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.)

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

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

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.

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