

## SYMBOL AND OXIDATION NUMBER OF THE MAIN CHEMICAL ELEMENTS

**Symbol:** how we represent the elements of the periodic table. Generally we represent the elements with one capital letter. If we use two letters, then the 2<sup>nd</sup> letter is always written in lower case. Ex: Hydrogen → H ; Nickel → Ni

**Valency (Oxidation number):** the number of electrons lost (positive on.), gained (negative on.), or shared (we assigned the negative on. to the most electronegative element), by an element when it combines with another.

Hydrogen     H (on.=+/-1)

### Alkali metals (on.= +1)

Lithium     Li  
Sodium      Na  
Potassium   K  
Rubidium    Rb  
Caesium     Cs  
Francium    Fr

### Alkaline-earth metals (on.= +2)

Beryllium    Be  
Magnesium   Mg  
Calcium      Ca  
Strontium    Sr  
Barium       Ba  
Radium       Ra

### Earth metals (on.=+3)

Boron        B  
Aluminium   Al  
Gallium      Ga  
Indium       In  
Thallium     Tl

### Group IV (on.=+2,+4)

Carbon        C  
Silicon        Si  
Germanium    Ge  
Tin            Sn  
Lead            Pb

### Group V (on.=+/-3,+5)

Nitrogen      N  
Phosphorus   P  
Arsenic        As

### Group VI (on.=+/-2,+4,+6)

Oxygen        O (on.= -2)  
Sulfur         S

### Halogens (on.=+/-1,+3,+5,+7)

Fluorine      F (on.= -1)  
Chlorine      Cl  
Bromine       Br  
Iodine         I  
Astatine       At

### Noble Gases

Helium        He  
Neon          Ne  
Argon         Ar  
Krypton       Kr  
Xenon         Xe  
Radon         Rn

### Transition Metals

(on.=+1)     Silver        Ag

(on.=+2,+3,+6)     Chromium    Cr

(on.=+2)     Zinc          Zn

(on.=+2,+3,+4,+6,+7) Manganese   Mn

(on.=+1,+2)    Copper       Cu  
                  Mercury      Hg

(on.=+1,+3)    Gold          Au

(on.=+2,+3)    Iron           Fe  
                  Cobalt        Co  
                  Nickel        Ni