PRG calculations based on fillet target tissue concentrations

Directions : Enter desired target tissue level (TTL) in column D for fillet tissue for a given dioxin or furan in mg/kg ww to calculate sediment PRGs.
Sediment PRGs (column BF) are calculated assuming water is equal to "background" (which is the lower of either the upstream concnetration or the site concentration).
Cells will indicate "PRG<0" if the contribution of water alone results in a tissue concentration greater than the TTL.

Dioxin or Furan Congener	Dummy values Fillet TTL (mg/kg ww)	Description of Diet	Fillet TTL (µg/kg ww)	Bkgd Water (ng/g)	Site-Wide Water (ng/g)	Sediment PRG (water = bkgd)	PRG Units	PRG in terms of chemical?
Models calibrated using water values calculated with half DLs								
12378-PentaCDD	1.0E-06	multifish fillet	1.00E-03	2.11E-06	4.29E-06	1.63E-03	µg/kg dw	12378-PentaCDD
2378-TetraCDD	1.0E-06	multifish fillet	1.00E-03	2.67E-06	2.67E-06	1.37E-03	µg/kg dw	2378-TetraCDD
123478-HexaCDF	1.0E-06	multifish fillet	1.00E-03	5.88E-06	5.88E-06	5.07E-03	µg/kg dw	123478-HexaCDF
23478-PentaCDF	1.0E-06	multifish fillet	1.00E-03	2.04E-06	3.51E-06	6.69E-03	µg/kg dw	23478-PentaCDF
2378-TetraCDF	1.0E-06	multifish fillet	1.00E-03	3.75E-06	5.47E-06	7.06E-03	µg/kg dw	2378-TetraCDF
Models calibrated using alternate water values (to account of uncertainty of low detection frequencies and large influence of stormwater samples)								
12378-PentaCDD_ALT	1.0E-06	multifish fillet	1.00E-03	1.50E-06	1.50E-06	1.18E-03	µg/kg dw	12378-PentaCDD_ALT
2378-TetraCDD_ALT	1.0E-06	multifish fillet	1.00E-03	8.30E-07	8.30E-07	1.07E-03	µg/kg dw	2378-TetraCDD_ALT

