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Erratum

Erratum to "Determination of PAH, PCB, and OCP in water from the Three Gorges Reservoir accumulated by semipermeable membrane devices (SPMD)" [Chemosphere 75 (2009) 1119–1127]

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An erratum for Table 4 in the above article has to be released. Reasoning:

1. The aqueous concentrations of the targeted compounds were calculated according to Eq. (7) (Huckins, J.N., Petty, J.D., Booij, K., 2006. Monitors of Organic Chemicals in the Environment: Semipermeable Membrane Devices. Springer, New York, p. 50):

$$Cw = \frac{N}{KswVs\left[1 - \exp\left(-\frac{Rst}{KswVs}\right)\right]} \quad (7)$$

However, now we found that the units in the textbook were stated incorrect. The unit of Vs has to be turned from mL to L to comply with the unit of Rs (L d^{-1}).

2. SPMD field blanks were analyzed and used for blank correction of the data of the exposed SPMD. The procedure is described in chapter 2.4 of the publication. In the course of the data inspection we recognized that the blank correction was not performed for all compounds in the way as reported. So we would like to take the opportunity to recalculate and present the data with a consistent procedure of blank correction. In the meantime this procedure was improved and is performed as follows: In the case of detected blank signals the method detection limits (MDLs) are calculated on the basis of 3 times standard deviation of mean blank value (X) when more than 2 blank values are available or 3 times of 0.25 *X* when only 1 or 2 blanks are available. A result *R* is valid when the margin between the sample value and the average blank value *X* is larger than the MDL and is reported as a result after subtraction of the average blank value *X*. Otherwise *R* is reported as less than MDL in Table 4.

When blank signals for a compound are not detected, the MDLs are calculated on the basis of a signal-to-noise of 3:1 of the mass traces of the unlabeled compound. Every signal below this limit is treated as not detectable (reported as less than MDL in Table 4).

The resulting data are not much different from the published data except for PAH in upstream 6 (Changshou) and 7 (Chongqing) which become higher after the correction. This finding is also more reasonable because these two cities are big cities in TGR. The concentrations of PCB are almost an order of magnitude lower than the published data and OCP are slightly higher.

We hope to contribute with this erratum to the correctness of the published data and a proper execution of our obligations with respect to QA/QC procedures.

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Table 4
Aqueous concentrations of PAH (ng L^{-1}), PCB (pg L^{-1}) and OCP (pg L^{-1}).

