

Lewis Structures

Ionic Compounds

- The rules for drawing Lewis Structures are as follows, using MgCl_2 as an example.
 - 1.) Draw the Lewis Structure of each atom of the molecule MgCl_2
 - 2.) Determine the charge for the ions. In this case, Mg^{2+} and Cl^- .
 - 3.) Arrange the non-metals evenly around the metal.
 - 4.) Remove electrons from the metal to suffice the charge and do likewise but adding electrons to the non-metals to suffice their ionic charge.

Covalent Compounds

- For compounds that obey the octet rule.
- The rules for drawing Lewis Structures are as follows:
 - 1.) Determine the total number of valence electrons. Adjust the number by subtracting one electron for every positive charge and adding one electron for every negative charge.
 - 2.) Draw the molecule and include one bond to attach each atom to the central atom(s). Draw two electrons into each bond.
 - 3.) Use the remaining electrons to complete the octets of the atoms surrounding the central atom. Then place the remaining electrons, in pairs, on the central atom.
 - 4.) If the central atom has less than an octet, have a neighbour share electrons with the central atom by putting an extra pair into the shared bond.
 - 5.) Tidy up by replacing each pair of electrons engaged in a bond with a bond line.

Ex. 1 - **Step 1** -

Step 2 -

Step 3 -

Step 4 -

Step 5 -

Ex. 2 - Step 1 -

Step 2 -

Step 3 -

Step 4 -

Step 5 -

Ex. 3 - Step 1 -

Step 2 -

Step 3 -

Step 4 -

Step 5 -