

**Buffer Example Problems**

1. To a 100. mL sample of 0.83 M  $\text{CH}_3\text{COOH}$  (also known as vinegar) is added 0.050 mol of  $\text{NaCH}_3\text{COO}(s)$ . Assuming that the sodium acetate completely dissolves and does not change the volume of the solution, compute the pH of the solution, the percent dissociation of acetic acid, and the equilibrium concentrations of acetic acid and acetate ion.

2. What is the pH of a solution containing 0.20 M  $\text{NH}_3$  and 0.10 M  $\text{NH}_4\text{Cl}$ ? (Note that the  $K_b$  of  $\text{NH}_3$  is  $1.8 \times 10^{-5}$ .)