Substance	1 (7 d, 24 d)	2 (7 d, 24 d)	3 (7 d, 24 d)	4 (7 d, 24 d)	5 (7 d, 24 d)	6 (7 d, 24 d)	7 (7 d, 24 d)
Naphthalene	<24, <24	<24, <24	<24, <24	<24	<24, <24	244, 25.7	52.5
Acenaphthylene	0.25, 0.49	0.09, 0.35	0.33, <0.07	0.14	<0.07, 0.47	1.35, 1.33	2.39
Acenaphthene	1.05, 1.02	0.29, 0.92	0.33, 0.19	0.28	0.37, 1.31	18.06, 8.19	43.50
Fluorene	2.66, 2.13	0.72, 3.92	0.73, 0.44	0.42	0.45, 0.83	13.21, 6.86	20.04
Phenanthrene	10.82, 9.52	2.57, 3.92	1.95, 1.68	1.30	1.32, 2.08	27.20, 16.58	28.57
Anthracene	1.28, 1.53	0.42, 0.57	0.43, 0.33	0.27	0.27, 0.52	4.14, 3.09	3.01
Fluoranthene	3.19, 3.34	1.88, 2.16	1.36, 1.23	1.32	1.47, 2.52	18.85, 14.02	9.21
Pyrene	6.54, 6.73	4.63, 3.49	3.15, 3.81	2.75	3.44, 7.20	16.74, 17.25	2.86
Benzo(a)anthracene	0.46, 0.57	0.19, 0.24	0.21, 0.14	0.19	0.35, 0.40	1.52, 1.33	0.82
Chrysene	6.04, 6.36	5.04, 5.02	5.67, 5.29	5.61	3.60, 5.65	5.79, 5.96	1.97
Benzo(b)flouranthene	1.29, 0.66	0.53, 0.81	0.67, 0.57	0.56	0.81, 1.08	1.08, 1.32	0.36
Benzo(k)fluoranthene	0.73, 0.30	0.29, 0.45	0.38, 0.27	0.30	0.36, 0.51	0.49, 0.55	0.29
Benzo(a)pyrene	1.65, 0.26	0.47, 0.78	0.76, 0.38	0.61	0.49, 0.78	0.50, 0.46	0.16
Indeno(1,2,3-c,d)pyrene	2.04, <0.09	0.57, 0.83	1.22, 0.48	1.15	0.77, 0.87	0.32, 0.24	0.10
Benzo(g,h,i)perylene	3.43, <0.18	0.97, 1.30	1.87, 0.75	1.89	1.29, 1.31	0.43, 0.44	0.13
Dibenzo(a,h)anthracene	0.35, <0.02	0.09, 0.17	0.29, 0.09	0.22	0.15, 0.20	0.07, 0.06	0.01
∑PAH	41.8, 32.9	18.8, 21.3	19.3, 15.6	17.0	15.1, 25.7	353.8, 103.3	165.9
PCB 28	18.2, 9.9	10.3, 6.4	9.7, 7.6	<7.3	10.6, 10.5	20.1, 34.5	16.3
PCB 52	19.9, 18.7	5.8, 13.4	16.8, 16.3	14.9	13.3, 16.2	15.1, 30.1	15.0
PCB 101	19.2, <5.3	<5.7, <3.5	<4.8, 3.2	<4.7	<4.6, 7.3	<4.9, 8.4	5.0
PCB 138	10.8, 15.6	<5.1, <3.1	<4.3, 9.0	<4.2	<4.1, 6.0	<3.2, 2.8	2.1
PCB 153	<43.2, 18.9	<20.6, <12.6	<17.1, 9.4	<16.8	<16.3, 7.4	<12.9, 3.7	<6.8
PCB 180	<20.9, 10.5	<9.9, <6.1	<8.3, 6.8	<8.1	<7.9, 3.1	<6.3, <3.3	<3.3
PCB 77	<1.0, 0.7	<0.4, <0.3	<0.5, 0.6	<0.4	<0.4, 0.4	<0.2, 0.8	0.6
PCB 81	<0.9, <0.7	<0.4, <0.3	<0.4, <0.2	<0.3	<0.4, <0.1	<0.2, <0.2	<0.2
PCB 126	<0.6, <0.4	<0.2, <0.2	<0.3, 0.5	<0.2	<0.2, 0.1	<0.1, <0.1	<0.1
PCB 169	<1.2, <1.1	<0.4, <0.3	<0.5, 0.6	<0.3	<0.4, <0.1	<0.2, <0.4	<0.2
PCB 105	2.6, 4.1	<0.3, 0.3	0.5, 2.7	<0.2	1.0, 2.0	1.0, 1.6	1.5
PCB 114	<0.7, 0.4	0.3, <0.2	<0.3, 0.5	<0.2	<0.3, 0.2	<0.1, 0.2	<0.2
PCB 118	8.1, 9.9	<1.4, 0.9	1.1, 5.9	<1.1	2.1, 4.3	2.4, 3.4	1.8
