
Crustacea													
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	LC50	mortality	>46	>180	22, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	EC50	reburial	>46	>180	22, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	LC50	mortality	>46	>180	23, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	EC50	reburial	>46	>180	23, 24	Boese et al., 1998
benzo[k]fluoranthene													
Crustacea													
<i>Daphnia magna</i>	<24 h	sediment	-	3.4	30	20	24 h	EC5	immobility	300	1500	45, 56	Verrhiest et al., 2001
<i>Daphnia magna</i>	<24 h	sediment	-	3.4	30	20	48 h	EC45	immobility	300	1500	45, 56	Verrhiest et al., 2001
<i>Hyalella azteca</i>	2-3 w	sediment	-	3.4	30	20	14 d	NOEC	mortality/growth	≥300	≥1500	45, 56	Verrhiest et al., 2001
Insecta													
<i>Chironomus riparius</i>	larvae, 48 h	sediment	-	3.4	30	20	10 d	NOEC	mortality/growth	≥300	≥1500	45, 56	Verrhiest et al., 2001
anthracene													
Insecta													
<i>Chironomus riparius</i>	1st instar, <24 h	sediment	8.4	9.41	-	20	28 d	LC50	mortality	14.3	26	20	Bleeker et al., 2003
<i>Chironomus riparius</i>	1st instar, <24 h	sediment	8.4	9.41	-	20	28 d	LC10	mortality	8.0	14	20, 62	Bleeker et al., 2003
<i>Chironomus riparius</i>	1st instar, <24 h	sediment	8.4	9.41	-	20	28 d	NOEC	emergence	<11.8	<21	20, 21	Bleeker et al., 2003
Crustacea													
<i>Hyalella azteca</i>	7-14 d	sediment	7.79-8.88	0.663	15	7.79-8.88	10 d	LC50	mortality	3.332	85	45	Hatch & Burton, 1999
acenaphthene													
Crustacea													
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	LC50	mortality	62.5	242	22, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	LC50	mortality	62.5	242	23, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	EC50	reburial	58.1	225	23, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	5.1	-	15	10 d	LC50	mortality	63.3	211		Swartz et al., 1997
<i>Rhepoxynius abronius</i>		sediment	-	5.1	-	15	10 d	LC50	mortality	55	183	47	Swartz et al., 1997
<i>Rhepoxynius abronius</i>		sediment	-	5.1	-	15	10 d	LC10	mortality	49	162	47	Swartz et al., 1997
<i>Rhepoxynius abronius</i>		sediment	-	4.8	-	15	10 d	LC50	mortality	64.7	231		Swartz et al., 1997
<i>Rhepoxynius abronius</i>		sediment	-	4.8	-	15	10 d	LC50	mortality	66	235	47	Swartz et al., 1997
<i>Rhepoxynius abronius</i>		sediment	-	4.8	-	15	10 d	LC10	mortality	47	168	47	Swartz et al., 1997
phenanthrene													
Annelida													
<i>Limnodrilus hoffmeisteri</i>	mature	sediment		1.2		25	10 d	LC50	mortality	298	4222		Lotufo & Fleeger, 1996
<i>Limnodrilus hoffmeisteri</i>	mature	sediment		1.2		25	10 d	NOEC	mortality	143	2026		Lotufo & Fleeger, 1996

<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	10 d	LC10	mortality	150	2125	47	Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	10 d	EC25	sediment egestion	24.5	347		Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	10 d	EC50	sediment egestion	48	680	47	Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	10 d	EC10	sediment egestion	11	156	47	Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	5 d	NOEC	sediment egestion	20	283		Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	5 d	EC25	sediment egestion	28.4	402		Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	5 d	EC50	sediment egestion	72	1020	47	Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	5 d	EC10	sediment egestion	5.4	77	47	Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	28 d	EC25	reproduction	40.5	574		Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	28 d	NOEC	reproduction	47	666		Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	28 d	EC50	reproduction	140	1983	47	Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	28 d	EC10	reproduction	76	1077	47	Lotufo & Fleeger, 1996	
