

## Chem12 Acidic and Basic Anhydrides : Notes/W.S. - 190

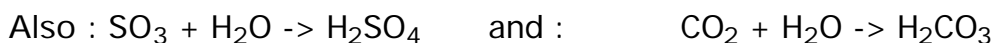
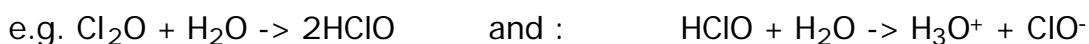
An oxygen containing compound that reacts with water to form a base is a basic anhydride.

First and second column oxides (except for Be), form basic solutions as discussed earlier.



In general, soluble metal oxides give basic solutions.

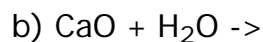
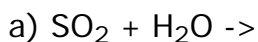
An oxygen containing compound that reacts with water to form an acid is an acidic anhydride.



In general, soluble non-metallic oxides give acidic solutions.

Many metallic oxides between the group 1 and 2 metals and the non-metals are amphiprotic. Amphiprotic metallic oxides will react with acids or bases. (e.g.  $\text{Al}_2\text{O}_3$  and  $\text{SnO}_2$ )

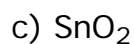
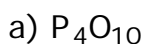
1) Give the equations for the reactions with water of the following compounds.



2) State whether the following oxides are basic, acidic, or amphiprotic in solution.



3) Which one of the following will react with either an acid or a base?



Answers : 1) a)  $\text{H}_2\text{SO}_3$ , b)  $\text{Ca(OH)}_2$ , 2) a) Basic, b) Amphiprotic, c) Acidic, 3)  $\text{SnO}_2$ .