

Avogadro's Hypothesis - One Problem

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A gas has a volume of 345ml and contains 2.05 mole. If the container leaks so that there is now 1.45mole of the gas, what is its new volume (in ml) ?

$$V_1 = 345 \text{ ml}$$

$$n_1 = 2.05 \text{ mole}$$

$$n_2 = 1.45 \text{ mole}$$

$$V_2 = ?$$

$$V_2 = V_1 \left(\frac{n_2}{n_1} \right)$$

$$V_2 = (345 \text{ ml}) \left(\frac{1.45 \text{ mole}}{2.05 \text{ mole}} \right)$$

$$V_2 = 244.0 \text{ ml}$$

$$\boxed{V_2 = 244 \text{ ml}}$$

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