

Interactive comment on “Surface tensions of multi-component mixed inorganic/organic aqueous systems of atmospheric significance: measurements, model predictions and importance for cloud activation predictions” by D. O. Topping et al.

D. O. Topping et al.

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Response to anonymous referee #3

Thank you for your general comments and support of the work which has been presented in the paper. The remarks made are addressed below.

‘Pg. 12059, eq. (1): R and T appear here for the first time, so this should be the moment to define them, and not in eq. (2), although we all know exactly what they represent.’

AC - The document has been updated to now include the definitions of these variables after equation one.

‘Pg.12063, line 13: The reference *Svenningsson et al (2006)* should be between brackets.’

AC - This has been altered in the new document

‘Pg. 12065, eq. (2): define Sigma_ws, remove the definitions for R and T that should be mentioned in eq. (1), give units for every quantity if it is the case.’

AC - The document has been updated now to include a definition for sigma_ws (the surface tension of the mixture). Similarly units have been added for the saturated surface excess and activity. The removal of R and T has been carried out with earlier definitions given after equation 1.

‘Pg. 12067, eq. (5): Does psi_w have a name? Something like superficial volume fraction water at surface? also within the paragraph the psi_i should be mentioned: ‘similar for psi_i’ I would suggest...’

AC - In the original manuscript by Tamura et al (1954) psi_w actually volume fraction of water in the surface layer. This is calculated using the proceeding relationship presented in this paper. The document has been updated to include this definition.

‘Pg. 12069 line 25 and pg 12070, line 1: A typo, I presume: ‘diving’ should be ‘dividing’.’

AC - Yes correct, the document has been updated.

‘Pg. 12087 line 24: Fig. 8b?’

AC - This is an incorrect figure reference. The line now refers to figure 9.

‘Pg. 12088 line 4: Do the authors refer to Fig 9 here? line 6: Figures 5.1-5.4 do not exist.’

AC - Yes correct. Also the text has been updated to now read figures 5a-8a.

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Interactive comment on Atmos. Chem. Phys. Discuss., 6, 12057, 2006.

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