

Supplementary Information

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Box S1

Fig. S1

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Box S1 Toxicity data preparation

The internal toxicity data retrieved from the ERED database and the external toxicity data retrieved from the ECOTOX database (<http://cfpub.epa.gov/ecotox/>), including the NOELs, LOELs, and maximum acceptable toxicant concentrations (MATCs), were compiled into two separated Microsoft Visual FoxPro tables and standardized referring Zwart¹ to unify reported units in exposure duration, subjected to removal of records not fitting the chronic criteria, etc., by editing a Visual FoxPro programme. As the available NOELs were quite limited, the MATCs presented as one value and the highest concentration/dose showing less than 10% effect was also considered to be the corresponding NOELs. If an LOEL was reported for a certain species, while no NOEL was available, the LOEL was converted into the corresponding NOEL according to Kalf et al.² and Sijm et al.³, as follows:

- LOEC > 10 to 20% effects: NOEC = LOEC/2.
- LOEC 20 to 50% effect: NOEC = LOEC/3.
- LOEC ≥ 50% effects: NOEC = LOEC/10.

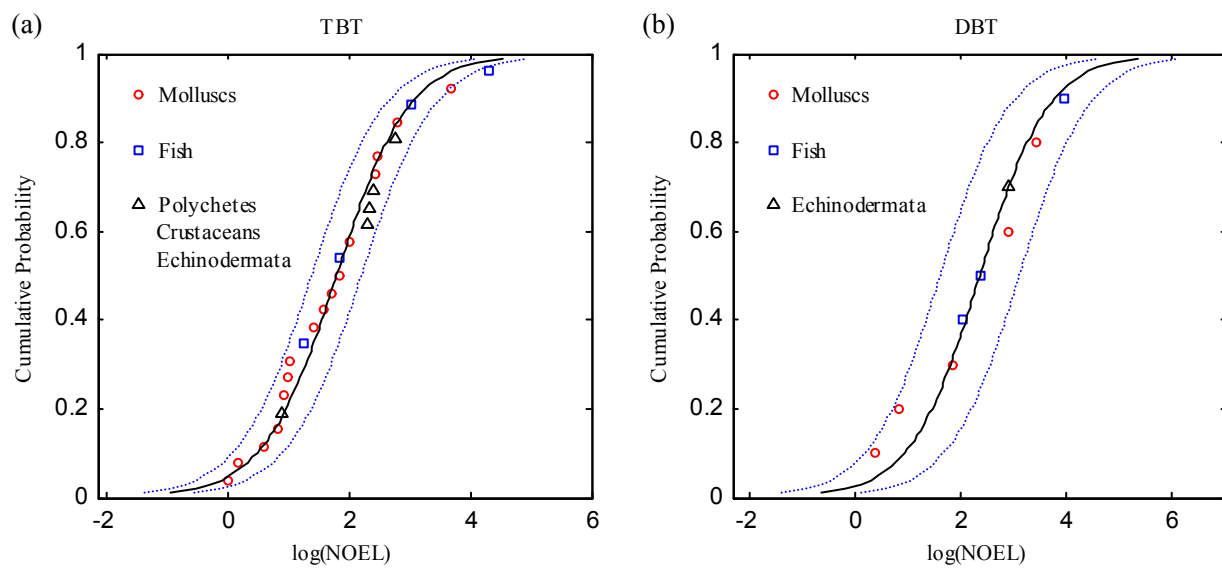


Fig. S1 Species sensitivity distribution for TBT (a) and DBT (b)

