

Nomenclature Worksheet 3 – Covalent (Molecular) Compounds

Part A: Name the following covalent compounds.

1. CO _____
2. CO₂ _____
3. N₂O₃ _____
4. N₂ _____
5. NP _____
6. SCl₂ _____
7. P₂O₅ _____
8. NBr₃ _____
9. Cl₄ _____
10. CCl₄ _____
11. PF₅ _____
12. PF₃ _____
13. OS _____
14. SeF₂ _____

Part B: Write the Chemical Formula for each of the following compounds.

1. carbon tetrafluoride _____
2. silicon dioxide _____
3. dinitrogen trisulfide _____
4. phosphorus mononitride _____
5. hydrogen gas _____
6. carbon disulfide _____
7. nitrogen trichloride _____
8. silicon tetrabromide _____
9. carbon dioxide _____
10. nitrogen trifluoride _____
11. boron trisulfide _____
12. sulphur trioxide _____
13. selenium tetrafluoride _____
14. diphosphorus pentasulfide _____

and non-metals and result in the formation of a crystal lattice, an alternating arrangement of positive and negative ions. The formula of an ionic compound represents the ratio of ions in the crystal. This formula is reduced to the lowest whole number ratio.

Covalent bonds link two non-metallic elements together through the sharing of electrons. Individual molecules are formed and the formula represents the actual combination of atoms in the molecule. This formula is not reduced.

Decide whether the following are ionic (I) or covalent (C) compounds:

- _____ H₂S _____ PbO₂
_____ Ba₃N₂ _____ FeBr₃

If you are unsure, go back and re-read the paragraphs on binary ionic and covalent compounds.

Ionic compounds form between metals and non-metals and result in the formation of a crystal lattice, an alternating arrangement of positive and negative ions. The formula of an ionic compound represents the ratio of ions in the crystal. This formula is reduced to the lowest whole number ratio.

Covalent bonds link two non-metallic elements together through the sharing of electrons. Individual molecules are formed and the formula represents the actual combination of atoms in the molecule. This formula is not reduced.

Using the information above as a guide, decide whether the following are ionic (I) or covalent (C) compounds:

- _____ NaF _____ CO₂
_____ HCl _____ AlCl₃

Check your answers. If you had difficulty with any of the above, go back and re-read the paragraphs on binary ionic and covalent compounds.