Crustacea													
<i>Daphnia magna</i>	<24 h	sediment	-	3.4	30	20	24 h	EC50	immobility	126	630	45, 56	Verrhiest et al., 2001
<i>Daphnia magna</i>	<24 h	sediment	-	3.4	30	20	48 h	EC50	immobility	49.4	247	45, 56	Verrhiest et al., 2001
<i>Hyalella azteca</i>	2-3 w	sediment	-	3.4	30	20	14 d	LC50	mortality	20.5	103	45, 56	Verrhiest et al., 2001
<i>Hyalella azteca</i>	2-3 w	sediment	-	3.4	30	20	14 d	NOEC	mortality/growth	10	50	45, 56	Verrhiest et al., 2001
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	LC50	mortality	60.7	235	22, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	LC50	mortality	60.7	235	23, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	EC50	reburial	57.9	225	23, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	3	-	15	10 d	LC50	mortality	92.4	308		Swartz et al., 1997
<i>Rhepoxynius abronius</i>		sediment	-	3	-	15	10 d	LC50	mortality	78	261	47	Swartz et al., 1997
<i>Rhepoxynius abronius</i>		sediment	-	3	-	15	10 d	LC10	mortality	64	212	47	Swartz et al., 1997
<i>Rhepoxynius abronius</i>		sediment	-	2.9	-	15	10 d	LC50	mortality	64.4	222		Swartz et al., 1997
<i>Rhepoxynius abronius</i>		sediment	-	2.9	-	15	10 d	LC50	mortality	60	208	47	Swartz et al., 1997
<i>Rhepoxynius abronius</i>		sediment	-	2.9	-	15	10 d	LC10	mortality	59	204	47	Swartz et al., 1997
<i>Schizopera knabeni</i>	adult female	mudflat marsh sediment	-	2.6	-	25	4 d	LC50	mortality	524	3493		Lotufo, 1997
<i>Schizopera knabeni</i>	adult female	mudflat marsh sediment	-	2.6	-	25	4 d	NOEC	mortality	261	1740		Lotufo, 1997
<i>Schizopera knabeni</i>	adult female	mudflat marsh sediment	-	2.6	-	25	4 d	LC10	mortality	210	1400	47	Lotufo, 1997
<i>Schizopera knabeni</i>	adult female	mudflat marsh sediment	-	2.6	-	25	6 h	EC50	grazing rate	51	340		Lotufo, 1997
<i>Schizopera knabeni</i>	adult female	mudflat marsh sediment	-	2.6	-	25	6 h	NOEC	grazing rate	<56	<370		Lotufo, 1997
<i>Schizopera knabeni</i>	male + female	mudflat marsh sediment	-	2.6	-	25	14 d	EC50	reproduction	52	347		Lotufo, 1997
<i>Schizopera knabeni</i>	male + female	mudflat marsh sediment	-	2.6	-	25	14 d	NOEC	reproduction	<56	<370		Lotufo, 1997
<i>Schizopera knabeni</i>	male + female	mudflat marsh sediment	-	2.6	-	25	14 d	EC10	reproduction	2.0	13	47	Lotufo, 1997
Insecta													
<i>Chironomus riparius</i>	larvae, 48 h	sediment	-	3.4	30	20	10 d	LC50	mortality	14.7	74	45, 56	Verrhiest et al., 2001
<i>Chironomus riparius</i>	larvae, 48 h	sediment	-	3.4	30	20	10 d	LC50	mortality	15.8	79	45, 56	Verrhiest et al., 2001
<i>Chironomus riparius</i>	larvae, 48 h	sediment	-	3.4	30	20	10 d	LC50	mortality	13.6	68	45, 56	Verrhiest et al., 2001
<i>Chironomus riparius</i>	larvae, 48 h	sediment	-	3.4	30	20	10 d	NOEC	mortality/growth	10	50	45, 56	Verrhiest et al., 2001
<i>Chironomus riparius</i>	1st instar, <24 h	sediment	8.4	9.41	-	20	28 d	LC50	mortality	107	193	20	Bleeker et al., 2003
<i>Chironomus riparius</i>	1st instar, <24 h	sediment	8.4	9.41	-	20	28 d	LC10	mortality	74	134	20, 62	Bleeker et al., 2003
<i>Chironomus riparius</i>	1st instar, <24 h	sediment	8.4	9.41	-	20	28 d	NOEC	emergence	76	137	20, 21	Bleeker et al., 2003
pyrene													
Annelida													
