



Example 2. $Mn(CO_3)_3$

1. Mn^{2+} or Mn^{4+}
2. 2 Mn for 3 CO_3
3. $+6 = -6$
4. $+6 = -6$
5. \therefore Manganese (III) carbonate



Example 3. NH_4OH

1. NH_4^+ OH^-
2. NH_4^+ OH^-
3. NH_4^+ OH^-
4. Ammonium hydroxide
5. Ammonium hydroxide

Naming Hydrates:

Ionic compounds that include water molecules in their crystal structure are called hydrates (hydra=water). To name hydrates we use a prefix to tell how many water molecules are present.

Ex.1 $CuSO_4 \cdot 5H_2O \rightarrow$ Copper (II) sulphate **pentahydrate**

Ex. 2 $Zn_3(PO_3)_2 \cdot 2H_2O \rightarrow$ Zinc phosphate **dihydrate**

Prefix used	# of H_2O present	Prefix used	# of H_2O present
mono	1	hexa	6
di	2	hepta	7
tri	3	octa	8
tetra	4	nona	9
penta	5	deca	10

You must **memorize** the above prefixes!

Name the following:

1. $NaNO_3 \cdot 8H_2O$ Sodium nitrate octahydrate
2. $H_2SO_4 \cdot 3H_2O$ Hydrogen sulphate trihydrate
3. $Ca(OH)_2 \cdot 6H_2O$ Calcium hydroxide hexahydrate
4. $Mn(HSO_4)_2 \cdot 7H_2O$ Manganese (II) bisulphate heptahydrate
5. $Li_2SO_3 \cdot 9H_2O$ Lithium sulphite nonahydrate
6. $Co(CN)_3 \cdot 4H_2O$ Cobalt

Write the **formula** for the following:

1. Nickel (II) chloride hexahydrate $NiCl_2 \cdot 6H_2O$
2. Sodium phosphate pentahydrate $Na_3PO_4 \cdot 5H_2O$
3. Barium nitrate heptahydrate $Ba(NO_3)_2 \cdot 7H_2O$
4. Potassium chloride monohydrate $KCl \cdot H_2O$
5. Aluminum hydroxide trihydrate $Al(OH)_3 \cdot 3H_2O$
6. Silver sulphite decahydrate $Ag_2SO_3 \cdot 10H_2O$