

Interactive comment on “Transport and fate of hexachlorocyclohexanes in the oceanic air and surface seawater” by Z. Xie et al.

Anonymous Referee #2

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Review of the “Transport and fate of hexachlorocyclohexanes in the oceanic air and surface seawater” by Xie et al. (BGD-8-5537-2011).

General comments: The manuscript has posted a big dataset of the concentrations of HCH isomers in the atmosphere and the surface water, which could lead to a better understanding of the global fate of these pollutants after several decades of international banning. The authors gave a evidence that the Northern Hemisphere Ocean is still a important “acceptor” of some persistent pollutants. The manuscript contain a lot of field work, new data and full of ideas. The paper is a contribution for the study of POPs in the global environment, especially the global trends of HCHs in the oceans. I am fully support the paper to be published by BG.

However, there still some areas should be considered as follows. 1) The particulate phase
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has already been collected, however the manuscript gives no data of that. If the particle phase samples were analysed, it should be better for the author to show the data. For gamma-HCH, the particle phase may play an important role in the air-particle partitioning and air deposition processes. If the particle concentrations of the HCHs were not relatively very low by compare with gaseous phase, the author should give these data.

2) The author should use consistent significant figure in the manuscript. e.g. P5538 Line 9, 11, 18; P5542 Line 13, 18, 21, 22; ... and Table 1. I suggest the author use 2 significant figure all over the paper.

3) To be consistent, the unit of flux may be better presented as pg L^{-1} in P5559 Fig. 3 and P5562 Fig. 6.

4) Why there is 2 disconnects in the bar of W1 of Fig. 1 (b)? The author should check it.

Interactive comment on Biogeosciences Discuss., 8, 5537, 2011.