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	10 d	LC50	mortality	>841			Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	10 d	NOEC	mortality	≥841			Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	10 d	LC10	mortality	580	8217	47	Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	10 d	EC25	sediment egestion	51.6	731		Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	10 d	EC50	sediment egestion	100	1417		Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	10 d	EC10	sediment egestion	9.2	130	47	Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	5 d	NOEC	sediment egestion	46	652		Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	5 d	EC25	sediment egestion	58.9	834		Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	5 d	EC50	sediment egestion	130	1842	47	Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	5 d	EC10	sediment egestion	28	397	47	Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	28 d	EC25	reproduction	59.1	837		Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	28 d	NOEC	reproduction	<98	<1400		Lotufo & Fleeger, 1996	
<i>Limnodrilus hoffmeisteri</i>	mature	sediment	1.2		25	28 d	EC50	reproduction	120	1700	47	Lotufo & Fleeger, 1996	

<i>Limnodrilus hoffmeisteri</i>	mature	sediment		1.2		25	28 d	EC10	reproduction	3.8	54	47	Lotufo & Fleeger, 1996	
<i>Lumbriculus variegatus</i>		Lake Michigan sediment	8	0.44	-	23±1	168 h	EC50	sediment avoidance	226	8732		Kukkonen and Landrum, 1994	
<i>Lumbriculus variegatus</i>		Lake Michigan sediment	8	0.44	-	23±1	168 h	EC10	mortality	224	8670		Kukkonen and Landrum, 1994	
<i>Lumbriculus variegatus</i>		Lake Michigan sediment	8	0.44	-	23±1	168 h	EC10	wet weight (rate of decrease)	175	6761		Kukkonen and Landrum, 1994	
<i>Lumbriculus variegatus</i>		Lake Michigan sediment	8	0.44	-	23±1	168 h	EC50	wet weight (rate of decrease)	490	18932		Kukkonen and Landrum, 1994	
Crustacea														
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	LC50	mortality	80.4	311	22, 24	Boese et al., 1998	
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	LC50	mortality	70.4	273	23, 24	Boese et al., 1998	
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	EC50	reburial	<11	<42	23, 24	Boese et al., 1998	
<i>Rhepoxynius abronius</i>		sediment	-	3	-	15	10 d	LC50	mortality	36.6	122		Swartz et al., 1997	
<i>Rhepoxynius abronius</i>		sediment	-	3	-	15	10 d	LC50	mortality	37	124	47	Swartz et al., 1997	
<i>Rhepoxynius abronius</i>		sediment	-	3	-	15	10 d	LC10	mortality	23	77	47	Swartz et al., 1997	
<i>Rhepoxynius abronius</i>		sediment	-	2.9	-	15	10 d	LC50	mortality	81.5	281		Swartz et al., 1997	
<i>Rhepoxynius abronius</i>		sediment	-	2.9	-	15	10 d	LC50	mortality	87	299	47	Swartz et al., 1997	
<i>Rhepoxynius abronius</i>		sediment	-	2.9	-	15	10 d	LC10	mortality	76	262	47	Swartz et al., 1997	
fluoranthene														
Annelida														
<i>Arenicola marina</i>		muddy fine sand	-	-	-	-	10 d	LC50	mortality	155.8			Bowmer, 1994	
<i>Arenicola marina</i>		muddy fine sand	-	0.204	-	-	10 d	LC50	mortality	>3300	>275000		Bowmer, 1994	
<i>Arenicola marina</i>		muddy fine sand	-	-	-	-	10 d	LC50	mortality	>1000			Bowmer, 1994	
<i>Arenicola marina</i>		muddy fine sand	-	0.323	-	-	10 d	LC50	mortality	>1000	>53000		Bowmer, 1994	
<i>Arenicola marina</i>		muddy fine sand	-	0.731	-	-	10 d	LC50	mortality	>1000	>23000		Bowmer, 1994	
<i>Arenicola marina</i>		muddy fine sand	-	-	-	-	10 d	LC50	mortality	>1000			Bowmer, 1994	