Table S1 Internal toxicity data for butyltins

Species scientific name	Species Group	chemical	Organism Life Stage	Media Type	Effect Type	Body Part	Endpoint	Concentration (µg-Sn/g)	Reference Number
TBT									
<i>Arca zebra</i>	Molluscs	TBT	NR	NR	Growth	Whole Body	LOED	2.57E-2 [§]	Weston06-064 [¶]
<i>Armandia brevis</i>	Echinodermata	TBT	NR	NR	Growth	Whole Body	NOED	2.08E-1	Weston06-064
<i>Callinectes sapidus</i>	Crustaceans	TBT	Juvenile	Ingestion	Behavior	Whole Body	NOED	2.04E-1	JA371
<i>Callinectes sapidus</i>	Crustaceans	TBT	Juvenile	Ingestion	Growth	Whole Body	NOED	2.04E-1	JA371
<i>Callinectes sapidus</i>	Crustaceans	TBT	Juvenile	Ingestion	Physiology	Whole Body	NOED	2.04E-1	JA371
<i>Crassostrea gigas</i>	Molluscs	TBTCl	Immature	Combined	Morphology	Whole Body	LOED	1.82E-2 [‡]	URS62
<i>Crassostrea gigas</i>	Molluscs	TBTCl	Immature	Combined	Growth	Whole Body	LOED	1.37E-1 [‡]	URS62
<i>Dreissena polymorpha</i>	Molluscs	TBTCl	Adult	Absorption	Growth	Whole Body	NOED	4.63	URS219
<i>Dreissena polymorpha</i>	Molluscs	TBTCl	Adult	Absorption	Mortality	Whole Body	NOED	4.63	URS219
<i>Gobiocypris rarus</i>	Fish	TBTCl	Adult	Water	Behavior	Muscle	NOED	1.82E-2	MEC03-047
<i>Gobiocypris rarus</i>	Fish	TBTCl	Adult	Water	Mortality	Muscle	NOED	1.82E-2	MEC03-047
<i>Hexaplex trunculus</i>	Molluscs	TBT	Adult	Combined	Physiology	Viscera	NOED	6.52E-3	Weston05-148
<i>Nassarius obsoletus</i> [†]	Molluscs	TBTCl	Immature	Combined	Reproduction	Whole Body	NOED	1.46E-3	JA58
<i>Leptasterias polaris</i>	Echinodermata	TBT	Adult	Ingestion	Biochemical	Gonad	NOED	5.75E-1	Weston05-033
<i>Leptasterias polaris</i>	Echinodermata	TBT	Adult	Ingestion	Biochemical	Gonad	NOED	5.75E-1	Weston05-037
<i>Littorina littorea</i>	Molluscs	TBTCl	Adult	Combined	Reproduction	Whole Body	NOED	3.65E-2	SEQ98-29
<i>Mytilus edulis</i>	Molluscs	TBT	Adult	Combined	Biochemical	Whole Body	NOED	9.38E-2	MEC04-095
<i>Mytilus edulis</i>	Molluscs	TBT	Adult	Combined	Growth	Whole Body	NOED	9.38E-2	MEC04-095
<i>Mytilus edulis</i>	Molluscs	TBT	Adult	Combined	Biochemical	Whole Body	NOED	2.75E-1	MEC04-095
<i>Mytilus edulis</i>	Molluscs	TBT	Adult	Combined	Growth	Whole Body	NOED	2.75E-1	MEC04-095
<i>Mytilus edulis</i>	Molluscs	TBTCl	Adult	Absorption	Behavior	Whole Body	NOED	2.92E-1	URS235
<i>Mytilus edulis</i>	Molluscs	TBTCl	Adult	Absorption	Physiology	Whole Body	NOED	2.92E-1	URS235
<i>Mytilus edulis</i>	Molluscs	TBTCl	Adult	Absorption	Physiology	Whole Body	NOED	6.93E-1	URS235
<i>Nassarius reticulatus</i>	Molluscs	TBT	Adult	NR	Cellular	Whole Body	NOED	6.93E-2	MEC03-236
<i>Neanthes arenaceodentata</i>	Polychetes	TBTCl	Adult	Ingestion	Growth	Whole Body	NOED	1.64E-4	JA308
<i>Neanthes arenaceodentata</i>	Polychetes	TBTCl	Adult	Ingestion	Mortality	Whole Body	NOED	3.43E-4	JA308

<i>Neanthes arenaceodentata</i>	Polychetes	TBTCI	Adult	Ingestion	Reproduction	Whole Body	NOED	3.43E-4	JA308
<i>Neanthes arenaceodentata</i>	Polychetes	TBTCI	Adult	Ingestion	Growth	Whole Body	NOED	1.64E-1	JA308
<i>Neanthes arenaceodentata</i>	Polychetes	TBTCI	Adult	Ingestion	Mortality	Whole Body	NOED	3.43E-1	JA308
<i>Neanthes arenaceodentata</i>	Polychetes	TBTCI	Adult	Ingestion	Reproduction	Whole Body	NOED	3.43E-1	JA308
<i>Nereis arenaceodentata</i>	Polychetes	TBTCI	Immature	Combined	Growth	Whole Body	NOED	1.96E-1	ABB5
<i>Nereis arenaceodentata</i>	Polychetes	TBTCI	Immature	Combined	Survival	Whole Body	NOED	3.41E-1	ABB5
<i>Nucella lapillus</i>	Molluscs	TBT	NR	Water	Physiology	Soft Tissue	NOED	9.95E-3	Weston06-071
<i>Nucella lapillus</i>	Molluscs	TBTCI	Adult	Combined	Development	Whole Body	NOED	2.43E-2	JB18
<i>Nucella lapillus</i>	Molluscs	TBT	Egg	Combined	Reproduction	Whole Body	NOED	2.85E-2	JA148
<i>Nucella lapillus</i>	Molluscs	TBTCI	Adult	Combined	Development	Whole Body	NOED	3.31E-1	JB18
<i>Nucella lapillus</i>	Molluscs	TBT	Adult	Absorption	Morphology	Whole Body	NOED	4.73E-1	JB18
<i>Nucella lapillus</i>	Molluscs	TBT	Adult	Combined	Development	Whole Body	NOED	8.03E-1	JB18
<i>Nucella lima</i>	Molluscs	TBT	NR	NR	Physiology	Not Supplied	LOED	1.00E-3 [‡]	NewFields07-004 [‡]
<i>Ocenebra erinacea</i>	Molluscs	TBT	NR	NR	Physiology	Not Supplied	LOED	1.00E-2 [‡]	NewFields07-004 [‡]
<i>Ocenebra erinacea</i>	Molluscs	TBT	NR	NR	Physiology	Not Supplied	LOED	1.00E-2 [‡]	NewFields07-004 [‡]
<i>Oncorhynchus mykiss</i>	Fish	TBT	NR	Water	Cellular	Whole Body	NOED	1.02	MEC04-222
<i>Oncorhynchus mykiss</i>	Fish	TBT	NR	Water	Cellular	Whole Body	NOED	1.14	MEC04-222
<i>Oryzias latipes</i>	Fish	TBT	Adult	Ingestion	Reproduction	Eggs	NOED	3.10E-2	Weston05-046
<i>Oryzias latipes</i>	Fish	TBT	Adult	Ingestion	Reproduction	Eggs	NOED	1.04E-1	Weston05-046
<i>Oryzias latipes</i>	Fish	TBT	Adult	Ingestion	Reproduction	Eggs	NOED	1.08E-1	Weston05-046
<i>Ostrea edulis</i>	Molluscs	TBT	Adult	Water	Physiology	Whole Body	NOED	1.63E-1	JA449
<i>Ostrea edulis</i>	Molluscs	TBT	Adult	Water	Physiology	Whole Body	NOED	5.02E-1	JA449
<i>Ruditapes decussata</i>	Molluscs	TBT	Adult	Water	Biochemical	Whole Body	NOED	2.15E-2	Weston05-130
<i>Ruditapes decussata</i>	Molluscs	TBT	Adult	Water	Biochemical	Whole Body	NOED	6.24E-2	Weston05-130
<i>Ruditapes decussata</i>	Molluscs	TBT	Adult	Water	Biochemical	Whole Body	NOED	9.40E-2	Weston05-130
<i>Ruditapes decussata</i>	Molluscs	TBT	NR	Water	Biochemical	NR	NOED	9.40E-2	MEC03-128
<i>Ruditapes decussata</i>	Molluscs	TBT	Adult	Water	Biochemical	Whole Body	NOED	1.01E-1	Weston05-130
<i>Ruditapes decussata</i>	Molluscs	TBT	Adult	Water	Biochemical	Whole Body	NOED	1.18E-1	Weston05-130
<i>Ruditapes decussata</i>	Molluscs	TBT	NR	Water	Biochemical	NR	NOED	1.18E-1	MEC03-128
<i>Ruditapes decussata</i>	Molluscs	TBT	Adult	Water	Biochemical	Whole Body	NOED	3.39E-1	Weston05-130

