Atmos. Chem. Phys. Discuss., 7, S8097–S8098, 2008
www.atmos-chem-phys-discuss.net/7/S8097/2008/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "The atmospheric chemistry of sulphuryl fluoride, SO_2F_2" *by* T. J. Dillon et al.

T. J. Dillon et al.

Received and published: 3 January 2008

We thank reviewer 2 for his/her useful comments.

Comment p. 15226: reaction of O(1D) with SO2F2: although no sulphur containing products could be identified it might be interesting to speculate on some possible products and their formation mechanisms.

Reply We only have indirect evidence for formation of F atoms (and not at very high yield) and no experimental indication of any sulphur containing species. The fate of (unknown) radical products in our reactor (He bath gas) will likely be different to those formed in the reaction of O(1D) with SO2F2 in the atmosphere.

Comment p. 15227: reaction OH + SO2F2: the impurities of the SO2F2 sample (up to 1 percent) could account for the reactivity observed. Was it not possible to have some

Full Screen / Esc
Printer-friendly Version
Interactive Discussion
Discussion Paper

indication about the nature and concentration of the impurities?

Reply We recognise that our upper limit to k(OH + SO2F2) could have been improved by quantification of reactive impurities. In the FTIR and MS experiments we found no evidence for high levels of the obvious impurities (e.g SO2). Instrumentation to identify and quantify impurities at the <1 percent level was not available in this research group.

Technical corrections : p. 15225: 590 cm-1 instead of 590 nm.

Reply These technical corrections will be taken care of in the revised manuscript.

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 15213, 2007.