<i>Monopylephorus rubroniveus</i>		tidal creek - salt marsh sediment	8.3±0.1	3.5	32.1		24.1±0.6	10 d	LC50	mortality	>3912	>19176	63	Weinstein et al., 2003
<i>Stylaria lacustris</i>		pond sediment	6	2.4	2.7		20	10 d	NOEC	mortality	26.8	38	19	Suedel & Rodgers, 1996
Crustacea														
<i>Corophium volutator</i>	4	muddy fine sand	-	1.088	-	-	10 d	LC50	mortality	33.1	517		Bowmer, 1994	
<i>Corophium volutator</i>	5	muddy fine sand	-	-	-	-	10 d	LC50	mortality	33.1			Bowmer, 1994	
<i>Corophium volutator</i>	6	muddy fine sand	-	0.204	-	-	10 d	LC50	mortality	14.8	1233		Bowmer, 1994	
<i>Corophium volutator</i>	7	muddy fine sand	-	-	-	-	10 d	LC50	mortality	<33			Bowmer, 1994	
<i>Corophium volutator</i>	8	muddy fine sand	-	0.323	-	-	10 d	LC50	mortality	5.8	305		Bowmer, 1994	
<i>Corophium volutator</i>	9	muddy fine sand	-	0.731	-	-	10 d	LC50	mortality	19.6	456		Bowmer, 1994	
<i>Corophium volutator</i>	10	muddy fine sand	-	-	-	-	10 d	LC50	mortality	22.1			Bowmer, 1994	
<i>Corophium volutator</i>	11	muddy fine sand	-	-	-	-	10 d	LC50	mortality	<26.2			Bowmer, 1994	
<i>Corophium volutator</i>	12	muddy fine sand	-	2.074	-	-	10 d	LC50	mortality	23.8	195		Bowmer, 1994	
<i>Corophium volutator</i>	14	muddy fine sand	-	1.241	-	-	10 d	LC50	mortality	22.3	305		Bowmer, 1994	
<i>Corophium volutator</i>	15	muddy fine sand	-	0.357	-	-	10 d	LC50	mortality	4.1	195		Bowmer, 1994	
<i>Corophium volutator</i>	16	muddy fine sand	-	0.629	-	-	10 d	LC50	mortality	<33	<890		Bowmer, 1994	
<i>Corophium spinicorne</i>	<1 mm, >0.5 mm	fine sand sediment	-	0.31	-	15	10 d	LC50	mortality	5.1	283		Swartz et al., 1990	
<i>Corophium spinicorne</i>	<1 mm, >0.5 mm	fine sand sediment	-	0.31	-	15	10 d	LC50	mortality	5.0	278	47	Swartz et al., 1990	
<i>Corophium spinicorne</i>	<1 mm, >0.5 mm	fine sand sediment	-	0.31	-	15	10 d	LC10	mortality	3.3	183	47	Swartz et al., 1990	
<i>Corophium spinicorne</i>	<1 mm, >0.5 mm	fine sand sediment	-	0.53	-	15	10 d	LC50	mortality	~13.6	~440		Swartz et al., 1990	
<i>Corophium spinicorne</i>	<1 mm, >0.5 mm	fine sand sediment	-	0.82	-	15	10 d	LC50	mortality	>13.6	>280		Swartz et al., 1990	
<i>Daphnia magna</i>	<24 h	sediment	-	3.4	30	20	24 h	EC50	immobility	52.6	263	45, 56	Verrhiest et al., 2001	
<i>Daphnia magna</i>	<24 h	sediment	-	3.4	30	20	48 h	EC50	immobility	9.61	48	45, 56	Verrhiest et al., 2001	
<i>Daphnia magna</i>	<48 h	water research field station	6.5-8.5	0.782	1.36	20±1	10 d	EC50	immobility	15	326		Swartz et al., 1993	
<i>Daphnia magna</i>	<48 h	lake sediment	6.5-8.5	0.85	0.94	20±1	10 d	EC50	immobility	11.9	238		Suedel et al., 1993	
<i>Daphnia magna</i>	<48 h	river sediment	6.5-8.5	0.748	0.93	20±1	10 d	EC50	immobility	4.2	95		Suedel et al., 1993	
<i>Daphnia magna</i>		pond sediment	6	2.4	2.7	20	10 d	NOEC	mortality	13.1	93	19	Suedel & Rodgers, 1996	
<i>Diporeia</i> sp.		Lake Michigan sediment	8.4	0.37	-	4.8	30 d	NOEC	mortality	<16, ≥0.02	<740, ≥0.92	30	Kane Driscoll et al., 1997a	
<i>Diporeia</i> sp.		Lake Michigan sediment	-	0.53	-	4.7	30 d	NOEC	mortality	<28, ≥0.02	<900, ≥0.64	30	Kane Driscoll et al., 1997a	
<i>Diporeia</i> sp.		sediment	8.3	1.9	-	4	30 d	NOEC	mortality	≥566	5100		Kane Driscoll & Landrum, 1997	
<i>Hyalella azteca</i>	2-3 w	sediment	8.3	1.9	-	20	16 d	LC50	mortality	718	6424		Kane Driscoll & Landrum, 1997	
<i>Hyalella azteca</i>	2-3 w	sediment	8.3	1.9	-	20	16 d	NOEC	mortality	114	1020		Kane Driscoll & Landrum, 1997	
<i>Hyalella azteca</i>	2-3 w	sediment	8.3	1.9	-	20	30 d	NOEC	mortality	210	1879		Kane Driscoll & Landrum, 1997	
