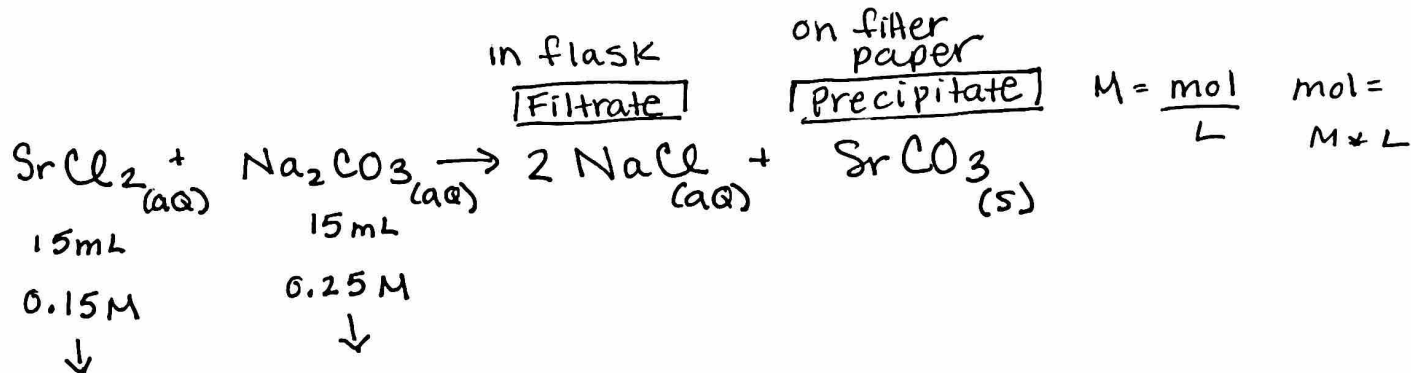




$$0.15 \frac{\text{mol}}{L} \times 0.015 L \quad 0.25 \frac{\text{mol}}{L} \times 0.015 L$$

$$= 2.25 \times 10^{-3} \text{ mol SrCl}_2$$

↓

limiting reagent

$$= 3.75 \times 10^{-3} \text{ mol Na}_2\text{CO}_3$$

$$- 2.25 \times 10^{-3}$$

$$= \frac{1.5 \times 10^{-3} \text{ mol Na}_2\text{CO}_3 \text{ EXCESS}}{1 \text{ mol Na}_2\text{CO}_3} \quad \frac{105.99 \text{ g}}{1 \text{ mol Na}_2\text{CO}_3}$$

Theoretical yield

= 0.159 g extra Na₂CO₃ in filter flask

$$\frac{2.25 \times 10^{-3} \text{ mol SrCl}_2}{1 \text{ mol SrCl}_2} \times \frac{2 \text{ mol NaCl}}{1 \text{ mol SrCl}_2} \times \frac{58.4 \text{ g NaCl}}{1 \text{ mol NaCl}} = \boxed{0.292 \text{ g NaCl}}$$

$$\frac{2.25 \times 10^{-3} \text{ mol SrCl}_2}{1 \text{ mol SrCl}_2} \times \frac{1 \text{ mol SrCO}_3}{1 \text{ mol SrCl}_2} \times \frac{147.6 \text{ g SrCO}_3}{1 \text{ mol SrCO}_3} = \boxed{0.369 \text{ g SrCO}_3}$$

Actual yield

NaCl = 0.457g → 157% yield b/c SrCO₃ & excess reagent contaminated it

$$0.04797 \text{ g SrCO}_3 + 0.159 \text{ g Na}_2\text{CO}_3 + 0.292 \text{ g NaCl} = 0.499 \text{ g} \quad \text{actual of everything}$$

SrCO₃ = 0.321g → 87% yield b/c lost some to under filter paper