From: POULSEN Mike
To: Eric Blischke/R10/USEPA/US@EPA
Subject: RE: PBDEs in Portland Harbor Fish Tissue
Date: 10/22/2009 05:12 PM
Attachments: PortlandHarborPBDE 2.xls

Eric -

I've attached a revised spreadsheet that leads to a different conclusion. It appears that you had the RfDs for the congeners on the wrong lines. I checked them with the April 2009 EPA Region Screening Table, and matched them up with the congeners. BDE 47 turns out to be the risk driver, with an HQ greater than 1. In fact, it looked like most samples had BDE 47 concentrations above 50 ug/kg, which would exceed an HQ of 1. Still well below PCB risks, but we need to consider them.

I also did a cancer risk calculation for BDE 209, but it is low. I'm not overly confident in cancer risk, though, because I think EPA stopped developing slope factors for the other PBDEs since they were banned. DecaBDE (BDE 209) degrades to the other PBDEs, and they may be more potent, so I think we have more work to do with PBDE risk assessments.

I was in a bit of a hurry, so I'll want to go over this again next week (I'm out tomorrow). But it sounded like you weren't going to make any quick decisions, anyhow.

- Mike

-----Original Message-----
From: Blischke.Eric@epamail.epa.gov
[mailto:Blischke.Eric@epamail.epa.gov]
Sent: Thursday, October 22, 2009 3:01 PM
To: POULSEN Mike
Cc: Humphrey.Chip@epamail.epa.gov
Subject: PBDEs in Portland Harbor Fish Tissue

Mike, I will be sending out the recently received PBDE data to the entire project team. However, I have looked at some of the data to determine whether it poses a risk to human health. The data we have is fillet and whole body without fillet (we will have to calculate a whole body concentration based on the whole body without fillet and fillet data). I am attaching a spreadsheet with my calculations as well as an extracted spreadsheet with the data set.

Based on my calculations, PBDEs do not appear to pose a risk to human health. The highest hazard quotient I calculated is 0.85 for a whole body without fillet at River mile 11E (Rivermile 11E has the highest detected level of PBDE 99 which is the largest contributor to risk). Presumably, the hazard quotient would be lower if the fillet data is factored in. I also looked at smallmouth bass at RM 4E (Schnitzer).

I did not calculate hazard quotients for the clam and carp tissue results since these levels are far lower than the smallmouth bass results.

It has been my position that if the tissue results do not pose a risk to human health (and there is no current method for assessing risks to ecological receptors) that we will have the LWG dispose of the currently archived sediment samples. If we have some tissue samples that do pose a risk, we will identify some sediment samples for elp sediment relationship. Since (b) (6) (b) (6) I was wondering if you could look over my calculations to see if I made any errors. However, we will not be making any decisions until Dana returns.

If you have any questions, please email or call.

Thanks, Eric

(See attached file: TEC-943.xls)(See attached file: PortlandHarborPBDE.xls)