# Oxidation Number List

Listed below are some of the more common oxidation numbers that you will need when writing chemical formulas Remember, almost all elements have at least one oxidation number, so if you can't find an element you need on this sheet, look in your book in Appendix D4 in the back of your book.

## Oxidation Numbers for Some Monatomic Ions

| +1 | | +2 | | +3 | | +4 | |
|---|---|---|---|---|---|---|---|
| Hydrogen | $H^+$ | Barium | $Ba^{+2}$ | Aluminum | $Al^{+3}$ | Lead (IV) | $Pb^{+4}$ |
| Lithium | $Li^+$ | Cadmium | $Cd^{+2}$ | Chromium | $Cr^{+3}$ | Tin (IV) | $Sn^{+4}$ |
| Potassium | $K^+$ | Calcium | $Ca^{+2}$ | Iron (III) | $Fe^{+3}$ | | |
| Silver | $Ag^+$ | Cobalt | $Co^{+2}$ | | | | |
| Sodium | $Na^+$ | Copper (II) | $Cu^{+2}$ | | | | |
| Copper (I) | $Cu^+$ | Iron (II) | $Fe^{+2}$ | | | | |
| Mercury (I) | $Hg^+$ | Lead (II) | $Pb^{+2}$ | | | | |
| | | Magnesium | $Mg^{+2}$ | | | | |
| | | Manganese | $Mn^{+2}$ | | | | |
| | | Mercury (II) | $Hg^{+2}$ | | | | |
| | | Nickel | $Ni^{+2}$ | | | | |
| | | Strontium | $Sr^{+2}$ | | | | |
| | | Tin (II) | $Sn^{+2}$ | | | | |
| | | Zinc | $Zn^{+2}$ | | | | |

| -1 | | -2 | |
|---|---|---|---|
| Bromide | $Br^-$ | Oxide | $O^{-2}$ |
| Chloride | $Cl^-$ | Sulfide | $S^{-2}$ |
| Fluoride | $F^-$ | | |
| Iodide | $I^-$ | | |
| Hydrogen | $H^-$ | | |

## Oxidation Numbers for Some Polyatomic Ions

| +1 | |
|---|---|
| Ammonium | $NH_4^+$ |

| -1 | | -2 | | -3 | |
|---|---|---|---|---|---|
| Acetate | $CH_3COO^-$ *or* $C_2H_3O_2^-$ | Carbonate | $CO_3^{-2}$ | Phosphate | $PO_4^{-3}$ |
| Chlorate | $ClO_3^-$ | Chromate | $CrO_4^{-2}$ | | |
| Cyanide | $CN^-$ | Peroxide | $O_2^{-2}$ | | |
| Hydroxide | $OH^-$ | Sulfate | $SO_4^{-2}$ | | |
| Nitrate | $NO_3^-$ | Thiosulfate | $S_2O_3^{-2}$ | | |
| Permanganate | $MnO_4^-$ | | | | |
| Bicarbonate | $HCO_3^-$ | | | | |

## Acids

| | | | | | |
|---|---|---|---|---|---|
| Acetic | $CH_3COOH$ | Perchloric | $HClO_4$ | Nitric | $HNO_3$ |
| Carbonic | $H_2CO_3$ | Phosphoric | $H_3PO_4$ | | |
| Hydrochloric | $HCl$ | Sulfuric | $H_2SO_4$ | | |