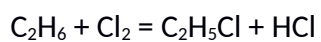


Question:

What mass of $\text{C}_2\text{H}_5\text{Cl}$ can be produced from 13.55g of C_2H_6 and 25.00g of Cl_2 ?

Solution:

$$n(\text{C}_2\text{H}_6) = 13.55 / 30 = 0.4517 \text{ (mol)}$$

$$n(\text{Cl}_2) = 25.00 / 71 = 0.3521 \text{ (mol)}$$

Since the amount of C_2H_6 is taken in excess, so:

$$n(\text{C}_2\text{H}_5\text{Cl}) = n(\text{Cl}_2) = 0.3521 * 64.5 = 22.71 \text{ (g)}$$

Answer:

22.71 g of $\text{C}_2\text{H}_5\text{Cl}$ can be produced.