

pH curves

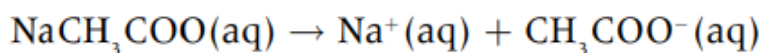
Buffer solutions

Resist changes in pH after adding small amounts of acid/base

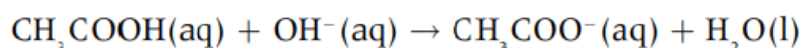
Acidic buffers

Weak acid and salt of that acid

E.g. ethanoic acid and sodium ethanoate



- If H^+ ions are added
 - They combine with ethanoate ions to form ethanoic acid
- If OH^- ions are added
 - It reacts with the acid to form water



How acidic buffers are made

- Strong base and excess weak acid



limiting reagent

salt

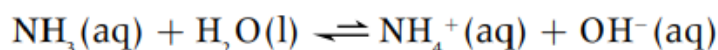
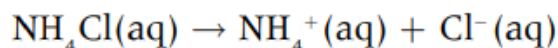
excess weak acid

buffer solution

Alkali buffers

Weak base with salt of that base

E.g. ammonia and ammonium chloride



- If H^+ ions are added
 - They combine with OH^- to form water
 - Ammonia dissociates to replace ions
- If OH^- ions are added
 - It reacts with ammonium ions to ammonia

Salt hydrolysis

- Neutral salts- strong acids with strong base
- Alkaline salts- weak acid with strong base
- Acidic salts- strong acid with weak base