



## Polyatomic Ions

Name of Polyatomic Ion	Ion Formula	Ionic Charge
nitrate	$\text{NO}_3^-$	-1
nitrite	$\text{NO}_2^-$	
perchlorate	$\text{ClO}_4^-$	
chlorate	$\text{ClO}_3^-$	
chlorite	$\text{ClO}_2^-$	
hypochlorite	$\text{ClO}^-$	
hydroxide	$\text{OH}^-$	
bicarbonate	$\text{HCO}_3^-$	
acetate	$\text{C}_2\text{H}_3\text{O}_2^- / \text{CH}_3\text{COO}^-$	
permanganate	$\text{MnO}_4^-$	
cyanide	$\text{CN}^-$	-2
carbonate	$\text{CO}_3^{2-}$	
sulfate	$\text{SO}_4^{2-}$	
phosphate	$\text{PO}_4^{3-}$	-3
ammonium	$\text{NH}_4^+$	+1

Prefix or Suffix	Meaning	Example
Bi-	Hydrogen is present in the molecule	Sodium bicarbonate ( $\text{NaHCO}_3$ )
-ide	There are only 2 types of atoms present	Lead oxide ( $\text{PbO}$ )
-ate	There are 3 or more types of atoms and one is O	Calcium carbonate

## Diatomic Elements

Element	Formula of Molecule	State at Room Temp.
hydrogen	$\text{H}_2$	gas
oxygen	$\text{O}_2$	gas
fluorine	$\text{F}_2$	gas
bromine	$\text{Br}_2$	liquid
iodine	$\text{I}_2$	solid / gas
nitrogen	$\text{N}_2$	gas
chlorine	$\text{Cl}_2$	gas

*\*mono is never used for the first element\*      Second element drop -a & -o before vowel, ex. "pentoxide"*

## Covalent Prefixes

Prefix	Number of Atoms	Prefix	Number of Atoms
Mon(o)-	1	hexa-	6
di-	2	hepta-	7
tri-	3	octa-	8
tetra-	4	nona-	9
penta-	5	deca-	10

## Common Names

Common Name	Formula	Use/Occurrence
water	$\text{H}_2\text{O}$	Most commonly molecular compound on Earth; "universal" solvent
ammonia	$\text{NH}_3$	Used in window cleaners & in fertilizer production
nitric oxide	$\text{NO}$	An air pollutant produced in car engines when gasoline is burned
nitrous oxide	$\text{N}_2\text{O}$	Colourless gas used as an anesthetic (laughing gas)
hydrogen peroxide	$\text{H}_2\text{O}_2$	Used as a strong oxidizer, bleaching agent and disinfectant
methane	$\text{CH}_4$	Highly flammable hydrocarbon, main component of natural gas