

GENERAL

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Writing Formulae for Ionic Compounds

1. Sum of +ve charges = Sum of -ve charges
2. Bracket polyatomic ions e.g. NO_3^-
3. Important ions to remember:

Ammonium	NH_4^+
Silver	Ag^+
Zinc	Zn^{2+}
Hydroxide	OH^-
Nitrate	NO_3^-
Nitrite	NO_2^-
Manganate (VII)	MnO_4^-
Hydrogen Carbonate	HCO_3^-
Carbonate	CO_3^{2-}
Dichromate (VI)	$\text{Cr}_2\text{O}_7^{2-}$
Sulfate	SO_4^{2-}
Sulfite	SO_3^{2-}
Sulfide	S^{2-}
Silicate	SiO_3^{2-}
Phosphate (V)	PO_4^{3-}

4. Metal ions \neq Metals

Writing Formulae for Covalent Compounds

1. Gases that exist as diatomic molecules:

Hydrogen	H_2
Oxygen	O_2
Nitrogen	N_2
Fluorine	F_2
Chlorine	Cl_2
Bromine	Br_2
Iodine	I_2
Astatine	As_2

2. Important covalent compounds:

Ammonia	NH_3
Methane	CH_4
Carbon Monoxide	CO
Carbon Dioxide	CO_2
Sulfur Dioxide	SO_2
Sulfur Trioxide	SO_3

Solubility Table

SOLUBLE

All Nitrate salts

Most chloride salts

Most sulfate salts

SPA Carbonates – Sodium Potassium
Ammonium

SPA Hydroxides and Oxides – Sodium
Potassium Ammonium

Most acids and alkalis are Aqueous when used.

INSOLUBLE

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LS – Lead (II) and Silver Chloride

BCL – Barium, Calcium and Lead (II) Sulfate

Most Carbonates

Most Hydroxides and Oxides

When writing chemical equations, remember to balance and write state symbols (next to the compounds/elements and not below)

Chemical Reaction Observations

There are 4 main types of observations for chemical reactions, especially for those between acids and bases:

- 1) Gas production - Effervescence/Fumes are observed.
- 2) Precipitate - A (colour) precipitate is formed.
- 3) Dissolving of solid to form solution - The (colour) solid dissolves to form a (colour) solution.
- 4) Colour change - The (colour) solution turned (colour) in colour.