

for the compressibilities of the ammonium and hydroxyl ions. The values obtained for the ratio K_a^P/K_a^1 were lower than those from experiment by a factor of about two over the pressure range 3000–6000 atm. This would indicate that ammonia is present in solution at these pressures almost entirely as $\text{NH}_4\cdot\text{OH}$.

If ΔV_h is assumed not to change appreciably with pressure at 25° , the fraction of carbon dioxide in solution present as H_2CO_3 rises from 0.259% at 1 atm. to 2.3% at 3000 atm.

It is evident therefore that the Born equation should not be used to predict the increase with pressure in the apparent ionisation constant for substances such as CO_2 , SO_2 , and NH_3 , where a hydration step precedes ionisation.

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