Supporting Information

Impact of Dust from Multiple Microenvironments and Diet on PentaBDE Body Burden

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Table S1. Dietary Information: Portion size and fat content assumptions*			
Food	Portion Size	Dairy Product	Assumed Fat Content
Milk	8 oz.	Skim milk	0.17%
Cheese	1 oz.	1% milk	0.83%
Frozen Desserts	½ cup	2% milk	1.83%
Yogurt	1 cup	Whole Milk	3.16%
Beef	2-3 oz. uncooked	Regular Cheese	30%
Pork	2-3 oz. uncooked	Low-fat Cheese	25%
Chicken, Turkey	2-3 oz. uncooked	Frozen desserts	15%
Fish	2-3 oz. uncooked	Yogurt	1.5%

*Wu et al. (2007)

Table S2. Measurements of PentaBDE congeners in dust and handwipe field blanks			
Dust (n=12)	Mean (ng/g)	Median (ng/g)	Std. Dev (ng/g)
BDE28/33	0.09	0	0.20
BDE47	2.40	1.88	1.42
BDE99	3.06	1.69	3.14
BDE100	0.64	0.42	0.64
BDE153	0.19	0	0.45
Handwipes (n=31)	Mean (ng)	Median (ng)	Std. Dev. (ng)
BDE28/33	0.13	0.14	0.04
BDE47	0.39	0.39	0.10
BDE99	0.31	0.29	0.12
BDE100	0.02	0	0.03
BDE153	0	0	0

Table S3. Spearman correlations between PentaBDE congeners in dust within each microenvironment					
Office Dust	BDE28_33	BDE47	BDE99	BDE100	BDE153
BDE28_33	1.00	0.80343	0.75782	0.77639	0.60969
<i>p-value</i>		<.0001	<.0001	<.0001	0.0003
BDE47		1.00	0.87137	0.95202	0.71411
<i>p-value</i>			<.0001	<.0001	<.0001
BDE99			1.00	0.95565	0.86855
<i>p-value</i>				<.0001	<.0001
BDE100				1.00	0.82177
<i>p-value</i>					<.0001
BDE153					1.00
MLA Dust	BDE28_33	BDE47	BDE99	BDE100	BDE153
BDE28_33	1.00	0.90685	0.86622	0.89758	0.82177
<i>p-value</i>		<.0001	<.0001	<.0001	<.0001
BDE47		1.00	0.88436	0.93750	0.81089
<i>p-value</i>			<.0001	<.0001	<.0001
BDE99			1.00	0.93750	0.92489
<i>p-value</i>				<.0001	<.0001
BDE100				1.00	0.93952
<i>p-value</i>					<.0001
BDE153					1.00
Bedroom Dust	BDE28_33	BDE47	BDE99	BDE100	BDE153
BDE28_33	1.00	0.74729	0.63744	0.65172	0.52709
<i>p-value</i>		<.0001	0.0002	0.0001	0.0033
BDE47		1.00	0.95665	0.95862	0.87241
<i>p-value</i>			<.0001	<.0001	<.0001
BDE99			1.00	0.98030	0.94384
<i>p-value</i>				<.0001	<.0001
BDE100				1.00	0.94187
<i>p-value</i>					<.0001
BDE153					1.00
Vehicle Dust	BDE28_33	BDE47	BDE99	BDE100	BDE153
BDE28_33	1.00	0.86917	0.74436	0.82556	0.83008
<i>p-value</i>		<.0001	0.0002	<.0001	<.0001
BDE47		1.00	0.89474	0.98346	0.96992
<i>p-value</i>			<.0001	<.0001	<.0001
BDE99			1.00	0.90977	0.91579
<i>p-value</i>				<.0001	<.0001
BDE100				1.00	0.97744
<i>p-value</i>					<.0001
BDE153					1.00

Table S4. Spearman correlations between PentaBDE congeners in handwipes					
	BDE28_33	BDE47	BDE99	BDE100	BDE153
BDE28_33	1.00	0.77022	0.72019	0.73008	0.67736
<i>p-value</i>		<.0001	<.0001	<.0001	<.0001
BDE47		1.00	0.93427	0.95323	0.90583
<i>p-value</i>			<.0001	<.0001	<.0001
BDE99			1.00	0.99476	0.99072
<i>p-value</i>				<.0001	<.0001
BDE100				1.00	0.98185
<i>p-value</i>					<.0001
BDE153					1.00

Table S5. Spearman correlations between PentaBDE congeners in serum					
	BDE28	BDE47	BDE99	BDE100	BDE153
BDE28	1.00	0.89412	0.75485	0.83517	0.75945
<i>p-value</i>		<.0001	<.0001	<.0001	<.0001
BDE47		1.00	0.91340	0.96863	0.73807
<i>p-value</i>			<.0001	<.0001	<.0001
BDE99			1.00	0.94365	0.76222
<i>p-value</i>				<.0001	<.0001
BDE100				1.00	0.80303
<i>p-value</i>					<.0001
BDE153					1.00

Table S6. Spearman correlations of Σ PentaBDE concentrations in dust between microenvironments				
	Office Dust	MLA Dust	Vehicle Dust	Bedroom Dust
Office Dust	1	0.19	-0.22	0.16
<i>p-value</i>		0.31	0.35	0.40
MLA Dust		1	0.12	0.49
<i>p-value</i>			0.62	0.007
Vehicle Dust			1	0.14
<i>p-value</i>				0.56
Bedroom Dust				1

Table S7. Food variables (servings/day): Univariate predictors of PentaBDEs in serum (ng/g lipid)				
	β	Std Error	p-value	R ²
Beef	0.4	1.0	0.70	0.005
Pork	0.1	1.4	0.96	0.000
Chicken	-0.2	0.5	0.67	0.006
Meat	-0.1	0.4	0.89	0.001
Tuna + Salmon	0.8	1.0	0.42	0.024
Dairy fat (oz/day)	0.2	0.7	0.78	0.003

Median meat intake (beef, pork, and chicken) was 0.8 servings/day, ranging from zero to 1.8 servings/day. Median tuna and salmon intake was 0.14 servings/day, ranging from zero to 1.1 servings/day. Median dairy fat intake was 0.4 ounces/day, ranging from 0.1 to 1.5 ounces/day.

References

Wu, N.; Herrmann, T.; Paepke, O.; Tickner, J.; Hale, R.; Harvey, L. E.; La Guardia, M.; McClean, M. D.; Webster, T. F. Human exposure to PBDEs: Associations of PBDE body burdens with food consumption and house dust concentrations. *Environ. Sci. Technol.* **2007**, *41*, 1584-1589.