Question:

Calculate the molar concentration of ethanol in an aqueous solution that contains 5.5 g of C2H5 OH (46.07 g/mol) in 4.5 L of solution.

Solution:

$$C(EtOH) = \frac{n(EtOH)}{V} = \frac{m(EtOH)}{M(EtOH) \cdot V} = \frac{5.5}{46.07 \cdot 4.5} = 0.0265 \; mol/L$$

Answer: 0.0265 mol/L