Model performance and summary of calibrated chemical-specific parameter values

		Parameter Values						Species-Specific Results										
Calibration	Chemical	Sediment (µg/kg dw)	Water (ng/L)	K_{OW}	invertebrates	K_M - fish	Statistic	PHY	ZOO	BIF	BIC	EIC	SCL	LSS	CAR	SMB	NPM	Average
Calibration 1	1,2,3,7,8-PentaCDD	0.00025	4.29E-06	6.7	0.008	0.008	Tissue Concentration Outputs	0.00018	0.00033	0.00024	0.00058	0.00055	0.0010	0.00065	0.00055	0.0014	0.00099	
Calibration 1	1,2,3,7,8-PentaCDD	0.00025	4.29E-06	6.7	0.008	0.008	Measured tissue concentration	nd	nd	0.00021	nd	0.00020	0.00050	nd	0.0014	0.0014	nd	
Calibration 1	1,2,3,7,8-PentaCDD	0.00025	4.29E-06	6.7	0.008	0.008	SPAF	-	-	1.1	-	2.7	2.0	-	2.5	1.0	-	**1.9**
Calibration 1	1,2,3,7,8-PentaCDD	0.00025	4.29E-06	6.7	0.008	0.008	Percent difference	-	-	14	-	173	104	-	-59	0	-	
Calibration 1	2,3,7,8-TetraCDD	0.0001	2.67E-06	6.3	0.007	0.007	Tissue Concentration Outputs	0.00007	0.00010	0.00011	0.00018	0.00020	0.00044	0.00032	0.00028	0.00074	0.00052	
Calibration 1	2,3,7,8-TetraCDD	0.0001	2.67E-06	6.3	0.007	0.007	Measured tissue concentration	nd	nd	0.00018	nd	0.00014	0.00026	nd	0.00071	0.00064	nd	
Calibration 1	2,3,7,8-TetraCDD	0.0001	2.67E-06	6.3	0.007	0.007	SPAF	-	-	1.6	-	1.4	1.7	-	2.5	1.2	-	**1.7**
Calibration 1	2,3,7,8-TetraCDD	0.0001	2.67E-06	6.3	0.007	0.007	Percent difference	-	-	-36	-	40	73	-	-60	16	-	
Calibration 1	1,2,3,4,7,8-HexaCDF	0.00271	5.86E-06	7	0.015	0.015	Tissue Concentration Outputs	0.00023	0.00071	0.00060	0.00391	0.0015	0.0024	0.0012	0.0011	0.0017	0.0015	
Calibration 1	1,2,3,4,7,8-HexaCDF	0.00271	5.86E-06	7	0.015	0.015	Measured tissue concentration	nd	nd	0.00052	nd	0.0019	0.0044	nd	0.0020	0.0017	nd	
Calibration 1	1,2,3,4,7,8-HexaCDF	0.00271	5.86E-06	7	0.015	0.015	SPAF	-	-	1.2	-	1.3	1.8	-	1.7	1.0	-	**1.4**
Calibration 1	1,2,3,4,7,8-HexaCDF	0.00271	5.86E-06	7	0.015	0.015	Percent difference	-	-	16	-	-20	-46	-	-43	0	-	
Calibration 1	2,3,4,7,8-PentaCDF	0.0115	3.51E-06	6.6	0.05	0.02	Tissue Concentration Outputs	0.00015	0.00026	0.0014	0.0099	0.0022	0.0074	0.0037	0.0036	0.0058	0.0045	
Calibration 1	2,3,4,7,8-PentaCDF	0.0115	3.51E-06	6.6	0.05	0.02	Measured tissue concentration	nd	nd	0.00076	nd	0.0017	0.0021	nd	0.0024	0.0055	nd	
Calibration 1	2,3,4,7,8-PentaCDF	0.0115	3.51E-06	6.6	0.05	0.02	SPAF	-	-	1.8	-	1.3	3.5	-	1.5	1.1	-	**1.8**
Calibration 1	2,3,4,7,8-PentaCDF	0.0115	3.51E-06	6.6	0.05	0.02	Percent difference	-	-	80	-	32	252	-	47	5	-	
Calibration 1	2,3,7,8-TetraCDF	0.0168	5.47E-06	6.3	0.03	0.03	Tissue Concentration Outputs	0.00014	0.00020	0.0036	0.014	0.0054	0.0096	0.0047	0.0043	0.0067	0.0056	
Calibration 1	2,3,7,8-TetraCDF	0.0168	5.47E-06	6.3	0.03	0.03	Measured tissue concentration	nd	nd	0.0025	nd	0.0064	0.0087	nd	0.0029	0.0064	nd	
Calibration 1	2,3,7,8-TetraCDF	0.0168	5.47E-06	6.3	0.03	0.03	SPAF	-	-	1.4	-	1.2	1.1	-	1.5	1.1	-	**1.3**
Calibration 1	2,3,7,8-TetraCDF	0.0168	5.47E-06	6.3	0.03	0.03	Percent difference	-	-	43	-	-16	11	-	48	5	-	
Calibration 2 (alternate water values)	1,2,3,7,8-PentaCDD	0.00025	1.5E-06	6.6	0.006	0.006	Tissue Concentration Outputs	0.00006	0.00010	0.00017	0.00040	0.00038	0.00086	0.00056	0.00050	0.0014	0.00098	
Calibration 2 (alternate water values)	1,2,3,7,8-PentaCDD	0.00025	1.5E-06	6.6	0.006	0.006	Measured tissue concentration	nd	nd	0.00021	nd	0.00020	0.00050	nd	0.0014	0.0014	nd	
Calibration 2 (alternate water values)	1,2,3,7,8-PentaCDD	0.00025	1.5E-06	6.6	0.006	0.006	SPAF	-	-	1.3	-	1.9	1.7	-	2.7	1.0	-	**1.7**
Calibration 2 (alternate water values)	1,2,3,7,8-PentaCDD	0.00025	1.5E-06	6.6	0.006	0.006	Percent difference	-	-	-21	-	89	72	-	-64	4	-	
Calibration 2 (alternate water values)	2,3,7,8-TetraCDD	0.0001	8.3E-07	6.3	0.005	0.005	Tissue Concentration Outputs	0.00002	0.00003	0.00007	0.00012	0.00013	0.00033	0.00025	0.00023	0.00065	0.00045	
Calibration 2 (alternate water values)	2,3,7,8-TetraCDD	0.0001	8.3E-07	6.3	0.005	0.005	Measured tissue concentration	nd	nd	0.00018	nd	0.00014	0.00026	nd	0.00071	0.00064	nd	
Calibration 2 (alternate water values)	2,3,7,8-TetraCDD	0.0001	8.3E-07	6.3	0.005	0.005	SPAF	-	-	2.6	-	1.1	1.3	-	3.1	1.0	-	**1.8**
Calibration 2 (alternate water values)	2,3,7,8-TetraCDD	0.0001	8.3E-07	6.3	0.005	0.005	Percent difference	-	-	-62	-	-10	29	-	-68	2	-	