

Question #47870, Chemistry, Other

How many grams of NaCl (s) are needed to make 2.5 liters of 0.75 M solution of NaCl?

Answer:

$$C(\text{NaCl}) = 0.75 \text{ M} = 0.75 \text{ mol/L}$$

$$M(\text{NaCl}) = 58.4 \text{ g/mol}$$

$$n(\text{NaCl}) = C \cdot V$$

$$n = m/M$$

$$m/M = C \cdot V$$

$$m = C \cdot V \cdot M$$

$$m(\text{NaCl}) = 0.75 \cdot 58.4 \cdot 2.5 = \mathbf{109.5 \text{ (g)}}$$