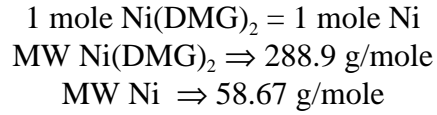


Gravimetric Determination of Nickel in a 5-cent Coin

Calculations:



$$\text{mass Ni(DMG)}_2 = [\text{mass crucible} + \text{Ni(DMG)}_2] - \text{mass empty crucible}$$

$$\frac{\text{mass}(\text{Ni(DMG)}_2)}{\text{MW}(\text{Ni(DMG)}_2)} = \text{mole}(\text{Ni(DMG)}_2) = \text{mole}(\text{Ni})$$

Taking into account dilution from stock solution of the 5-cent coin:

$$\begin{aligned}\text{mole Ni in 25.00 mL stock solution} &\Rightarrow 1/20 \text{ of total stock solution} \\ (\text{mole Ni in Sample}) \times 20 &= \text{mole Ni in coin} \\ (\text{mole Ni in coin})(\text{MW Ni}) &= \text{mass Ni in 5-cent coin} \\ \text{mass Ni/mass 5-cent coin} \times 100\% &= \% \text{ Ni in 5-cent coin}\end{aligned}$$