<i>Hyalella azteca</i>	2-3 w	sediment	8.3	1.9	-	20	30 d	NOEC	growth rate	≥797	≥7100		Kane Driscoll & Landrum, 1997	

<i>Hyalella azteca</i>	0.5-1 mm, 2-3 w	Lake Michigan sediment	8.1	0.37	-	20	30 d	NOEC	mortality, growth	≥28	≥1300	30	Kane Driscoll et al., 1997a
<i>Hyalella azteca</i>	0.5-1 mm, 2-3 w	Lake Michigan sediment	-	0.53	-	24	30 d	NOEC	mortality	79	2534	30	Kane Driscoll et al., 1997a
<i>Hyalella azteca</i>	0.5-1 mm, 2-3 w	Lake Michigan sediment	-	0.53	-	24	30 d	NOEC	growth	≥177	≥5700	30	Kane Driscoll et al., 1997a
<i>Hyalella azteca</i>	7-14 d	sediment	7.79-8.88	0.663	15	7.79-8.88	10 d	LC50	mortality	3.248	83	45	Hatch & Burton, 1999
<i>Hyalella azteca</i>	0.6-1.0 mm (2-3 w)	water research field station	6.5-8.5	0.782	1.36	20±1	10 d	EC50	immobility	2.3	50		Suedel et al., 1993
<i>Hyalella azteca</i>	0.6-1.0 mm (2-3 w)	lake sediment	6.5-8.5	0.85	0.94	20±1	10 d	EC50	immobility	7.4	148		Suedel et al., 1993
<i>Hyalella azteca</i>	0.6-1.0 mm (2-3 w)	river sediment	6.5-8.5	0.748	0.93	20±1	10 d	EC50	immobility	5.5	125		Suedel et al., 1993
<i>Hyalella azteca</i>		pond sediment	6	2.4	2.7	20	10 d	NOEC	mortality	<12.9	<91	19	Suedel & Rodgers, 1996
<i>Hyalella azteca</i>	2-3 w	sediment	-	3.4	30	20	14 d	LC50	mortality	5.2	26	45, 56	Verrhiest et al., 2001
<i>Hyalella azteca</i>	2-3 w	sediment	-	3.4	30	20	14 d	NOEC	mortality/growth	3	15	45, 56	Verrhiest et al., 2001
<i>Hyalella azteca</i>	0.355-0.5 mm	Lake Michigan sediment	8.2±0.18	0.765	-	23	10 d	LC50	mortality	146	3244	27	Wilcoxon et al., 2003
<i>Hyalella azteca</i>	0.355-0.5 mm	Lake Michigan sediment	8.2±0.18	0.765	-	23	10 d	LC50	mortality	61.1	1358	28	Wilcoxon et al., 2003
<i>Hyalella azteca</i>	0.355-0.5 mm	Lake Michigan sediment	8.2±0.18	0.765	-	23	10 d	LC50	mortality	108	2400	29	Wilcoxon et al., 2003
<i>Rhepoxynius abronius</i>	<1 mm, >0.5 mm	fine sand sediment	-	0.31	-	15	10 d	LC50	mortality	3.4	189		Swartz et al., 1990
<i>Rhepoxynius abronius</i>	<1 mm, >0.5 mm	fine sand sediment	-	0.53	-	15	10 d	LC50	mortality	6.5	210		Swartz et al., 1990
<i>Rhepoxynius abronius</i>	<1 mm, >0.5 mm	fine sand sediment	-	0.82	-	15	10 d	LC50	mortality	10.7	223		Swartz et al., 1990
<i>Rhepoxynius abronius</i>	<1 mm, >0.5 mm	fine sand sediment	-	0.82	-	15	10 d	LC50	mortality	11.6	242	47	Swartz et al., 1990
<i>Rhepoxynius abronius</i>	<1 mm, >0.5 mm	fine sand sediment	-	0.82	-	15	10 d	LC10	mortality	4.7	98	47	Swartz et al., 1990
<i>Rhepoxynius abronius</i>	<1 mm, >0.5 mm	sediment	-	0.26	-	15	10 d	LC50	mortality	4.2	277		Swartz et al., 1988
<i>Rhepoxynius abronius</i>	<1 mm, >0.5 mm	sediment	-	0.26	-	15	10 d	LC50	mortality	3.1	204	46	Swartz et al., 1988
<i>Rhepoxynius abronius</i>	<1 mm, >0.5 mm	sediment	-	0.26	-	15	10 d	LC10	mortality	2.9	191		Swartz et al., 1988
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	LC50	mortality	80.4	311	22, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	LC50	mortality	54.8	212	23, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	4.4	-	15	10 d	EC50	reburial	<17	<67	23, 24	Boese et al., 1998
<i>Rhepoxynius abronius</i>		sediment	-	3	-	15	10 d	LC50	mortality	69.6	232		Swartz et al., 1997
<i>Rhepoxynius abronius</i>		sediment	-	3	-	15	10 d	LC50	mortality	72	240	47	Swartz et al., 1997
<i>Rhepoxynius abronius</i>		sediment	-	3	-	15	10 d	LC10	mortality	42	141	47	Swartz et al., 1997
<i>Rhepoxynius abronius</i>		sediment	-	2.8	-	15	10 d	LC50	mortality	92.7	331		Swartz et al., 1997