<i>Ruditapes decussata</i>	Molluscs	TBT	NR	Water	Biochemical	NR	NOED	2.15E+1	MEC03-128
<i>Ruditapes decussata</i>	Molluscs	TBT	NR	Water	Biochemical	NR	NOED	1.01E+2	MEC03-128
<i>Ruditapes decussata</i>	Molluscs	TBT	NR	Water	Biochemical	NR	NOED	3.39E+2	MEC03-128
<i>Saccostrea commercialis</i>	Molluscs	TBTCl	Juvenile	Combined	Morphology	Whole Body	LOED	2.19E-3 [†]	SEQ98-14
<i>Saccostrea commercialis</i>	Molluscs	TBTCl	Adult	Combined	Morphology	Whole Body	LOED	7.29E-3 [†]	SEQ98-14
<i>Stenotomus chrysops</i>	Fish	TBTCl	Adult	Injection	Cellular	Whole Body	NOED	5.94	URS18
<i>Stenotomus chrysops</i>	Fish	TBTCl	Adult	Injection	Cellular	Liver	NOED	7.37E+1	URS18
<i>Thais bronni</i>	Molluscs	TBT	NR	NR	Physiology	Whole Body	LOED	1.02E-2 [†]	Weston06-064
<i>Thais clavigera</i>	Molluscs	TBT	Adult	Ingestion	Physiology	Whole Body	NOED	8.24E-3	NewFields09-22
DBT									
<i>Dreissena polymorpha</i>	Molluscs	DBT	Adult	Absorption	Growth	Whole Body	NOED	8.39E-1	URS219
<i>Dreissena polymorpha</i>	Molluscs	DBT	Adult	Absorption	Mortality	Whole Body	NOED	8.39E-1	URS219
<i>Gobiocypris rarus</i>	Fish	DBT	Adult	Water	Behavior	Muscle	NOED	1.13E-1	MEC03-047
<i>Gobiocypris rarus</i>	Fish	DBT	Adult	Water	Mortality	Muscle	NOED	1.13E-1	MEC03-047
<i>Hexaplex trunculus</i>	Molluscs	DBT	Adult	Combined	Physiology	Viscera	NOED	7.02E-3	Weston05-148
<i>Leptasterias polaris</i>	Echinodermata	DBT	Adult	Ingestion	Biochemical	Gonad	NOED	8.39E-1	Weston05-037
<i>Mytilus edulis</i>	Molluscs	DBT	Adult	Absorption	Behavior	Whole Body	NOED	2.25	URS235
<i>Mytilus edulis</i>	Molluscs	DBT	Adult	Absorption	Physiology	Whole Body	NOED	3.63	URS235
<i>Nucella lapillus</i>	Molluscs	DBT	NR	Absorption	Development	Whole Body	NOED	3.33E-2	JA56
<i>Nucella lapillus</i>	Molluscs	DBT	NR	Absorption	Reproduction	Whole Body	NOED	3.33E-2	JA56
<i>Nucella lapillus</i>	Molluscs	DBT	NR	Injection	Development	Whole Body	NOED	1.67E-1	JA56
<i>Nucella lapillus</i>	Molluscs	DBT	NR	Injection	Mortality	Whole Body	NOED	1.67E-1	JA56
<i>Nucella lapillus</i>	Molluscs	DBT	NR	Injection	Reproduction	Whole Body	NOED	1.67E-1	JA56
<i>Oncorhynchus mykiss</i>	Fish	DBT	NR	Water	Cellular	Whole Body	NOED	2.53E-1	MEC04-222
<i>Stenotomus chrysops</i>	Fish	DBT	Adult	Injection	Cellular	Liver	NOED	9.95	URS18
<i>Thais clavigera</i>	Molluscs	DBT	Adult	Injection	Reproduction	Whole Body	NOED	2.53E-3	SEQ97-1

NR, not reported; similarly hereafter.

[†] The original record of the scientific name of this species in the ERED (<http://www.wes.army.mil/el/ered>) was *Ilyanassa obsoleta*, amended following the species 2000 website for species scientific name retrieval (<http://www.sp2000.cn>).

‡ Converted NOED: NOED = LOED/2.

§ Converted NOED: NOED = LOED/3.

