



## ***Corrigendum to*** **“PCBs in the Arctic atmosphere: determining important driving forces using a global atmospheric transport model” published in Atmos. Chem. Phys., 16, 3433–3448, 2016**

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In the above-referenced article, an error was found in the calculation of the atmospheric budgets, particle phase fractions, and lifetimes of PCBs as presented in Table 4.

The first line of Table 4 presents the mean atmospheric budget from simulated years 2006–2010 in kilograms. The budgets were mistakenly calculated using an air density array that contained only the atmospheric surface layer (a 2-D array), rather than the entire 47 vertical layers in the model (a 3-D array). Thus, the budget presented in the article represents only the surface layer, rather than the whole atmosphere.

This error carries over to the 2006–2010 mean fraction in the particle phase (second row in the table) and mean atmospheric lifetime (last row); the values presented in the article also reflect only the surface layer.

When the calculation is corrected, Table 4 reads as follows (revised text italicized, and lifetime units changed from hours to days).

The revised budgets are 22–27 times higher than the previously published ones. The revised fraction in the particle phase continues to show an increase with congener molecular weight, but with higher overall percentages in the particle phase, demonstrating that most particle-phase PCB resides above the surface layer. The adjustment to the budget causes the lifetimes to increase from 5–9 h to ~7–12 days. The revised lifetimes are in better agreement with previously published PCB lifetimes estimated from simulations.

No other quantities in the paper are affected by the error, and the major conclusions of the paper are unchanged, as the focus of the article was on surface concentrations.

**Table 4.** Mean 2006–2010 atmospheric budget of PCBs. For all congeners, total wet and dry deposition was dominated by the gas phase (> 99 % attributable to the gas phase).

Quantity associated with atmospheric budget	Congener						
	28	52	101	118	138	153	180
Mass in atmosphere (kg)	1290	614	285	384	255	381	92
Mean fraction in particle phase (%)	0.092	0.26	1.0	0.97	3.7	4.9	9.1
OH oxidation losses (%)	65	53	35	34	21	25	13
Dry deposition losses (%)	30	42	60	61	75	70	82
Wet deposition losses (%)	5.1	4.6	4.9	4.9	4.0	5.2	5.8
Re-emissions out of total emissions (%)	6.0	9.2	5.1	4.8	2.7	4.1	2.0
Mean atmospheric lifetime (gas + particulate; d)	12.1	11.1	10.2	10.2	8.4	9.6	7.4

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