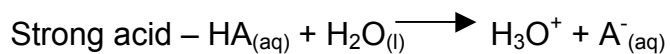


## 9.1 ACID-BASE PROPERTIES OF SALT SOLUTION

### SALTS THAT DISSOLVE AND FORM NEUTRAL SOLUTIONS

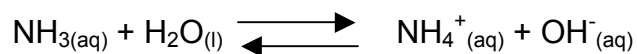


∴ a solution of a strong acid and a strong base - neither the cation of the base or the anion of the acid react with water. Therefore pH = 7.

### SALTS THAT DISSOLVE AND FORM ACIDIC SOLUTIONS

- Called Hydrolysis reactions

Weak base



Salts of weak bases and strong acids dissolve in water to form acidic solutions

## SALTS THAT DISSOLVE AND FORM BASIC SOLUTIONS



## SALTS OF WEAK BASES AND WEAK ACIDS

If  $K_a$  for the cation  $>$   $K_b$  for the anion  $\rightarrow$  solution is acidic

If  $K_b$  for the anion  $>$   $K_a$  for the cation  $\rightarrow$  solution is basic

### Predicting the Acidity or Basicity of Salts

Predict if each of the solutions will be acidic or basic. If not neutral write the equation for the reaction that causes the solution to be acidic or basic.

- a.  $\text{Na}_3\text{PO}_4$     b.  $\text{NH}_4\text{NO}_3$     c.  $\text{NaCl}$     d.  $\text{NH}_4\text{HCO}_3$

a.  $\text{Na}_3\text{PO}_4$  –

a.  $\text{NH}_4\text{NO}_3$

c.  $\text{NaCl}$