¶ Secondary sources of [Gibbs et al.⁴](#), [Short et al.⁵](#), and [Widdows et al.⁶](#) should be added to extract the details of the toxicity data for the LOEL conversion.

Table S2 External toxicity data for butyltins

Species Scientific Name	Species Group	Chemical	Organism Life Stage	Media Type	Exposure Duration (day)	Effect Type	Response Site	Endpoint	Concentration (ng-Sn/L)	Reference Number
TBT										
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	27	Growth	NR	NOEC	1.22E+01	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	14	Growth	NR	NOEC	2.85E+01	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	54	Reproduction	NR	NOEC	3.67E+01	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	48	Growth	NR	NOEC	9.79E+01	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	48	Growth	NR	NOEC	9.79E+01	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	39	Growth	NR	NOEC	1.02E+02	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	63	Growth	NR	NOEC	1.02E+02	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	63	Growth	NR	NOEC	1.02E+02	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	63	Mortality	NR	NOEC	1.02E+02	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	28	Growth	NR	NOEC	1.10E+02	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	28	Growth	NR	NOEC	1.10E+02	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	10	Growth	NR	NOEC	1.30E+02	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	6	Growth	NR	NOEC	1.55E+02	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	21	Mortality	NR	NOEC	1.55E+02	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	41	Mortality	NR	NOEC	1.55E+02	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	63	Growth	NR	NOEC	1.55E+02	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	63	Growth	NR	NOEC	1.55E+02	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	28	Growth	NR	NOEC	2.00E+02	14746
<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	28	Growth	NR	NOEC	2.00E+02	14746

<i>Acanthomysis sculpta</i>	Crustaceans	TBT	Juvenile	SW	10	Growth	NR	NOEC	2.45E+02	14746
<i>Acartia tonsa</i>	Crustaceans	TBTCl	Nauplii	SW	6	Mortality	NR	NOEC	3.65	3199
<i>Acartia tonsa</i>	Crustaceans	TBTCl	Nauplii	SW	6	Mortality	NR	NOEC	4.38	3199
<i>Acropora tenuis</i>	Cnidaria	TBTCl	Juvenile	SW	10	Physiology	NR	NOEL	7.29E+01	102066
<i>Algae</i>	Algae	TBTCl	NR	SW	21	Population	NR	NOEC	3.09E+01	17785
<i>Algae</i>	Algae	TBTCl	NR	SW	14	Population	NR	NOEC	6.65E+01	17785
<i>Algae</i>	Algae	TBTCl	NR	SW	14	Population	NR	NOEC	8.67E+01	17785
<i>Algae</i>	Algae	TBTCl	NR	SW	21	Population	NR	NOEC	1.10E+02	17785
<i>Algae</i>	Algae	TBTCl	NR	SW	14	Population	NR	NOEC	1.54E+02	17785
<i>Algae</i>	Algae	TBTCl	NR	SW	21	Population	NR	NOEC	1.78E+02	17785
<i>Allorchestes compressa</i>	Crustaceans	TBTCl	NR	SW	4	Mortality	NR	NOEC	4.56E+03	14985
<i>Allorchestes compressa</i>	Crustaceans	TBTCl	NR	SW	4	Mortality	NR	NOEC	9.12E+03	14985
<i>Allorchestes compressa</i>	Crustaceans	TBTCl	NR	SW	4	Mortality	NR	NOEC	1.82E+04	14985
<i>Americamysis bahia</i>	Crustaceans	TBTO	Larvae	SW	31	Mortality	NR	NOEC	2.47E+01	73494
<i>Americamysis bahia</i>	Crustaceans	TBTO	Larvae	SW	31	Growth	NR	NOEC	5.83E+01	73494
<i>Americamysis bahia</i>	Crustaceans	TBTO	Larvae	SW	31	Reproduction	NR	NOEC	5.83E+01	73494
<i>Americamysis bahia</i>	Crustaceans	TBTO	Larvae	SW	31	Growth	NR	NOEC	9.22E+01	73494
<i>Bolinus brandaris</i>	Molluscs	TBTCl	NR	SW	31	Biochemical	Ganglion	NOEC	1.82E+05	96057
<i>Bolinus brandaris</i>	Molluscs	TBTCl	NR	SW	31	Growth	Penis	NOEC	1.82E+05	96057
<i>Chironomus riparius</i>	Insects	TBTCl	Larvae	FW	10	Growth	NR	NOEC	9.48E+02	7176
<i>Chlorella fusca ssp. Vacuolata</i>	Algae	TBTCl	NR	SW	1	Population	NR	NOEC	1.58E+04	90044
<i>Chroococcus minor</i>	Algae	TBTCl	NR	SW	7	Growth	NR	EC10	3.25E+04	Bao et al.⁷
<i>Corophium volutator</i>	Crustaceans	TBTCl	Adult	SW	10	Mortality	NR	NOEC	3.90E+01	20478
<i>Danio rerio</i>	Fish	TBT	Larvae	FW	122	Cellular	Erythrocyte	NOEC	3.67E+04	106560
<i>Daphnia magna</i>	Crustaceans	TBTO	NR	FW	21	Reproduction	NR	NOEC	3.19E+01	847
<i>Daphnia magna</i>	Crustaceans	TBTO	NR	FW	21	Behavior	NR	NOEC	3.19E+01	6628
<i>Daphnia magna</i>	Crustaceans	TBTCl	Neonate	FW	21	Development	NR	NOEC	3.65E+02	20032
<i>Daphnia magna</i>	Crustaceans	TBTCl	Neonate	FW	21	Population	NR	NOEC	3.65E+02	20032
<i>Daphnia magna</i>	Crustaceans	TBTCl	Neonate	FW	21	Reproduction	NR	NOEC	3.65E+02	20032
<i>Daphnia magna</i>	Crustaceans	TBTCl	Neonate	FW	21	Reproduction	NR	NOEC	3.65E+02	20032

