

PRACTICE EXERCISES

1. Fill in the blank spaces in the following table showing equilibrium equations and K_{sp} expressions.

Compound	Solubility Equilibrium Equation	K_{sp} Expression
		$K_{sp} = [Mg^{2+}][OH^-]^2$
$Cu_3(PO_4)_2$		
	$Ga(OH)_{3(s)} \rightleftharpoons Ga^{3+}_{(aq)} + 3OH^-_{(aq)}$	
$FeCO_3$		
		$K_{sp} = [Fe^{3+}][OH^-]^3$

2. Calculate the molar solubility of lead(II) iodate ($Pb(IO_3)_2$).
3. Calculate the mass of strontium sulfate ($SrSO_4$) dissolved in 600.0 mL of a saturated solution of $SrSO_4$.
4. The molar solubility of lead(II) oxalate (PbC_2O_4) is 9.22×10^{-5} M at $25^\circ C$. Calculate the value for the K_{sp} of lead(II) oxalate at $25^\circ C$.

5. The solubility of thallium(I) iodate (TlIO_3) is 0.67 g/L at 25°C . Calculate the value for the K_{sp} of thallium(I) iodate at 25°C .

6. The following data were obtained when a 25.0 mL sample of a saturated solution of Ag_2SO_4 was evaporated to dryness.

Mass of evaporating dish	38.2397 g
Mass of evaporating dish and residue	38.3522 g

Calculate the K_{sp} of Ag_2SO_4 . Show your steps clearly.