

Supporting Information

Polybrominated diphenyl ethers in human gestational membranes from women in Southeast Michigan (USA)

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Tetrabromobisphenol A (TBBPa) concentrations in human gestational membranes from women in Southeast Michigan (USA)

Tetrabromobisphenol A (TBBPa) is a brominated flame retardant used on a large scale in epoxy, polycarbonate and acrylonitrile-butadiene-styrene (ABS) resins. These plastics are primarily found in consumer electronic circuit boards and housings. Due to structural similarities with persistent organic pollutants and widespread usage, TBBPa has recently become the subject of increased investigation into adverse health effects. Although the toxicity of TBBPa appears to be low (reviewed by Darnerud) (1), a paucity of sublethal effect studies exists, particularly in humans. Therefore, little can be concluded regarding potential for reproductive risk.

Routes of human exposure are similar to PBDEs, through dust and diet, although exposure levels are suggested to be lower because TBBPa is chemically bound in the polymer matrix and not readily leached (2). Recent studies have identified TBBPa in maternal and cord sera from France (3), as well as umbilical cord samples from Japan (4). To date no studies have measured TBBPa levels in human gestational membranes.

This study determined the total TBBPa concentration in the intact gestational membranes of women from Southeast Michigan at term. Samples (N=5) were collected, extracted and analyzed by GC/MS as described in the Methods and Materials section. The estimated method detection limit (MDL) was 0.005 ng/g for TBBPa. These data represent the first biomonitoring evaluation for TBBPa in human gestational membranes and may be useful in establishing uterine compartmentalization models.

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Table S1. Total TBBPa loading in human fetal membranes.

	<u>MDL</u>	<u>Sample*</u>					<u>Mean (SEM)</u>
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
TBBPA (pg/g)	0.005	1.34	1.94	0.79	0.59	0.80	1.09 (0.25)

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*** Total measured concentrations of TBBPA represented as pg/g tissue. All process blanks were below the limit of detection.**

References

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3. Cariou, R.; Antignac, J. P.; Zalko, D.; Berrebi, A.; Cravedi, J. P.; Maume, D.; Marchand, P.; Monteau, F.; Riu, A.; Andre, F.; Bizec, B. L., Exposure assessment of French women and their newborns to tetrabromobisphenol-A: Occurrence measurements in maternal adipose tissue, serum, breast milk and cord serum. *Chemosphere* **2008**, *73*, (7), 1036-41.
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