<i>Daphnia magna</i>	Crustaceans	TBTCl	Neonate	FW	21	Reproduction	NR	NOEC	3.65E+02	20032
<i>Daphnia magna</i>	Crustaceans	TBTCl	Neonate	FW	21	Reproduction	NR	NOEC	3.65E+02	20032
<i>Daphnia magna</i>	Crustaceans	TBTCl	Neonate	FW	21	Reproduction	NR	NOEC	3.65E+02	20032
<i>Daphnia magna</i>	Crustaceans	TBTCl	Neonate	FW	21	Reproduction	NR	NOEC	3.65E+02	20032
<i>Daphnia magna</i>	Crustaceans	TBTCl	Neonate	FW	21	Reproduction	NR	NOEC	3.65E+02	20032
<i>Daphnia magna</i>	Crustaceans	TBTO	NR	FW	21	Reproduction	NR	NOEC	3.98E+01	56312
<i>Daphnia magna</i>	Crustaceans	TBTO	Neonate	FW	21	Reproduction	NR	NOEC	1.99E+01	59761
<i>Daphnia magna</i>	Crustaceans	TBTO	Neonate	FW	21	Reproduction	NR	NOEL	1.99E+01	59761
<i>Daphnia magna</i>	Crustaceans	TBTO	Neonate	FW	21	Reproduction	NR	MATC	2.79E+01	59761
<i>Daphnia magna</i>	Crustaceans	TBTO	Neonate	FW	21	Growth	NR	NOEC	4.98E+01	60672
<i>Daphnia magna</i>	Crustaceans	TBTO	Neonate	FW	21	Mortality	NR	NOEC	4.98E+01	60672
<i>Daphnia magna</i>	Crustaceans	TBTO	Neonate	FW	21	Reproduction	NR	NOEC	4.98E+01	60672
<i>Daphnia magna</i>	Crustaceans	TBTO	Neonate	FW	21	Reproduction	NR	NOEC	4.98E+01	60672
<i>Echinocardium cordatum</i>	Echinodermata	TBTCl	Adult	SW	14	Mortality	NR	NOEC	3.90E+01	20478
<i>Echinocardium cordatum</i>	Echinodermata	TBTCl	Adult	SW	28	Mortality	NR	NOEC	3.90E+01	20478
<i>Echinoparyphium recurvatum</i>	Worms	TBTO	NR	FW	30	Mortality	NR	NOEL	1.99E+03	80004
<i>Echinoparyphium recurvatum</i>	Worms	TBTO	NR	FW	30	Population	NR	NOEL	1.99E+03	80004
<i>Echinoparyphium recurvatum</i>	Worms	TBTO	NR	FW	30	Population	NR	NOEL	1.99E+03	80004
<i>Entomoneis punctulata</i>	Algae	TBTCl	Exponential Growth Phase	SW	3	Population	NR	NOEC	2.70E+04	110086
<i>Hexagenia limbata</i>	Insects	TBTCl	Larvae	FW	112	Mortality	NR	LOEC	1.75 [‡]	86339
<i>Hexagenia limbata</i>	Insects	TBTCl	Larvae	FW	112	Population	NR	LOEC	1.75 [‡]	86339
<i>Hexagenia sp.</i>	Insects	TBTCl	Nymph	FW	21	Growth	NR	NOEC	1.82E+02	7176
<i>Hexagenia sp.</i>	Insects	TBTCl	Nymph	FW	21	Mortality	NR	NOEC	3.28E+02	7176
<i>Hoplias malabaricus</i>	Fish	TBTCl	Mature	FW	70	Zygote	Blood	NOEC	1.09E+05	85793
<i>Hoplias malabaricus</i>	Fish	TBTCl	Mature	FW	70	Zygote	Blood	NOEC	1.09E+05	85793
<i>Hoplias malabaricus</i>	Fish	TBTCl	Mature	FW	70	Zygote	Blood	NOEC	1.09E+05	85793
<i>Hoplias malabaricus</i>	Fish	TBTCl	Mature	FW	70	Zygote	Blood	NOEC	1.09E+05	85793
<i>Hoplias malabaricus</i>	Fish	TBTCl	Mature	FW	70	Zygote	Blood	NOEC	1.09E+05	85793
<i>Hoplias malabaricus</i>	Fish	TBTCl	Mature	FW	70	Cellular	Blood	NOEC	1.09E+05	85793

