

Reviewer's report

Title: PCB-containing wood floor finish as a likely source of elevated PCBs in residents' blood, household air and dust

Version: 1 **Date:** 28 September 2007

Reviewer: Birger Heinzow

Reviewer's report:

General

A very valuable contribution to PCBs in the environment and unknown sources of exposure. It is the merit of the authors to having detected another PCB exposure pathway in the indoor environment, a problem that has only been recently addressed in the US, compared to the situation in Europe, where indoor exposure has been a matter of debate for 20 years. To nail the fabulous product Fabulon reads like a CSI fable and must be made public, because there might be other unknowingly exposed for decades.

It would be very interesting to identify the exact PCB contents of the product, since tetra- and hexa-chloro-biphenyls seem to me somewhat unlikely, I would rather assume that a commercial PCB mixture such as Arochlor 1254 or A 50 were used in the formulation. Analysis and description single PCB congeners and PCB pattern in air and dust samples would be very interesting. As a suitable information I suggest :Congener Profiles of PCBs and New Proposal of Indicator Congeners by Yukari Ishikawa¹, Yukio Noma¹, Yoshihito Mori², Shin-ichi Sakai¹ in: ORGANOHALOGEN COMPOUNDS – Volume 66 (2004) 525-531.

From their data I would not be surprised if also hepta-congeners are present in dust.

This newly identified source seems to be very relevant, as can be seen from comparison with data from the GES :German Environmental Survey (1998)- <http://www.umweltbundesamt.de/survey/us98/biozide.htm>

PCB n 10. 50. 90. 95.perc. max

PCB 28 0,02 741 2 <0,02 <0,02 <0,02 <0,02 0,51

PCB 52 0,02 741 7 <0,02 <0,02 <0,02 0,03 0,78

PCB 101 0,01 741 42 <0,01 <0,01 0,06 0,11 3,7

PCB 138 0,01 741 51 <0,01 0,01 0,13 0,24 9,7

PCB 153 0,02 741 43 <0,02 <0,02 0,12 0,24 9,6

PCB 180 0,02 741 34 <0,02 <0,02 0,09 0,17 7,0

Using DDE as an indicator of food related intake of POPs is very convincing.

I could agree even more with the conclusions, if data for the single congeners in

air, dust and blood could be provided. It would be sufficient to restrict this to the congeners common to all three matrices, although a complete description (10 NHANES congenrs) would be even more appreciated.

Additional information on BMI and whether bw-changes occured are recommended.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

I found one spelling error: missing in reference 18: Paepke O

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.