

516 mL of ethyl alcohol with a density of 0.789g/mL is poured into a beaker with a mass of 0.245 kg and then weighed on a scale. How many grams will the scale read?

Solution:

Use the formula for calculating mass through volume and density,

$$m = \rho \cdot V,$$

$$m(\text{C}_2\text{H}_5\text{OH}) = 516\text{ mL} \times 0,789\text{ g/mL} = \\ = 407,124\text{ g}$$

$$\text{if } m(\text{beaker}) = 0,245\text{ kg} = 245\text{ g},$$

$$\text{then } m(\text{total}) = 652,124\text{ g}.$$

Answer: 652.124g.

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