<i>Marisa cornuarietis</i>	Molluscs	TBTCI	Sexually Mature	FW	150	Biochemical	Multiple Tissue/Organ	NOEC	1.82E+02	99181
<i>Mytilus edulis</i>	Molluscs	TBT	Larvae	SW	33	Growth	NR	NOEC	2.45	6982
<i>Mytilus edulis</i>	Molluscs	TBT	Larvae	SW	33	Growth	NR	MATC	6.93	6982
<i>Mytilus edulis</i>	Molluscs	TBTCI	Post Larvae	SW	15	Growth	NR	EC10	1.97E+01	19280
<i>Nassarius obsoletus</i>	Molluscs	TBTCI	NR	SW	45	Physiology	NR	NOEC	7.29E+01	82438
<i>Nassarius obsoletus</i>	Molluscs	TBTCI	NR	SW	45	Mortality	NR	NOEC	7.29	105674
<i>Nassarius reticulatus</i>	Molluscs	TBT	Sexually Mature	FW	14	Growth	Penis	NOEC	2.04E+01	69835
<i>Nassarius reticulatus</i>	Molluscs	TBT	Sexually Mature	FW	30	Growth	Penis	NOEC	2.04E+01	69835
<i>Nassarius reticulatus</i>	Molluscs	TBT	Sexually Mature	FW	61	Growth	Penis	NOEC	2.04E+01	69835
<i>Nassarius reticulatus</i>	Molluscs	TBT	Sexually Mature	FW	91	Growth	Penis	NOEC	2.04E+01	69835
<i>Nassarius reticulatus</i>	Molluscs	TBT	Sexually Mature	FW	122	Growth	Penis	NOEC	2.04E+01	69835
<i>Nassarius reticulatus</i>	Molluscs	TBT	Sexually Mature	FW	152	Growth	Penis	NOEC	2.04E+01	69835
<i>Nassarius reticulatus</i>	Molluscs	TBTCI	Adult	SW	61	Biochemical	Soft Tissue	NOEC	1.46E+02	79867
<i>Nassarius reticulatus</i>	Molluscs	TBTCI	Adult	SW	61	Biochemical	Soft Tissue	NOEC	1.46E+02	79867
<i>Nassarius reticulatus</i>	Molluscs	TBTCI	Adult	SW	61	Growth	Penis	NOEC	1.46E+02	79867
<i>Nassarius reticulatus</i>	Molluscs	TBTCI	Adult	SW	61	Growth	Penis	NOEC	1.82E+02	79867
<i>Nitzschia closterium</i>	Algae	TBTCI	Exponential Growth Phase	SW	3	Population	NR	NOEC	7.29E+02	110086
<i>Nucella lapillus</i>	Molluscs	TBTO	Adult	SW	30	Growth	Penis	NOEC	1.51E+02	9998
<i>Nucella lapillus</i>	Molluscs	TBT	Sexually Mature	FW	14	Growth	Penis	NOEC	2.04E+01	69835
<i>Nucella lapillus</i>	Molluscs	TBT	Sexually Mature	FW	15	Reproduction	Seminal Vesicle	NOEC	2.04E+01	69835
<i>Nucella lapillus</i>	Molluscs	TBT	Sexually Mature	FW	30	Growth	Penis	NOEC	2.04E+01	69835
<i>Nucella lapillus</i>	Molluscs	TBT	Sexually Mature	FW	30	Reproduction	Seminal Vesicle	NOEC	2.04E+01	69835
<i>Nucella lapillus</i>	Molluscs	TBT	Sexually Mature	FW	61	Growth	Penis	NOEC	2.04E+01	69835
<i>Nucella lapillus</i>	Molluscs	TBT	Sexually Mature	FW	61	Reproduction	Seminal Vesicle	NOEC	2.04E+01	69835
<i>Nucella lapillus</i>	Molluscs	TBT	Sexually Mature	FW	91	Growth	Penis	NOEC	2.04E+01	69835
<i>Nucella lapillus</i>	Molluscs	TBT	Sexually Mature	FW	91	Reproduction	Seminal Vesicle	NOEC	2.04E+01	69835
<i>Nucella lapillus</i>	Molluscs	TBT	Sexually Mature	FW	122	Growth	Penis	NOEC	2.04E+01	69835
<i>Nucella lapillus</i>	Molluscs	TBT	Sexually Mature	FW	122	Reproduction	Seminal Vesicle	NOEC	2.04E+01	69835

<i>Nucella lapillus</i>	Molluscs	TBT	Sexually Mature	FW	152	Growth	Penis	NOEC	2.04E+01	69835
<i>Nucella lapillus</i>	Molluscs	TBT	Sexually Mature	FW	152	Reproduction	Seminal Vesicle	NOEC	2.04E+01	69835
<i>Nucella lapillus</i>	Molluscs	TBTO	Adult	SW	343	Reproduction	Egg	NOEC	1.48	73497
<i>Nucella lapillus</i>	Molluscs	TBTO	Adult	SW	343	Reproduction	Egg	NOEC	1.48	73497
<i>Nucella lapillus</i>	Molluscs	TBTO	Egg	SW	236	Mortality	NR	NOEC	5.54	73497
<i>Nucella lapillus</i>	Molluscs	TBTCl	Adult	SW	91	Biochemical	Soft Tissue	NOEC	1.82E+01	95703
<i>Nucella lapillus</i>	Molluscs	TBTCl	Adult	SW	91	Biochemical	Soft Tissue	NOEC	1.82E+01	95703
<i>Nucella lapillus</i>	Molluscs	TBTCl	Adult	SW	91	Biochemical	Soft Tissue	NOEC	1.82E+01	95703
<i>Oncomelania quadrasi</i>	Molluscs	TBTO	Young	FW	70	Growth	NR	NOEL	5.97E+01	94583
<i>Oncomelania quadrasi</i>	Molluscs	TBTO	NR	FW	70	Physiology	NR	NOEL	2.39E+03	94583
<i>Oncorhynchus mykiss</i>	Fish	TBTCl	NR	FW	110	Behavior	NR	NOEC	1.46E+01	56312
<i>Oncorhynchus mykiss</i>	Fish	TBTCl	NR	FW	110	Mortality	NR	NOEC	1.46E+01	56312
<i>Oncorhynchus mykiss</i>	Fish	TBTO	Embryo	FW	63	Growth	NR	NOEC	8.40E+01	99247
<i>Oncorhynchus mykiss</i>	Fish	TBTO	Embryo	FW	63	Growth	NR	NOEC	8.44E+01	99247
<i>Oncorhynchus mykiss</i>	Fish	TBTO	Embryo	FW	33	Mortality	NR	NOEC	1.44E+02	99247
<i>Oncorhynchus mykiss</i>	Fish	TBTO	Embryo	FW	63	Development	NR	NOEC	1.44E+02	99247
<i>Oncorhynchus mykiss</i>	Fish	TBTO	Embryo	FW	63	Mortality	NR	NOEC	3.20E+02	99247
<i>Oncorhynchus mykiss</i>	Fish	TBTO	Embryo	FW	63	Mortality	NR	NOEC	3.20E+02	99247
<i>Oreochromis mossambicus</i>	Fish	TBTO	Sexually Mature	FW	35	Growth	NR	NOEL	9.96E+02	60780
<i>Oryzias latipes</i>	Fish	TBTO	Juvenile	FW	28	Cellular	Multiple Tissue/Organ	NOEC	6.37E+04	9631
<i>Oryzias latipes</i>	Fish	TBTO	Juvenile	FW	84	Cellular	Multiple Tissue/Organ	NOEC	6.37E+04	9631
<i>Oryzias latipes</i>	Fish	TBTO	NR	FW	28	Cellular	NR	NOEC	6.37E+01	56312
<i>Oryzias latipes</i>	Fish	TBTO	Juvenile	FW	90	Reproduction	NR	NOEL	6.57E+02	99011
<i>Oryzias latipes</i>	Fish	TBTO	Juvenile	FW	90	Mortality	NR	NOEL	8.96E+02	99011
<i>Oryzias latipes</i>	Fish	TBTO	Egg	FW	91	Cellular	NR	NOEC	6.37E+04	99046
<i>Oryzias latipes</i>	Fish	TBTO	Egg	FW	30	Mortality	NR	NOEC	1.99E+05	99046
<i>Oryzias sp.</i>	Fish	TBTO	NR	FW	28	Behavior	NR	NOEC	6.37E+02	56312
<i>Parorchis acanthus</i>	Worms	TBTAc	Larvae	SW	21	Mortality	NR	NOEC	3.40E+01	115744

