

## Polyatomic ions

### OTHER CATIONS

Ammonium	$\text{NH}_4^+$
Hydronium	$\text{H}_3\text{O}^+$

### OTHER ANIONS

Acetate	$\text{C}_2\text{H}_3\text{O}_2^-$	Cyanide	$\text{CN}^-$
Chromate	$\text{CrO}_4^{2-}$	Hydroxide	$\text{OH}^-$
Dichromate	$\text{Cr}_2\text{O}_7^{2-}$	Oxalate	$\text{C}_2\text{O}_4^{2-}$
		Peroxide	$\text{O}_2^{2-}$

Perbromate	$\text{BrO}_4^-$	Perchlorate	$\text{ClO}_4^-$	Periodate	$\text{IO}_4^-$		
Bromate	$\text{BrO}_3^-$	Chlorate	$\text{ClO}_3^-$	Iodate	$\text{IO}_3^-$	Nitrate	$\text{NO}_3^-$
Bromite	$\text{BrO}_2^-$	Chlorite	$\text{ClO}_2^-$	Iodite	$\text{IO}_2^-$	Nitrite	$\text{NO}_2^-$
Hypobromite	$\text{BrO}^-$	Hypochlorite	$\text{ClO}^-$	Hypoiodite	$\text{IO}^-$		
Carbonate	$\text{CO}_3^{2-}$	Sulfate	$\text{SO}_4^{2-}$	Phosphate	$\text{PO}_4^{3-}$	Permanganate	$\text{MnO}_4^-$
		Sulfite	$\text{SO}_3^{2-}$	Phosphite	$\text{PO}_3^{3-}$		

### BI-ANIONS

Bicarbonate	$\text{HCO}_3^-$
Bisulfate	$\text{HSO}_4^-$
Bisulfide	$\text{HS}^-$
Bisulfite	$\text{HSO}_3^-$

### THIO-ANIONS

Thiocyanate	$\text{SCN}^-$
Thiosulfate	$\text{S}_2\text{O}_3^{2-}$

### Names of Some Common Acids

$\text{HNO}_3$	Nitric acid
$\text{HNO}_2$	Nitrous acid
$\text{H}_2\text{SO}_4$	Sulfuric acid
$\text{H}_2\text{SO}_3$	Sulfurous acid
$\text{H}_3\text{PO}_4$	Phosphoric acid
$\text{H}_2\text{CO}_3$	Carbonic acid
$\text{CH}_3\text{COOH}$	Acetic acid
$\text{HCl}$	Hydrochloric acid
$\text{HF}$	Hydrofluoric acid
$\text{HBr}$	Hydrobromic acid

**Mechanisms and rules for writing chemical formulas:**

### THE CRISS-CROSS METHOD

**RULE 1:** The resulting formula for a compound must have a total charge of zero (0).

**RULE 2:** Write the positive ion first and cross the valences.

**RULE 3:** Do not cross any signs.

**RULE 4:** Don't cross any ones.

**RULE 5:** If both valences are the same, don't cross them.

**RULE 6:** More than one atom, more than one time, use parentheses

**RULE 7:** If the final answer has subscripts that can be reduced, they must be reduced.

**RULE 8:** If the name of the compound has prefixes in it, change the prefixes to subscripts and do not cross the valences.