PCB 123	1.2, 1.2	0.5, 0.5	<0.4, 0.9	<0.3	<0.4, 0.2	0.2, <0.2	<0.2
PCB 156	<3.6, 1.6	<1.7, <1.0	<1.4, 1.7	<1.4	<1.4, 0.7	<1.1, <0.6	<0.6
PCB 157	<0.9, 1.3	<0.3, 0.4	<0.4, 0.8	<0.3	<0.4, 0.2	0.2, <0.3	<0.2
PCB 167	<0.9, <1.4	<0.3, <0.4	<0.4, 1.0	<0.2	<0.5, 0.4	<0.2, <0.3	<0.2
PCB 189	<0.8, <1.3	<0.3, <0.4	<0.3, 0.7	<0.2	<0.3, 0.2	<0.1, <0.3	<0.2
∑PCB	80.1, 92.6	16.8, 21.9	28.1, 68.1	14.9	31.5, 59.1	43.9, 85.6	42.2
α-HCH	1236, 2439	1582, 2810	1467, 3236	1391	845, 5469	1158, 5182	1184
β-HCH	217, 890	258, 1080	328, 1142	295	235, 1255	292, 1216	334
γ-HCH	<2432, <2431	<2431, <2431	<2431, <2431	<2431	<2431, <2431	<2431, <2431	<2431
δ-HCH	41, 77	33, 104	34, 130	31	24, 202	28, 282	36
ε-HCH	8, 65	20, 27	21, 76	24	<7, 26	18, 98	10
Pentachlorobenzene	377, 539	370, 448	520, 728	528	352, 710	845, 868	734
Hexachlorobenzene	1225, 1785	1344, 1673	1876, 2788	2047	1420, 3002	1432, 3091	2047
Pentachloroanisole	163, 231	148, 196	182, 290	194	161, 249	232, 324	352
Octachlorostyrene	12, 39	33, 31	38, 52	43	46, 72	44, 111	62
4,4′-DDT	154, 216	207, 218	160, 390	195	219, 378	192, 672	228
2,4′-DDT	41, 90	53, 59	45, 132	46	35, 73	41, 147	55
4,4′-DDD	126, 265	159, 237	190, 323	232	175, 294	177, 344	146
2,4′-DDD	69, 106	77, 129	99, 142	129	84, 129	82, 166	77
4,4′-DDE	64, 172	117, 148	135, 233	159	112, 181	138, 254	108
2,4′-DDE	32, 43	36, 53	39, 63	47	30, 64	45, 101	54
trans-Chlordane	20, 48	22, 31	37, 59	38	30, 56	31, 72	39
cis-Chlordane	16, 34	12, 25	16, 48	25	21, 40	20, 43	15
oxy-Chlordane	<0.6, <0.8	<0.5, 3	<0.9, 5	<0.7	2, 3	2, 4	2
Heptachlor	1, <0.5	<0.3, <0.4	2, <0.5	<0.4	<0.4, 1	<0.5, 2	1
cis-Heptachlorepoxide	3, 11	4, 11	6, 12	7	4, 18	5, 19	9
trans-Heptachlorepoxide	<3, <2	<1, <2	26, <2	<2	<0.9, 53	<0.8, <2	<1
Aldrin	<3, <0.8	<1, <0.6	<0.6, <0.8	<0.6	<0.7, <0.7	<0.9, <1	<0.9
Dieldrin	<10, 45	<7, 6	<6, 29	<6	<6, 16	<6, 15	<6
Endrin	<18, <12	<5, <9	<20, <13	<17	<5, <14	<6, 21	<8
Endosulfan-I	494, 2605	383, 973	191, 1150	272	1241, 2094	1534, 6302	3120
Endosulfan-II	<60, 186	<59, 64	<59, 157	<59	<59, 60	<59, 324	<59
Methoxychlor	<15, <12	<2, <5	<5, 29	<10	<2, <5	<2, <10	<15
Mirex	<0.6, 2.4	<0.4, <0.4	<0.5, 2	<0.6	<0.4, 2	<0.9, 2	<0.4
∑OCP	4299, 9890	4857, 8327	5414, 11213	5702	5035, 14445	6316, 19661	8612

Note: Samples of Site 4 of 24 days exposure were lost and Site 7 of 24 days exposure were broken caused by high water flow and turbulence.