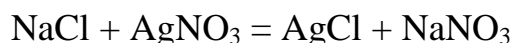


A 0.654 gram sample of impure salt was dissolved in water and reacted with excess AgNO_3 , forming 1.26 g of AgCl . What is the percent of NaCl in the impure sample?



$$n = \frac{m}{M}$$

$$M(\text{AgCl}) = 143.5 \text{ g/mol}$$

$$n(\text{AgCl}) = \frac{1.26 \text{ g}}{143.5 \text{ g/mol}} = 0.00878 \text{ mol}$$

$$n(\text{NaCl}) = n(\text{AgCl}) = 0.00878$$

$$m(\text{NaCl}) = n(\text{NaCl}) * M(\text{NaCl})$$

$$M(\text{NaCl}) = 58.5 \text{ g/mol}$$

$$m(\text{NaCl}) = 0.00878 * 58.5 = 0.514 \text{ g}$$

$$W = \frac{0.514 * 100\%}{0.654} = 78.54\%$$

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