<i>Rhepoxynius abronius</i>		sediment	-	2.8	-	15	10 d	LC50	mortality	92	327	47	Swartz et al., 1997
<i>Rhepoxynius abronius</i>		sediment	-	2.8	-	15	10 d	LC10	mortality	56	199	47	Swartz et al., 1997
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.37	3% silt/clay	15	10 d	LC50	mortality	16	741	31	Cole et al., 2000
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.37	3% silt/clay	15	10 d	LC50	mortality	22.1	1024	32	Cole et al., 2000
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.37	3% silt/clay	15	10 d	LC50	mortality	22.1	1024	33	Cole et al., 2000
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.37	3% silt/clay	15	10 d	LC50	mortality	25.5	1181	34	Cole et al., 2000
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.37	3% silt/clay	15	10 d	LC50	mortality	22.6	1047	35	Cole et al., 2000
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.37	3% silt/clay	15	10 d	LC50	mortality	23.1	1070	36	Cole et al., 2000
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.37	3% silt/clay	15	10 d	LC50	mortality	52.2	2418	37	Cole et al., 2000
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.37	3% silt/clay	15	10 d	LC50	mortality	59.4	2751	38	Cole et al., 2000
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	1.0	24.2% silt/clay	15	10 d	LC50	mortality	31.8	533	31	Cole et al., 2000
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	1.0	24.2% silt/clay	15	10 d	LC50	mortality	37.2	623	32	Cole et al., 2000
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	1.0	24.2% silt/clay	15	10 d	LC50	mortality	36.2	606	33	Cole et al., 2000
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	1.0	24.2% silt/clay	15	10 d	LC50	mortality	38.7	648	34	Cole et al., 2000
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	1.0	24.2% silt/clay	15	10 d	LC50	mortality	36.6	613	35	Cole et al., 2000
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	1.0	24.2% silt/clay	15	10 d	LC50	mortality	32.2	539	36	Cole et al., 2000
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	1.0	24.2% silt/clay	15	10 d	LC50	mortality	39.3	658	37	Cole et al., 2000
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	1.0	24.2% silt/clay	15	10 d	LC50	mortality	38.8	650	38	Cole et al., 2000
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.60	1.8% silt/clay	15	10 d	LC50	mortality	19.1	546	40, 45	DeWitt et al., 1992
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.60	1.8% silt/clay	15	10 d	LC10	mortality	14	400	40, 45, 47	DeWitt et al., 1992
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.60	8.7% silt/clay	15	10 d	LC50	mortality	15.64	447	41, 45	DeWitt et al., 1992
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.60	8.7% silt/clay	15	10 d	LC50	mortality	14.9	427	41, 46	DeWitt et al., 1992
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.60	8.7% silt/clay	15	10 d	LC10	mortality	10.3	294	41, 45, 47	DeWitt et al., 1992
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.60	10.3% silt/clay	15	10 d	LC50	mortality	13.87	396	42, 45	DeWitt et al., 1992
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.60	10.3% silt/clay	15	10 d	LC50	mortality	12.4	355	42, 46	DeWitt et al., 1992
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.60	10.3% silt/clay	15	10 d	LC10	mortality	13	371	42, 45, 47	DeWitt et al., 1992
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.60	-	15	10 d	LC50	mortality	12.4	354	43, 45	DeWitt et al., 1992
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.60	-	15	10 d	LC50	mortality	9.5	271	43, 46	DeWitt et al., 1992
