***Chemistry***

**14: Acid-Base Equilibria**

**14.4: Hydrolysis of Salt Solutions**

79. Determine whether aqueous solutions of the following salts are acidic, basic, or neutral:

(a) FeCl3

(b) K2CO3

(c) NH4Br

(d) KClO4

Solution

(a) FeCl3 dissociates into Fe3+ ions (acidic metal cation) and Cl– ions (the conjugate base of a strong acid and therefore essentially neutral). The aqueous solution is therefore acidic. (b) K2CO3 dissociates into K+ ions (neutral metal cation) and  ions (the conjugate base of a weak acid and therefore basic). The aqueous solution is therefore basic. (c) NH4Brdissociates into NH4+ ions (a weak acid) and Br- ions (the conjugate base of a strong acid and therefore essentially neutral). The aqueous solution is therefore acidic. (d) KClO4 dissociates into K+ ions (neutral metal cation) and  ions (the conjugate base of a strong acid and therefore neutral). The aqueous solution is therefore neutral.

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