

The number of moles of CuO, that will be utilized in Dumas method for estimation nitrogen in a sample of 57.5 g of N, N-dimethylaminopentane is _____ $\times 10^{-2}$. (Nearest integer)

Answer

Correct Answer is **1125**

Explanation

Moles of N in N, N - dimethylaminopentane = $\left(\frac{57.5}{115}\right) = 0.5$ mol



$$\frac{n_{CuO \text{ reacted}}}{\left(\frac{45}{2}\right)} = \frac{n_{C_7H_{17}N \text{ reacted}}}{1}$$

$$\Rightarrow n_{CuO \text{ reacted}} = \left(\frac{45}{2}\right) \times 0.5 = 11.25$$