

97. Will a precipitate form when 75.0 mL of 0.020 M BaCl₂ and 125 mL of 0.040 M Na₂SO₄ are mixed together?

(K_{sp} of BaSO₄ = 1.5×10^{-9})

98. Will a precipitate form when 100.0 mL of 4.0×10^{-4} M Mg(NO₃)₂ is added to 100.0 mL of 2.0×10^{-4} M NaOH?

(K_{sp} of Mg(OH)₂ = 8.9×10^{-12})

99. Calculate the final concentrations of K⁺(aq), C₂O₄²⁻(aq), Ba²⁺(aq), and Br⁻(aq) in a solution prepared by adding 0.100 L of 0.200 M K₂C₂O₄ to 0.150 L of 0.250 M BaBr₂. (For BaC₂O₄, $K_{sp} = 2.3 \times 10^{-8}$.)

100. A solution is prepared by mixing 50.0 mL of 0.10 M $\text{Pb}(\text{NO}_3)_2$ with 50.0 mL of 1.0 M KCl. Calculate the concentrations of Pb^{2+} and Cl^- at equilibrium. K_{sp} for $\text{PbCl}_2(\text{s})$ is 1.6×10^{-5} .

101. A solution contains 1.0×10^{-5} M Na_3PO_4 . What is the minimum concentration of AgNO_3 that would cause precipitation of solid Ag_3PO_4 ($K_{\text{sp}} = 1.8 \times 10^{-18}$)?