

**NAMES & FORMULAS OF COMMON MONOATOMIC IONS****Metal Elements – Group 1A (Cations)**

|               |        |
|---------------|--------|
| Hydrogen ion  | $H^+$  |
| Lithium ion   | $Li^+$ |
| Sodium ion    | $Na^+$ |
| Potassium ion | $K^+$  |
| Hydrogen ion  | $H^+$  |

**Metal Elements – Group 2A (Cations)**

|               |           |
|---------------|-----------|
| Barium ion    | $Ba^{2+}$ |
| Beryllium ion | $Be^{2+}$ |
| Magnesium ion | $Mg^{2+}$ |
| Calcium ion   | $Ca^{2+}$ |
| Strontium ion | $Sr^{2+}$ |

**Metal Elements – Group 3A (Cations)**

|              |           |
|--------------|-----------|
| Aluminum ion | $Al^{3+}$ |
|--------------|-----------|

**Transition Metal Elements – Groups 3B – 2B**

|                  |             |
|------------------|-------------|
| Silver ion       | $Ag^+$      |
| Copper I ion     | $Cu^+$      |
| Copper II ion    | $Cu^{2+}$   |
| Chromium II ion  | $Cr^{2+}$   |
| Chromium III ion | $Cr^{3+}$   |
| Chromium VI ion  | $Cr^{6+}$   |
| Iron II ion      | $Fe^{2+}$   |
| Iron III ion     | $Fe^{3+}$   |
| Lead II ion      | $Pb^{2+}$   |
| Lead IV ion      | $Pb^{4+}$   |
| Mercury I ion    | $Hg_2^{2+}$ |
| Mercury II ion   | $Hg^{2+}$   |
| Tin II ion       | $Sn^{2+}$   |
| Tin IV ion       | $Sn^{4+}$   |
| Zinc ion         | $Zn^{2+}$   |
| Cadmium ion      | $Cd^{2+}$   |
| Scandium ion     | $Sc^{3+}$   |
| Yttrium ion      | $Y^{3+}$    |

**Nonmetal Elements – Group 5A (Anions)**

|               |                 |
|---------------|-----------------|
| Nitride ion   | $\text{N}^{3-}$ |
| Phosphide ion | $\text{P}^{3-}$ |

**Nonmetal Elements – Group 6A (Anions)**

|              |                   |
|--------------|-------------------|
| Oxide ion    | $\text{O}^{2-}$   |
| Sulfide ion  | $\text{S}^{2-}$   |
| Selenide ion | $\text{Se}^{2-}$  |
| Peroxide ion | $\text{O}_2^{2-}$ |

**Nonmetal Elements – Group 7A (Anions)**

|              |               |
|--------------|---------------|
| Bromide ion  | $\text{Br}^-$ |
| Chloride ion | $\text{Cl}^-$ |
| Iodide ion   | $\text{I}^-$  |
| Fluoride ion | $\text{F}^-$  |

**\*Hydride ion –  $\text{H}^-$  (Anion)**

## NAMES & FORMULAS OF COMMON POLYATOMIC IONS

### (Cations)

|              |                 |
|--------------|-----------------|
| Ammonium ion | $\text{NH}_4^+$ |
|--------------|-----------------|

### (Anions)

|                  |                                    |
|------------------|------------------------------------|
| Acetate ion      | $\text{C}_2\text{H}_3\text{O}_2^-$ |
| Bicarbonate ion  | $\text{HCO}_3^-$                   |
| Bisulfate ion    | $\text{HSO}_4^-$                   |
| Bromate ion      | $\text{BrO}_3^-$                   |
| Chlorate ion     | $\text{ClO}_3^-$                   |
| Nitrate ion      | $\text{NO}_3^-$                    |
| Cyanide ion      | $\text{CN}^-$                      |
| Thiocyanate ion  | $\text{SCN}^-$                     |
| Permanganate ion | $\text{MnO}_4^-$                   |
| Carbonate ion    | $\text{CO}_3^{2-}$                 |
| Chromate ion     | $\text{CrO}_4^{2-}$                |
| Dichromate ion   | $\text{Cr}_2\text{O}_7^{2-}$       |
| Sulfate ion      | $\text{SO}_4^{2-}$                 |
| Oxalate ion      | $\text{C}_2\text{O}_4^{2-}$        |
| Phosphate ion    | $\text{PO}_4^{3-}$                 |
| Iodate ion       | $\text{IO}_3^-$                    |
| Hydroxide ion    | $\text{OH}^-$                      |
| Oxide ion        | $\text{O}^{2-}$                    |

**ANIONS THAT CONTAIN H HAVE THE PREFIX “HYDROGEN” IN THE ANION NAME:**

**Memorize these:**

**$\text{HO}^-$  hydroxide ion**

**$\text{HS}^-$  hydrogen sulfide or bisulfide ion**

**$\text{HCO}_3^-$  hydrogen carbonate or bicarbonate ion**

**$\text{HPO}_4^{2-}$  hydrogen phosphate or biphosphate ion**

**$\text{H}_2\text{PO}_4^-$  dihydrogen phosphate ion**

**$\text{HS}^-$  hydrogen sulfide**

*Notice the charge increases by 1 for every H added to the formula.*