

One bond		Two bonds	
H <sup>+</sup>	hydrogen	Ba <sup>2+</sup>	barium
Na <sup>+</sup>	sodium	Ca <sup>2+</sup>	calcium
K <sup>+</sup>	potassium	Mg <sup>2+</sup>	magnesium
Ag <sup>+</sup>	silver	Cu <sup>2+</sup>	copper(II)
Cu <sup>+</sup>	copper(I)	Fe <sup>2+</sup>	iron(II)
NH <sub>4</sub> <sup>+</sup>	ammonium	Zn <sup>2+</sup>	zinc
H <sub>3</sub> O <sup>+</sup>	hydronium	Pb <sup>2+</sup>	lead(II)
		Hg <sup>2+</sup>	mercury(II)

One bond		Two bonds	
F <sup>-</sup>	fluoride	O <sup>2-</sup>	oxide
Cl <sup>-</sup>	chloride	S <sup>2-</sup>	sulphide
Br <sup>-</sup>	bromide	SO <sub>3</sub> <sup>2-</sup>	sulphite
I <sup>-</sup>	iodide	SO <sub>4</sub> <sup>2-</sup>	sulphate
OH <sup>-</sup>	hydroxide	CO <sub>3</sub> <sup>2-</sup>	carbonate
NO <sub>2</sub> <sup>-</sup>	nitrite	Cr <sub>2</sub> O <sub>7</sub> <sup>2-</sup>	dichromate
NO <sub>3</sub> <sup>-</sup>	nitrate		
HSO <sub>3</sub> <sup>-</sup>	Hydrogen sulphite		
HSO <sub>4</sub> <sup>-</sup>	hydrogen sulphate		
MnO <sub>4</sub> <sup>-</sup>	permanganate		
ClO <sub>3</sub> <sup>-</sup>	chlorate		

three bonds	
Fe <sup>3+</sup>	iron(III)
Al <sup>3+</sup>	aluminium
Cr <sup>3+</sup>	chrome(III)

three bonds	
N <sup>3-</sup>	nitride
PO <sub>4</sub> <sup>3-</sup>	phosphate

- The prefixes mono- (one), di- (two), tri- (three), tetra- (four), etc. are sometimes used to show the number of atoms in a compound, for example, Carbon monoxide CO and Carbon Dioxide CO<sub>2</sub>.

Examples of the determining of the formulae of an ionic compound:

Compound	Ions present	Balancing of the ions (charges)	Formula
Potassium chloride	$K^+$ and $Cl^-$	$1K^+$ and $1Cl^-$	$KCl$
Magnesium hydroxide	$Mg^{2+}$ and $OH^-$	$1Mg^{2+}$ and $2OH^-$	$Mg(OH)_2$
Chrome(III)sulphate	$Cr^{3+}$ and $SO_4^{2-}$	$2Cr^{3+}$ and $3SO_4^{2-}$	$Cr_2(SO_4)_3$
Ammonium sulphate	$NH_4^+$ and $SO_4^{2-}$	$2NH_4^+$ and $1SO_4^{2-}$	$(NH_4)_2SO_4$

Chemical- and common names for well known inorganic compounds:

Formula	Chemical name	Common name
$H_2O$	hydrogen oxide	Water
$NH_3$	hydrogen nitride	Ammonia
$HCl$	hydrogen chloride	Hydrochloric acid - used in swimming pools and to clean cement bricks.
$HNO_3$	hydrogen nitrate	Nitric acid
$H_2SO_4$	hydrogen sulphate	Sulphuric acid- battery acid, extraction of metals from ore.
$H_2NO_2$	hydrogen nitrite	Nitrous acid
$H_2CO_3$	hydrogen carbonate	Carbonic acid
$H_3PO_4$	hydrogen phosphate	Phosphoric acid
$NaHCO_3$	sodium hydrogen carbonate	Bicarbonate of soda
$Na_2CO_3$	sodium carbonate	Washing soda
$NH_4NO_3$	ammonium nitrate	Vlugsout - treatment of patients that faint.
$NaOH$	sodium hydroxide	Caustic soda
$NaNO_3$	sodium nitrate	Chili saltpetre
$KOH$	potassium hydroxide	Caustic potash
$KNO_3$	potassium nitrate	Saltpetre
$Ca(OH)_2$	calcium hydroxide	Slaked lime
$CaSO_4$	calcium sulphate	Plaster of Paris (gypsum)
$CaO$	calcium oxide	Quicklime
$CaO_3$	calcium carbonate	Marble or chalk
$CO_2$	carbon dioxide	Carbon dioxide
$MgSO_4$	magnesium sulphate	Epsom salts
$CuSO_4$	copper sulphate	Blue vitriol - controls the growth of algae

Chemical and common names of organic compounds:

Formula	Chemical name	Common name
$CH_4$	Methane	Main constituent of natural gas.
$C_2H_6$	Ethane	---
$C_3H_8$	Propane	---