<i>Parorchis acanthus</i>	Worms	TBTAc	Cyst	SW	21	Mortality	NR	NOEC	3.40E+03	115744
<i>Penaeus duorarum</i>	Crustaceans	TBTO	NR	SW	4	Mortality	NR	NOEC	4.58E+02	99255
<i>Phaeodactylum tricornutum</i>	Algae	TBTO	Exponential Growth Phase	SW	3	Population	NR	NOEL	1.19E+03	17390
<i>Phyllospora comosa</i>	Algae	TBTCl	Embryo	SW	4	Mortality	NR	NOEC	3.65E-01	14985
<i>Phyllospora comosa</i>	Algae	TBTCl	Zygote	SW	4	Mortality	NR	NOEC	3.65E-01	14985
<i>Physa fontinalis</i>	Molluscs	TBTO	NR	FW	30	Mortality	NR	LOEL	9.96E+02 [†]	80004
<i>Pimephales promelas</i>	Fish	TBTO	Embryo	FW	33	Growth	Whole Organism	NOEC	2.99E+01	59761
<i>Pimephales promelas</i>	Fish	TBTO	Embryo	FW	33	Population	NR	NOEL	8.96E+01	59761
<i>Pimephales promelas</i>	Fish	TBTO	Embryo	FW	33	Development	NR	NOEL	1.83E+02	59761
<i>Pimephales promelas</i>	Fish	TBTO	Embryo	FW	33	Mortality	NR	NOEL	1.83E+02	59761
<i>Pimephales promelas</i>	Fish	TBTO	Embryo	FW	33	Mortality	NR	NOEC	4.38E+02	59761
<i>Pimephales promelas</i>	Fish	TBTO	Embryo	FW	33	Growth	Whole Organism	NOEC	3.01E+01	150898
<i>Pimephales promelas</i>	Fish	TBTO	Embryo	FW	33	Growth	Whole Organism	MATC	5.20E+01	150898
<i>Pimephales promelas</i>	Fish	TBTO	Embryo	FW	33	Growth	Whole Organism	MATC	5.20E+01	150898
<i>Pimephales promelas</i>	Fish	TBTO	Embryo	FW	33	Mortality	NR	MATC	2.95E+02	150898
<i>Poecilia reticulata</i>	Fish	TBTO	Juvenile	FW	28	Cellular	Multiple Tissue/Organ	NOEC	1.99E+03	9631
<i>Poecilia reticulata</i>	Fish	TBTO	Juvenile	FW	84	Cellular	Multiple Tissue/Organ	NOEC	1.99E+03	9631
<i>Poecilia reticulata</i>	Fish	TBTO	NR	FW	30	Cellular	Multiple Tissue/Organ	NOEC	1.99	12607
<i>Poecilia reticulata</i>	Fish	TBTO	NR	FW	91	Growth	NR	NOEC	6.37E+01	12607
<i>Poecilia reticulata</i>	Fish	TBTO	NR	FW	90	Cellular	NR	NOEC	1.99	56312
<i>Poecilia reticulata</i>	Fish	TBTO	NR	FW	90	Growth	NR	NOEC	6.37E+01	56312
<i>Poecilia reticulata</i>	Fish	TBTO	Juvenile	FW	91	Cellular	NR	NOEC	1.99E+03	99046
<i>Poecilia reticulata</i>	Fish	TBTO	Juvenile	FW	91	Mortality	NR	NOEC	6.37E+04	99046
<i>Pseudokirchneriella subcapitata</i>	Algae	TBTCl	Exponential Growth Phase	FW	4	Population	NR	NOEC	4.38E+02	73495
<i>Pyrocystis lunula</i>	Algae	TBTCl	NR	SW	1	Growth	NR	EC10	3.32E+04	Bao et al.⁷

