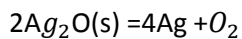


Answer on Question 78702 in General Chemistry



$$V(O_2) = 4.58 \text{ L}$$

$$P = 745 \text{ mmHg}$$

$$T = 308 \text{ K}$$

$$.m(Ag_2O) = ?$$

We find the volume of O_2 (V_0) under the normal conditions ($T=273\text{K}$ and $P=760 \text{ mmHg}$) using combined gas law

$$\frac{p_0 \times V_0}{T_0} = \frac{p_1 \times V_1}{T_1}$$

$$V_0 = \frac{p_1 \times V_1 \times T_0}{p_0 \times T_1} = \frac{745 \times 4.58 \times 273}{760 \times 308} = 3.98 \text{ L}$$

Find the amount of substance of O_2

$$.n(O_2) = \frac{V}{V_M} = \frac{3.98}{22.4} = 0.18 \text{ mol}$$

$$.n(Ag_2O) = 2 n(O_2) = 2 \times 0.18 = 0.36 \text{ mol}$$

$$.m(Ag_2O) = n \times Mr(Ag_2O) = 0.36 \times 232 = 83.52 \text{ g}$$

$$Mr(Ag_2O) = 2Ar(Ag) + Ar(O) = 2 \times 108 + 16 = 232$$

Answer provided by AssignmentExpert.com

$$V_0 = \frac{p_1 \times V_1 \times T_0}{p_0 \times}$$