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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Quantitative assessment of organosulfates in size-segregated rural fine aerosol" *by* H. Lukács et al.

Anonymous Referee #3

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Review for “Quantitative assessment of organosulfates in size-segregated rural fine aerosol” by H. Lukács et al.

The manuscript presents in a small case study an estimate of the organosulfate concentration in atmospheric aerosols collected at a rural site in Hungary in May and June 2006. In the last few years several publications discussed the role of organosulfates in organic aerosols and their potential in the SOA formation process. Most of these studies (based on mass spectrometric techniques), however, were qualitatively discussing this compound class. It is therefore very valuable that Lukács and co-workers estimate the concentration of organosulfates in ambient aerosols in the study presented here. I recommend this manuscript for publication after considering some minor points as listed below.

p. 6834, line 12 and Table 1: The different sulfur-containing fractions are presented in percents of the total sulfur and sulfate mass. It would be nice to add the mass fraction of organosulfates in the total organic carbon to get a estimate how important they are for the total organic mass in the aerosol.

p. 6835, line 2, Figure 2: The conversion of the discrete size measurements from the impactor measurements leading to the size distributions shown in Figure 2 is not explained. Please add a short respective section in the text. For this very limited data set it might be more instructive for the reader to see the actual measured concentrations of the impactor stages.

p. 6835, line 6: It is stated that organosulfates may not contribute significantly to the mass in the nucleation mode (within error limits) and that therefore their role is not significant for these small particle sizes. However, how close to the detection limit are the measurements for these lowest impactor stages? Might it be that the concentrations are too low to draw this conclusion?

p. 6835, line 24; 6836, line 21: It is mentioned that organosulfates contribute significantly to the SOA mass. Please show total OC or OM data to confirm these statements (see comment above).

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 6825, 2008.

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Interactive Comment