

Reviewer's report

Title: Serum dioxin-like activity of Inuits across Greenlandic districts

Version: 1 **Date:** 2 February 2007

Reviewer: Helen Håkansson

Reviewer's report:

General

This paper addresses the difficulties involved with the assessment of human exposure to the large number of halogenated organic chemicals that are present in human blood. Due to 1) complicated and expensive chemical analysis, 2) need of large sample volumes, and 3) evaluation problems due to interactions between the individual chemicals present, there is a need of simple, inexpensive and yet specific assays, which can be used to give an integrated measure of the chemicals and their biological activity, either for groups of chemicals or for all the chemicals together. The assay used is the so called AhR-CALUX assay and the samples under investigation are blood from Greenland Inuit populations. Similar papers using the same method have been published earlier both by the authors and others. Obtained results confirm and extend previous observations and lend merit to the use of the bioassay as one way to describe the exposure profile for persistent organic pollutants.

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

The paper should be more focussed on exposure and the use of bioassays in exposure evaluations. Both the Introduction and the discussion section contains a lot of general/additional toxicological information, which is not needed to describe the study and its findings. This revision will make the paper more focussed.

PCB does not have a dioxin-TEF value (van den berg et al 1998, 2006) and should not be referred to as a DL compound.

Section about PBDEs in Discussion is speculative.

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

Check abbreviations and take away those that are used very few times. No need to have both DL and DLC.

Use original references, not workshop proceedings etc

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

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