

Naming Acids**Binary acids:** Contain two elements- _____ + _____

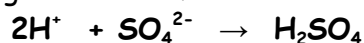
- o The anion does _____ contain _____.
- o Prefix: _____ Suffix _____.

Examples of Binary Acids

Formula	Classical Acid Name

Oxyacids acids:

Example: Hydrogen combines with the sulfate ion to form sulfuric acid. Note that 2 hydrogen ions are required to balance the charge on the sulfate ion:



- The anion contains _____.
- If the anion ends in _____, the suffix is _____.

Note: do NOT use the prefix _____ for oxyacids!

Examples of Oxyacids Acids

Formula	Classical Acid Name	Polyatomic Ion that combined with Hydrogen?
$\text{H}_2\text{SO}_{4(\text{aq})}$	sulfuric acid	SO_4 (sulfate)
$\text{HNO}_{3(\text{aq})}$		
$\text{H}_3\text{PO}_{4(\text{aq})}$	phosphoric acid	
	chloric acid	
$\text{H}_2\text{CO}_{3(\text{aq})}$		

If the anion ends in _____, the oxyacid suffix is _____.

- Example: $\text{H}_2\text{SO}_{3(\text{aq})}$: _____.
- Example: $\text{HNO}_{2(\text{aq})}$: _____.

If the anion is a _____, then the oxyacid is a _____ acid.

- Example: $\text{HClO}_{4(\text{aq})}$: _____.

If the anion is a _____, then the oxyacid is a _____ acid.

- Example: $\text{HNO}_{(\text{aq})}$: _____.

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)



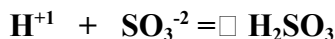
For an acid = $\square \text{HBr}_{(\text{aq})}$

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 = $\square \text{H}_2\text{SO}_3_{(\text{aq})}$

Exercise:

hydroiodic acid

perchloric acid

nitric acid

phosphorous acid

hypochlorous acid

Hypocarbonous acid

Chloric acid

Nitrous acid

Chlorous acid

Phosphoric acid

Hydrosulphuric acid

Carbonic acid

Phosphoric acid

Chlorous acid

Sulphuric acid

Carbonous acid

Hyposulphurous acid

Hydrofluoric acid

Penitric acid

Hydrochloric acid _____

$\text{H}_2\text{SO}_4_{(\text{aq})}$

$\text{HClO}_2_{(\text{aq})}$

$\text{H}_3\text{PO}_4_{(\text{aq})}$

$\text{H}_2\text{CO}_3_{(\text{aq})}$

$\text{H}_2\text{S}_{(\text{aq})}$

$\text{HCl}_{(\text{aq})}$

$\text{HNO}_4_{(\text{aq})}$

$\text{HF}_{(\text{aq})}$

$\text{H}_2\text{SO}_2_{(\text{aq})}$

$\text{H}_2\text{CO}_2_{(\text{aq})}$

$\text{H}_3\text{PO}_4_{(\text{aq})}$

$\text{HClO}_3_{(\text{aq})}$

$\text{HNO}_2_{(\text{aq})}$

$\text{HClO}_3_{(\text{aq})}$

$\text{H}_2\text{CO}_{(\text{aq})}$