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Subject: *Comments on the draft risk profile for decabromodiphenyl ether (CZECH REPUBLIC)*
DECABROMODIPHENYL ETHER - RISK PROFILE (2.3.2 Human exposure) - dermal exposure kinetics

Dear POPRC members and Stockholm Convention Secretariat,

Please find below comments on the decaBDE on behalf of the Czech Republic – additional information.
I hope that our information will be a useful contribution to the work of our Committee.

Yours sincerely,


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There is a limited knowledge about the percutaneous penetration and toxicokinetics of the decaBDE and its effects via dermal exposure. Although dermal absorption of decaBDE is not very likely due to its molecular weight (959.171) and logKow (12.11), dermal contact can be responsible for up to 35% of total PBDE exposure (Kalantzi et al. 2011).

The dermal absorption of decaBDE through the human skin was measured in new experimental ex-vivo study **Bányiová et al. 2014 (RECETOX, Masaryk University, Czech Republic)**. **The aim of this new study was to demonstrate occurrence of the dermal absorption (through human skin) and the extent of its significance to the overall human exposure.**

Results show that BDE-209 is absorbed through human skin. Although the absorption rate is not high, considering that human body is in contact with this compound 24/7, the dermal pathway can markedly contribute to overall human exposure to BDE-209. **The publication brings new percutaneous penetration coefficients (in print process). It was shown that BDE-209 can be dermally absorbed and that a special attention needs to be paid to this exposure route, as it can significantly contribute to overall human exposure.**

In addition, we are currently undertaking additional comprehensive study on dermal absorption of BDE-209 originating from different formulations and in a number of selected exposure scenarios.

Kalantzi, O.I. and P.A. Siskos, Sources and Human Exposure to Polybrominated Diphenyl Ethers. Global Nest Journal, 2011. 13(2): p. 99-108.

Bányiová, K., Nečasová, A., Kukučka, P., Čupr, P.: Experimental determination of human exposure to decabromodiphenyl ether via the dermal route. 2014. Perspectives in Percutaneous Penetration Conference, La Grande Motte, Languedoc, France, 23 - 25 April, 2014 (E-mail: cupr@recetox.muni.cz).