

## Naming Acids

A. Naming Binary Acids:

**Binary Acid** = 2 elements (like HCl)

- Begin with *hydro-*.
- Use name of 2nd element and end with *-ic*.
- HCl is hydrochloric acid.

Practice: Write the acid name:

Write the acid formula:

1. HBr \_\_\_\_\_
2. HI \_\_\_\_\_

3. hydrochloric acid \_\_\_\_\_
4. hydrofluoric acid \_\_\_\_\_

Recall the Polyatomic ions:

carbonate  $\text{CO}_3^{2-}$

nitrite  $\text{NO}_2^-$

chlorate  $\text{ClO}_3^-$

phosphate  $\text{PO}_4^{3-}$

chlorite  $\text{ClO}_2^-$

sulfate  $\text{SO}_4^{2-}$

nitrate  $\text{NO}_3^-$

sulfite  $\text{SO}_3^{2-}$

B. Naming Oxyacids:

**Oxyacid** = H + O + 3rd element ( $\text{H}_2\text{SO}_4$ )

- **Usually incorporates the polyatomic ion name into the acid name:**
  - **-ate = -ic** (such as **nitric**,  $\text{HNO}_3$ , from **nitrate**)
  - **-ite = -ous** (such as **nitrous**,  $\text{HNO}_2$ , from **nitrite**)
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Written with H first, then the polyatomic ion. Balance charges:  $\text{H}^+$  has charge of +1.

Practice: Write the acid name:

Write the acid formula:

5.  $\text{HClO}_3$  \_\_\_\_\_
6.  $\text{HNO}_3$  \_\_\_\_\_
7.  $\text{H}_2\text{SO}_3$  \_\_\_\_\_
8.  $\text{H}_2\text{SO}_4$  \_\_\_\_\_
9.  $\text{H}_3\text{PO}_4$  \_\_\_\_\_

10. chlorous acid \_\_\_\_\_
11. nitric acid \_\_\_\_\_
12. nitrous acid \_\_\_\_\_
13. carbonic acid \_\_\_\_\_

## Diatomic molecules

- Only these 7 elements exist in their more stable forms in groups of 2 when not bound to another type of atom.
- Use the subscript “2” for any of these 7 elements when they are uncombined (alone).
- If any of these elements are combined in a compound, use the proper oxidation state or charge for the element. This will not necessarily be “2.”

The “Magnificent Seven:”

bromine	iodine	nitrogen	chlorine	hydrogen	oxygen	fluorine
Br <sub>2</sub>	I <sub>2</sub>	N <sub>2</sub>	Cl <sub>2</sub>	H <sub>2</sub>	O <sub>2</sub>	F <sub>2</sub>