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.60	-	15	10 d	LC10	mortality	11.2	320	43, 45, 47	DeWitt et al., 1992
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.60	1.2% silt/clay	15	10 d	LC50	mortality	11.13	318	44, 45	DeWitt et al., 1992
<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.60	1.2% silt/clay	15	10 d	LC50	mortality	6.9	198	44, 46	DeWitt et al., 1992

<i>Rhepoxynius abronius</i>		fine sand from subtidal channel	-	0.60	1.2% silt/clay	15	10 d	LC10	mortality	8.4	240	44, 45, 47	DeWitt et al., 1992
<i>Schizopera knabeni</i>	non-ovigerous adult female	mudflat marsh sediment	-	2.6	-	25	4 d	LC50	mortality	>2100	>14000		Lotufo, 1997
<i>Schizopera knabeni</i>	non-ovigerous adult female	mudflat marsh sediment	-	2.6	-	25	4 d	NOEC	mortality	249	1660		Lotufo, 1997
<i>Schizopera knabeni</i>	non-ovigerous adult female	mudflat marsh sediment	-	2.6	-	25	4 d	LC10	mortality	130	867	47	Lotufo, 1997
<i>Schizopera knabeni</i>	non-ovigerous adult female	mudflat marsh sediment	-	2.6	-	25	6 h	EC50	grazing rate	94	627		Lotufo, 1997
<i>Schizopera knabeni</i>	non-ovigerous adult female	mudflat marsh sediment	-	2.6	-	25	6 h	NOEC	grazing rate	61	407		Lotufo, 1997
<i>Schizopera knabeni</i>	non-ovigerous adult female	mudflat marsh sediment	-	2.6	-	25	6 h	EC10	grazing rate	48	320	47	Lotufo, 1997
<i>Schizopera knabeni</i>	male + female	mudflat marsh sediment	-	2.6	-	25	14 d	EC50	reproduction	38	253		Lotufo, 1997
<i>Schizopera knabeni</i>	male + female	mudflat marsh sediment	-	2.6	-	25	14 d	NOEC	reproduction	<61	<410		Lotufo, 1997
<i>Schizopera knabeni</i>	male + female	mudflat marsh sediment	-	2.6	-	25	14 d	EC10	reproduction	10	67	47	Lotufo, 1997
<i>Schizopera knabeni</i>	non-ovigerous female	sediment	-	2.6	-	25	10 d	LC50	mortality	213	1393		Lotufo, 1998b
<i>Schizopera knabeni</i>	non-ovigerous female	sediment	-	2.6	-	25	10 d	NOEC	mortality	132	863		Lotufo, 1998b
<i>Schizopera knabeni</i>	non-ovigerous female	sediment	-	2.6	-	25	10 d	LC10	mortality	160	1046	47	Lotufo, 1998b
<i>Schizopera knabeni</i>	non-ovigerous female	sediment	-	2.6	-	25	10 d	EC50	reproduction	55	360		Lotufo, 1998b
<i>Schizopera knabeni</i>	non-ovigerous female	sediment	-	2.6	-	25	10 d	EC25	reproduction	29	190		Lotufo, 1998b
<i>Schizopera knabeni</i>	non-ovigerous female	sediment	-	2.6	-	25	10 d	NOEC	reproduction	18	118		Lotufo, 1998b
<i>Schizopera knabeni</i>	non-ovigerous female	sediment	-	2.6	-	25	10 d	EC10	reproduction	15	98	48	Lotufo, 1998b
<i>Schizopera knabeni</i>	non-ovigerous female	sediment	-	2.6	-	25	24+3 h	EC50	grazing rate	34	222	25	Lotufo, 1998b
<i>Schizopera knabeni</i>	non-ovigerous female	sediment	-	2.6	-	25	24+3 h	EC25	grazing rate	9	59	25	Lotufo, 1998b
<i>Schizopera knabeni</i>	non-ovigerous female	sediment	-	2.6	-	25	24+3 h	NOEC	grazing rate	5	33	25	Lotufo, 1998b
<i>Schizopera knabeni</i>	non-ovigerous female	sediment	-	2.6	-	25	24+3 h	EC10	grazing rate	2.4	16	25, 48	Lotufo, 1998b
<i>Coullana spec.</i>	non-ovigerous female	sediment	-	2.6	-	25	10 d	LC50	mortality	132	880		Lotufo, 1998b
<i>Coullana spec.</i>	non-ovigerous female	sediment	-	2.6	-	25	10 d	NOEC	mortality	47	313		Lotufo, 1998b
<i>Coullana spec.</i>	non-ovigerous female	sediment	-	2.6	-	25	10 d	LC10	mortality	40	267	47	Lotufo, 1998b
<i>Coullana spec.</i>	non-ovigerous female	sediment	-	2.6	-	25	10 d	EC50	reproduction	49	327	47	Lotufo, 1998b
<i>Coullana spec.</i>	non-ovigerous female	sediment	-	2.6	-	25	10 d	NOEC	reproduction	47	313		Lotufo, 1998b
