

Interactive comment on “Modelling chemistry over the Dead Sea: bromine and ozone chemistry” by L. Smoydzin and R. von Glasow

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This is another interesting paper by von Glasow group, pointing to new sensitive parameters acting on the emission of reactive bromine species (RBS).

Among these parameters, there is the direct emission of RBS by the highly salty water of the Dead Sea.

In this regard I'm surprised that the authors did not comment on the possible role of the Israeli Dead Sea Bromine company and its Jordanian counterpart as a possible source of these emissions. The industrial process of producing Br₂ from brine involves an aqueous phase chemistry. Thus, rejection of the by-product water directly into the Dead Sea may still contain high level of Br₂ or other RBS.

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In their paper, Hebestreit et al, (Science, 1999) mentioned the possible role of these companies but only in regard of direct emissions of pollutants into the atmosphere, not directly into the sea water.

Dead Sea Bromine Company Ltd. is the world's largest bromine producer and a leading producer of bromine-based performance chemicals. It will be very fortunate that the Israeli and the Jordan companies have zero bromine emissions from their respective plant.

This might explain why their ENH scenario catches correctly the spatial observations, not mentioning that the Israeli plant is located at the end of the southern part of the Dead Sea.

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 4525, 2009.

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