<i>Pyrocystis lunula</i>	Algae	TBTC1	NR	SW	1	Population	NR	NOEC	3.57E+04	110086
<i>Ruditapes decussatus</i>	Molluscs	TBT	Juvenile	SW	190	Growth	Shell	NOEC	1.02E+02	93809
<i>Ruditapes decussatus</i>	Molluscs	TBT	Juvenile	SW	730	Growth	Shell	NOEC	1.02E+02	93809
<i>Ruditapes decussatus</i>	Molluscs	TBT	Juvenile	SW	730	Growth	Whole Organism	NOEC	1.02E+02	93809
<i>Ruditapes decussatus</i>	Molluscs	TBT	Juvenile	SW	730	Growth	Whole Organism	NOEC	1.02E+02	93809
<i>Ruditapes decussatus</i>	Molluscs	TBT	Juvenile	SW	730	Growth	Whole Organism	NOEC	1.02E+02	93809
<i>Schistosoma japonicum</i>	Worms	TBTO	NR	FW	133	Reproduction	NR	NOEL	5.97E+01	94583
<i>Schistosoma japonicum</i>	Worms	TBTO	NR	FW	133	Reproduction	NR	NOEL	5.97E+01	94583
<i>Sebastes schlegeli</i>	Fish	TBT	Fry	FW	29	Population	NR	NOEC	2.04E+07	82331
<i>Sillago japonica</i>	Fish	TBTO	Adult	SW	30	Mortality	NR	NOEL	3.98E+06	96153
<i>Sillago japonica</i>	Fish	TBTO	Adult	SW	30	Reproduction	NR	NOEL	3.98E+06	96153
<i>Sillago japonica</i>	Fish	TBTO	Adult	SW	30	Development	NR	NOEL	3.98E+07	96153
<i>Skeletonema costatum</i>	Algae	TBTC1	NR	SW	4	Growth	NR	EC10	3.43E+02	Bao et al.⁷
<i>Skeletonema costatum</i>	Algae	TBTO	NR	SW	14	Population	NR	EC10	4.98	99254
<i>Styela plicata</i>	Ascidiacea	TBTO	NR	SW	6	Cellular	Hemolymph	NOEC	1.99E+02	71842
<i>Styela plicata</i>	Ascidiacea	TBTO	NR	SW	6	IMM	Hemocyte	NOEC	1.99E+02	71842
<i>Styela plicata</i>	Ascidiacea	TBTO	NR	SW	6	Cellular	Hemolymph	NOEC	1.99E+03	71842
<i>Styela plicata</i>	Ascidiacea	TBTO	NR	SW	6	IMM	Hemocyte	NOEC	1.99E+03	71842
<i>Styela plicata</i>	Ascidiacea	TBTO	NR	SW	6	IMM	Hemocyte	NOEC	1.99E+03	71842
<i>Synechococcus sp.</i>	Algae	TBTC1	NR	SW	4	Growth	NR	EC10	1.60E+04	Bao et al.⁷
<i>Thalassiosira pseudonana</i>	Algae	TBTC1	NR	SW	4	Growth	NR	EC10	2.55E+02	Bao et al.⁷
<i>Tigriopus japonicus</i>	Crustaceans	TBT	Nauplii	SW	14	Population	F1 Generation	NOEC	4.08E+03	104287
<i>Tigriopus japonicus</i>	Crustaceans	TBT	Nauplii	SW	14	Reproduction	NR	NOEC	4.08E+03	104287
<i>Tigriopus japonicus</i>	Crustaceans	TBT	Nauplii	SW	14	Reproduction	NR	NOEC	4.08E+03	104287
<i>Tigriopus japonicus</i>	Crustaceans	TBT	Nauplii	SW	14	Reproduction	NR	NOEC	4.08E+03	104287
<i>Tigriopus japonicus</i>	Crustaceans	TBT	Adult	SW	4	Mortality	NR	NOEC	8.16E+03	111315
<i>Ulva pertusa</i>	Algae	TBTO	NR	SW	4	Reproduction	NR	NOEC	4.78E+03	108114

DBT

<i>Mytilus edulis</i>	Molluscs	DBT	Larvae	SW	33	Growth	NR	NOEC	1.01E+03	6982
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<i>Mytilus edulis</i>	Molluscs	DBT	Larvae	SW	33	Growth	NR	MATC	3.18E+03	6982
<i>Nassarius reticulatus</i>	Molluscs	DBTC1	Adult	SW	91	Growth	Penis	NOEC	1.95E+02	79867
<i>Oncorhynchus mykiss</i>	Fish	DBTC1	Sac Fry	FW	110	Mortality	NR	NOEC	2.02E+04	5674
<i>Oryzias latipes</i>	Fish	DBTC1	Juvenile	FW	28	Cellular	Multiple Tissue/Organ	NOEC	1.25E+08	9631
<i>Poecilia reticulata</i>	Fish	DBTC1	Juvenile	FW	28	Cellular	Multiple Tissue/Organ	NOEC	1.25E+08	9631
<i>Poecilia reticulata</i>	Fish	DBTC1	NR	FW	30	Mortality	NR	NOEC	7.03E+05	12607

FW, Fresh Water; SW, Salt Water.

† Converted NOEC: NOEL = LOEL/2.

‡ Converted NOEC: NOEC = LOED/10.

Table S3 Original references of the toxicity data cited in this paper, which were compiled in the ERED and ECOTOX database

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