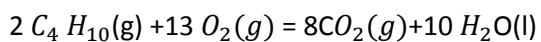


Answer on Question 81801 in General Chemistry



$$. p = 1 \text{ atm}$$

$$. t = 23^\circ \text{ C} = 296 \text{ K}$$

$$. m (C_4 H_{10}) = 1.6 \text{ g}$$

$$V(CO_2) = ?$$

Find the amount of substance of $C_4 H_{10}$

$$. n = \frac{m}{Mr} = \frac{1.6}{58} = 0.028 \text{ mol}$$

$$Mr (C_4 H_{10}) = 4Ar(C) + 10 Ar (H) = 4 \times 12 + 10 \times 1 = 58$$

$$. n(CO_2) = 4 n(C_4 H_{10}) = 4 \times 0.028 = 0.112 \text{ mol}$$

$$V(CO_2) = n \times V_M = 0.112 \times 22.4 = 2.5 \text{ l}$$

The volume is at temperature $25^\circ \text{ C} = 298 \text{ K}$

Recalculate the volume of the law Gay Lussac

$$\frac{V_0}{T_0} = \frac{V_1}{T_1} \text{ from which } V_1 = \frac{V_0 \times T_1}{T_0} = \frac{2.5 \times 296}{298} = 2.48 \text{ l}$$

Answer provided by www.AssignmentExpert.com