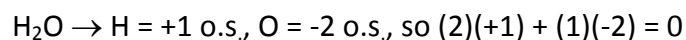


Oxidation States

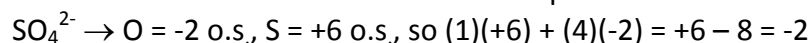
Chem1A, General Chemistry I

OXIDATION STATE GUIDELINES

The sum of the oxidation states in a neutral molecule must equal **ZERO**.

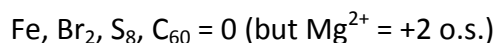


The sum of the oxidation states in an ion must equal the **CHARGE** on that ion.

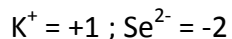


OXIDATION NUMBERS

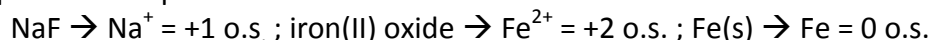
1.) Pure elements (even polyatomics) are always **ZERO** unless a charge is explicitly written.



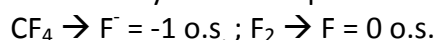
2.) Monatomic ions are always **EQUAL TO THEIR CHARGE**.



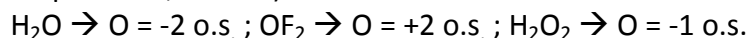
3.) Any metal in a compound will always be **POSITIVE** and **EQUAL TO THE CHARGE** unless present as a pure element.



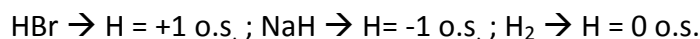
4.) Fluorine is always **-1** unless present as a pure element.



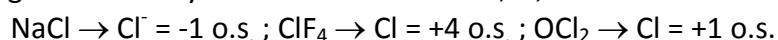
5.) Oxygen is always **-2** unless bonded to F (**Rule 4**) or itself.
(**-1** when a peroxide, **0** as O_2).



6.) Hydrogen is **+1** when bonded to a non-metal but **-1** when bonded to a metal and **0** when bonded to itself.



7.) Halogens are always **-1** unless bonded to F, O, or themselves.



8.) All other elements take on whatever oxidation state required to satisfy the guidelines.