

Answer on Question #54068 – Chemistry – General Chemistry

Task:

What is the mass of solute need to make 25.0 ml of 0.350 mol/L $\text{Na}_2\text{CO}_3(\text{aq})$?

Answer:

$$C_M = \frac{v}{V} \quad v = C_M \cdot V$$

$$v(\text{Na}_2\text{CO}_3) = 0.350 \cdot 0.025 = 0.009 \text{ mol}$$

$$v = \frac{m}{M} \quad m = v \cdot M$$

$$M(\text{Na}_2\text{CO}_3) = 105.988 \text{ g/mol}$$

$$m(\text{Na}_2\text{CO}_3) = 0.009 \cdot 105.998 = 0.954 \text{ g}$$