<i>Coullana spec.</i>	non-ovigerous female	sediment	-	2.6	-	25	10 d	EC10	reproduction	44	293	47	Lotufo, 1998b
<i>Coullana spec.</i>	non-ovigerous female	sediment	-	2.6	-	25	24+3 h	EC50	grazing rate	35	233	25	Lotufo, 1998b
<i>Coullana spec.</i>	non-ovigerous female	sediment	-	2.6	-	25	24+3 h	EC25	grazing rate	19	127	25	Lotufo, 1998b
<i>Coullana spec.</i>	non-ovigerous female	sediment	-	2.6	-	25	24+3 h	NOEC	grazing rate	18	120	25	Lotufo, 1998b
<i>Coullana spec.</i>	non-ovigerous female	sediment	-	2.6	-	25	24+3 h	EC10	grazing rate	10	67	25, 48	Lotufo, 1998b
Insecta													
<i>Chironomus tentans</i>	10-12 d	water research field station	6.5-8.5	0.782	1.36	20±1	10 d	EC50	immobility	7.3	159		Suedel et al., 1993
<i>Chironomus tentans</i>	10-12 d	lake sediment	6.5-8.5	0.85	0.94	20±1	10 d	EC50	immobility	8.7	174		Suedel et al., 1993
<i>Chironomus tentans</i>	10-12 d	river sediment	6.5-8.5	0.748	0.93	20±1	10 d	EC50	immobility	3	68		Suedel et al., 1993
<i>Chironomus tentans</i>		pond sediment	6	2.4	2.7	20	10 d	NOEC	mortality	13.9	98	19	Suedel & Rodgers, 1996
<i>Chironomus riparius</i>	larvae, 24 h post-hatch	river sediment	8.2	1.9		20±1	28 d	NOEC	total emergence, emergence time and onset	31	282	57	Stewart & Thompson, 1995
<i>Chironomus riparius</i>	larvae, 24 h post-hatch	river sediment	8.2	1.9		20±1	28 d	EC50	total emergence, emergence time and onset	93	845	47, 57	Stewart & Thompson, 1995
<i>Chironomus riparius</i>	larvae, 24 h post-hatch	river sediment	8.2	1.9		20±1	28 d	EC10	total emergence, emergence time and onset	66	599	47, 57	Stewart & Thompson, 1995
<i>Chironomus riparius</i>	larvae, 24 h post-hatch	river sediment	8.2	0.9		20±1	11 d	LC50	mortality	32	598	57, 58	Stewart & Thompson, 1995
<i>Chironomus riparius</i>	larvae, 24 h post-hatch	river sediment	8.2	0.9		20±1	11 d	LC50	mortality	30	560	57, 59	Stewart & Thompson, 1995
<i>Chironomus riparius</i>	larvae, 24 h post-hatch	river sediment	8.2	0.9		20±1	11 d	LC50	mortality	32	602	57, 60	Stewart & Thompson, 1995
<i>Chironomus riparius</i>	larvae, 24 h post-hatch	river sediment	8.2	0.9		20±1	11 d	LC50	mortality	42	783	57, 61	Stewart & Thompson, 1995
<i>Chironomus riparius</i>	larvae, 48 h	sediment	-	3.4	30	20	10 d	LC50	mortality	14.7	74	45, 56	Verrhiest et al., 2001
<i>Chironomus riparius</i>	larvae, 48 h	sediment	-	3.4	30	20	10 d	NOEC	mortality/growth	<3	<15	45, 56	Verrhiest et al., 2001
Mollusca													
<i>Abra alba</i>		organic rich muddy sediment	-	-	-	-	96-120 h	EC50	defecation rate of faecal pellets	100			Bowmer, 1994
<i>Abra alba</i>		organic rich muddy sediment	-	-	-	-	96-120 h	EC50	defecation rate of faecal pellets	187.5			Bowmer, 1994
<i>Abra alba</i>		organic rich muddy sediment	-	-	-	-	96-120 h	EC50	defecation rate of faecal pellets	16.3			Bowmer, 1994
<i>Abra alba</i>		organic rich muddy sediment	-	-	-	-	96-120 h	EC50	defecation rate of faecal pellets	137.5			Bowmer, 1994
<i>Abra alba</i>		organic rich muddy sediment	-	-	-	-	96-120 h	EC50	defecation rate of faecal pellets	>625			Bowmer, 1994
Echinodermata													
<i>Echinocardium cordata</i>	5	muddy fine sand	-	-	-	-	14 d	LC50	mortality	33			Bowmer, 1994
<i>Echinocardium cordata</i>	6	muddy fine sand	-	0.204	-	-	14 d	LC50	mortality	34	2833		Bowmer, 1994
<i>Echinocardium cordata</i>	9	muddy fine sand	-	0.323	-	-	14 d	LC50	mortality	77	4053		Bowmer, 1994
<i>Echinocardium cordata</i>	10	muddy fine sand	-	-	-	-	14 d	LC50	mortality	116			Bowmer, 1994