

Ionic vs. Covalent Bonds

Nonmetals chemically bond by sharing electrons. The bond is called a **covalent bond**. When an active metal and a nonmetal bond, the active metal transfers one or more electrons to the nonmetal. This bond is called an **ionic bond**. Ionic compounds (except for bases) are also called **salts**.

Classify each compound as *ionic* or *covalent*.

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|-------------------------------------|-------|-----------------------------|-------|
| 1. CaCl_2 | _____ | 14. N_2 | _____ |
| 2. CO_2 | _____ | 15. NaI | _____ |
| 3. H_2O | _____ | 16. NO_2 | _____ |
| 4. BaCl_2 | _____ | 17. Al_2O_3 | _____ |
| 5. O_2 | _____ | 18. FeCl_3 | _____ |
| 6. NaF | _____ | 19. P_2O_5 | _____ |
| 7. NaS | _____ | 20. N_2O_3 | _____ |
| 8. S_8 | _____ | 21. H_2 | _____ |
| 9. SO_3 | _____ | 22. K_2O | _____ |
| 10. LiBr | _____ | 23. KI | _____ |
| 11. MgO | _____ | 24. P_4 | _____ |
| 12. $\text{C}_2\text{H}_5\text{OH}$ | _____ | 25. CH_4 | _____ |
| 13. HCl | _____ | 26. NaCl | _____ |

Draw an electron shell diagram of the ionic compound calcium oxide, CaO .

Draw an electron shell diagram of the covalent compound methane, CH_4 .