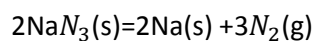


Answer on Question 75490 in General Chemistry

$$V(N_2)=8.25 \text{ l}$$

$$P=1.37 \text{ atm}$$

$$.t=25^\circ \text{ C}$$



$$.m(\text{NaN}_3)=?$$

Solution: According to the law of Boyle-Marriott (T=const)

$$p_0 \times V_0 = p_1 \times V_1$$

$$V_0 = \frac{p_1 \times V_1}{p_0} = \frac{1.37 \times 8.25}{1} = 11.3$$

Find the amount of substance of N_2

$$.n = \frac{V}{V_m} = \frac{11.3}{22.4} = 0.504 \text{ mol}$$

$$.n(\text{NaN}_3) = \frac{2}{3} n(N_2) = \frac{2}{3} \times 0.504 = 0.336 \text{ mol}$$

$$M_r(\text{NaN}_3) = A_r(\text{Na}) + 3 \times A_r(\text{N}) = 23 + 3 \times 14 = 65$$

$$.m(\text{NaN}_3) = n \times M_r(\text{NaN}_3) = 0.336 \times 65 = 21.84 \text{ g}$$

Answer provided by AssignmentExpert.com