

## **COMMITTEE ON TOXICITY OF CHEMICALS IN FOOD, CONSUMER PRODUCTS AND THE ENVIRONMENT**

### **COT statement on the potential risks from polybrominated biphenyls (PBBs) in the infant diet: lay summary**

1. The Committee on Toxicity (COT) was asked to review the risks of toxicity from chemicals in the infant diet. This statement focuses on potential risks from polybrominated biphenyls (PBBs). None of the Government's current dietary recommendations for infants and young children relates to PBBs.
2. PBBs are a class of brominated chemicals that were previously used as flame retardants in the production of synthetic fibres and polymers. The chemical structure of PBBs incorporates two linked phenyl rings, to which bromine atoms are attached in varying numbers and positions making up 209 possible different molecules, known as congeners. The PBB molecules can rotate around the linkage between the rings, resulting in a planar or non-planar conformation. In the planar conformation they have a structure and activity similar to those of dioxins, and hence they are also known as dioxin-like PBBs.
3. Production and use of PBBs has been increasingly restricted throughout the world over the past four decades. However exposures still occur due to the material being widely distributed in the environment and foods. Although there are EU regulations limiting or preventing the use of PBBs, there are no regulations specifically limiting the levels in foods arising from contamination.
4. The COT concluded that separate approaches should be adopted for the risk assessment of the planar and non-planar PBBs. Exposure to the planar, dioxin-like PBBs should be assessed by comparison with the tolerable daily intake (TDI)<sup>1</sup> for dioxin-like compounds. For the non-planar PBBs, the data on liver carcinogenicity could be used as a basis for risk assessment. However there would be considerable uncertainties in this approach due to the questionable human relevance of the effect and because the technical mixture tested was not representative of the profiles of PBBs to which people are exposed from foodstuffs.
5. Even so, a meaningful risk assessment could not be performed for the PBBs, because the exposure of infants could not be estimated due to the lack of adequate data on levels of different PBBs in food and the environment in the UK.

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<sup>1</sup> The TDI is a level below which harmful effects are not expected to occur.

6. Further research on the toxicity of PBBs is not a high priority since their use is now restricted. However the Committee considers that it would be useful to obtain more data on levels of PBBs in foods in the UK although exposures are likely to decrease further over time.

The full COT statement can be found at:

<https://admin.food.gov.uk/sites/default/files/pbbstatementfinal.pdf>

Lay Summary to COT Statement 2015/03

November 2015