Correction

Thermodynamic Equilibrium of Diluted SO₂ Absorption into Na₂SO₄ or H₂SO₄ Electrolyte Solutions. T. Hunger, F. Lapicque, and A. Storck, J. Chem. Eng. Data 1990, 35, 453-463.

In Table IV, the volumes $V_{\rm b}$ and $V_{\rm c}$ should be expressed in dm3 mol-1 and not in dm3 kg-1. In relation A3, the expression $\Gamma_{\rm ref}$ and not $\Gamma_{\rm ref}$ should be inserted. In relation A5, an exponent was omitted in the expression for the Debye--Hückel coefficient, and the correct expression should be

$$A = \frac{1}{2.303} \left[\frac{e}{(DkT)^{1/2}} \right]^3 \left(\frac{2\pi d_0 N_A}{1000} \right)^{1/2}$$

instead of

$$A = \frac{1}{2.303} \left[\frac{e}{(DkT)^{1/2}} \right] \left(\frac{2\pi \, d_0 \, N_A}{1000} \right)^{1/2}$$

An error in the right-hand term of relation A10 was made, and this relation has to be replaced by

$$T_{\text{ion,ion}}(j+4) = -z^2(j+4)B_{\text{sum}}/4I^2 + 2\sum_{i=1}^2 m(i+2)B(i,j)$$

The dimensionless dielectric constant should be defined as (A12)

$$DIV = \left[1 + \frac{\alpha(2) m(2)}{V_{\rm m}}\right]^{-1}$$

A parenthesis is missing in the numerator of the last term of relation A15b, related to the ion-molecule interaction term for SO2; the correct expression is

$$T_{\text{ion-mol}}(2) = \sum L DIV \left[\frac{-1.5 V_{b}(2) V_{cT}}{V_{fc}^{2}} + \frac{V_{f} + 0.5 V_{cT}}{V_{fc}} \left(\frac{V_{b}(2)}{V_{m}} - \frac{DIV(V_{b}(2) + \alpha(2))}{V_{m}} \right) \right]$$

Finally, the last term for the ion-molecule interaction contribution of H_2O should be proportional to $\sum LM_w$; therefore, the actual relation A15c is

$$T_{\text{ion-ion}}(1) = \frac{2AM_{w}}{3} \frac{I^{1.5}}{1 + 1.2I^{1/2}} - 2M_{w} \sum_{j=1}^{2} m(j+2) \sum_{j=1}^{4} m(j+4) B_{w}(i,j) - \sum_{j=1}^{4} LM_{w} \left[\frac{-\alpha(2) m(2) \text{DIV}^{2}}{d_{0} V_{m}^{2}} \times \frac{V_{f} + 0.5 V_{cT}}{V_{fc}} + \frac{1.5 V_{cT} \text{DIV}}{d_{0} V_{fc}^{2}} - \frac{1.5 V_{cT}}{d_{0} V_{bc}^{2}} \right]$$