

What is 0.1 % w/v ammonium acetate in terms of molarity – FAQ

Percentage given as w/v means **weight over volume**. This is typically used for solids dissolved in a liquid.

Ammonium acetate is a solid and is often used in HPLC mobile phases. Suppose you have a 0.1 % (w/v) ammonium acetate solution but your SOP requires you to state the concentration in mM. How do you convert? You will need the molecular weight of the solute (77.1 g/mol in this case.)

$$0.1 \% (w/v) = \frac{0.001 \text{ g}}{\text{mL}}$$

$$\left[\frac{0.001 \text{ g}}{\text{mL}} \right] \left[\frac{\text{mol}}{77.1 \text{ g}} \right] \left[\frac{1000 \text{ mL}}{\text{L}} \right] = \frac{0.0130 \text{ mol}}{\text{L}} = 13 \text{ mM}$$

1. Convert the percent to grams per mL
2. Change grams to mol (use the molecular weight)
3. Change mL to L
4. You will get mol per liter, or M. This may be expressed as mM by multiplying by 1000.