

## Supplementary Material

**Table 1.** Density  $\rho$  ( $\text{kg m}^{-3}$ ), water activity  $a_w$ , and surface tension  $\sigma_{aq}$  ( $\text{N m}^{-1}$ ) for  $0 < w_t < 45\%$ . Also given is the equation for the Cunningham slip correction  $C_c$ . Data sources:  $\rho_s$  [Perry and Green, 1997],  $\rho_{aq}$  and  $a_w$  [Tang et al., 1997],  $\sigma_{aq}$  [Pruppacher and Klett, 1997],  $C_c$  [Hinds, 1999].

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$$\rho_s = 2163$$

$$\rho_{aq} = 997.1 + \sum A_i w_t^i \quad \begin{aligned} A_1 &= 7.410 \\ A_2 &= -3.741 \times 10^{-2} \\ A_3 &= 2.525 \times 10^{-3} \\ A_4 &= -2.060 \times 10^{-5} \end{aligned}$$

$$a_w = 1.0 + \sum C_i w_t^i \quad \begin{aligned} C_1 &= -6.366 \times 10^{-3} \\ C_2 &= 8.624 \times 10^{-5} \\ C_3 &= -1.158 \times 10^{-5} \\ C_4 &= 1.518 \times 10^{-7} \end{aligned}$$

$$\sigma_{aq} = 0.072 + \frac{0.029 w_t}{100 - w_t}$$

$$C_c = 1 + \frac{\lambda}{d} \left[ 2.34 + 1.05 \exp\left(-0.39 \frac{d}{\lambda}\right) \right]$$

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## Literature Cited

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