

Answer on Question #57339 - Chemistry - General Chemistry

Question:

What mass of acetic acid (CH_3COOH) is present in 654ml of a 4.2% (m/L) vinegar solution?

Solution.

Percent by mass is calculated from the mass of solute in a given mass of solution.

$$\text{Percent by mass} = \frac{\text{mass of solute}}{\text{mass of solution}} \times 100\%$$

So, the mass of solute is

$$\text{mass of solute} = \frac{\text{Percent by mass} \times \text{mass of solution}}{100\%} = \frac{4.2 \times 654}{100\%} = 27.468 \text{ g}$$

Answer: 27.468 g