

## Formulas of Acids – Review & Practice

Determining the formula of an acid means essentially determining the formula of a hydrogen compound and adding the (aq) symbol to indicate that it is the solution of the compound (an ACID) with which we are concerned. A thorough knowledge of the previous work on chemical formulas and nomenclature will be required for this section.

E . g . #1: Predict the formula for hydrobromic acid.

'Hydro - - - ic' means a binary acid  
'- - - brom - - - ' means bromine (+H)



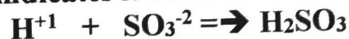
For an acid  $\Rightarrow \text{HBr (aq)}$

E . g . #2: Predict the formula for sulfurous acid.

No 'Hydro - ' indicates that it is not binary (thus a radical)

'- - - - - ous' indicates it contains the ' - ite' radical

'sulfur - - - ' indicates it contains the sulphite radical



For an acid  $\Rightarrow \text{H}_2\text{SO}_3 \text{ (aq)}$

*ClO<sub>2</sub> = chlorite  
ous*

### Exercise:

hydroiodic acid	<u>HI (aq)</u>
perchloric acid	<u>HClO<sub>4</sub> (aq)</u>
nitric acid	<u>HNO<sub>3</sub> (aq)</u>
phosphorous acid	<u>H<sub>3</sub>PO<sub>3</sub> (aq)</u>
hypochlorous acid	<u>HClO (aq)</u>
Hypocarbonous acid	<u>H<sub>2</sub>CO (aq)</u>
Chloric acid	<u>HClO<sub>3</sub> (aq)</u>
Nitrous acid	<u>HNO<sub>2</sub> (aq)</u>
Chlorous acid	<u>HClO<sub>2</sub> (aq)</u>
Phosphoric acid	<u>H<sub>3</sub>PO<sub>4</sub> (aq)</u>
Hydrosulphuric acid	<u>H<sub>2</sub>S (aq)</u>
Carbonic acid	<u>H<sub>2</sub>CO<sub>3</sub> (aq)</u>
Phosphoric acid	<u>H<sub>3</sub>PO<sub>4</sub> (aq)</u>
Chlorous acid	<u>HClO<sub>2</sub> (aq)</u>
Sulphuric acid	<u>H<sub>2</sub>SO<sub>4</sub> (aq)</u>
Carbonous acid	<u>H<sub>2</sub>CO<sub>2</sub> (aq)</u>
Hyposulphurous acid	<u>H<sub>2</sub>SO<sub>2</sub> (aq)</u>
Hydrofluoric acid	<u>HF (aq)</u>
Pernitric acid	<u>HNO<sub>4</sub> (aq)</u>
Hydrochloric acid	<u>HCl (aq)</u>

<u>H<sub>2</sub>SO<sub>4</sub> (aq)</u>	<u>Sulphuric acid</u>
<u>HClO<sub>2</sub> (aq)</u>	<u>Chlorous acid</u>
<u>H<sub>3</sub>PO<sub>4</sub> (aq)</u>	<u>Phosphoric acid</u>
<u>H<sub>2</sub>CO<sub>3</sub> (aq)</u>	<u>Carbonic acid</u>
<u>H<sub>2</sub>S (aq)</u>	<u>Hydrosulphuric acid</u>
<u>HCl (aq)</u>	<u>Hydrochloric acid</u>
<u>HNO<sub>4</sub> (aq)</u>	<u>Pernitric acid</u>
<u>HF (aq)</u>	<u>Hydrofluoric acid</u>
<u>H<sub>2</sub>SO<sub>2</sub> (aq)</u>	<u>Hyposulphurous acid</u>
<u>H<sub>2</sub>CO<sub>2</sub> (aq)</u>	<u>Carbonous acid</u>
<u>H<sub>3</sub>PO<sub>3</sub> (aq)</u>	<u>Phosphorous acid</u>
<u>HClO<sub>3</sub> (aq)</u>	<u>Chloric acid</u>
<u>HNO<sub>2</sub> (aq)</u>	<u>Nitrous acid</u>
<u>HClO<sub>3</sub> (aq)</u>	<u>Chloric acid</u>
<u>H<sub>2</sub>CO (aq)</u>	<u>Hypocarbonous acid</u>
<u>HClO (aq)</u>	<u>Hypochlorous acid</u>
<u>H<sub>3</sub>PO<sub>3</sub> (aq)</u>	<u>Phosphorous acid</u>
<u>HNO<sub>3</sub> (aq)</u>	<u>Nitric acid</u>
<u>HClO<sub>4</sub> (aq)</u>	<u>Perchloric acid</u>
<u>HI (aq)</u>	<u>Hydroiodic acid</u>