

Answer on Question #73042 - Chemistry - General Chemistry

Question: Compare and contrast the bond between two C atoms in isopropanol and the bond between Mg and Cl in MgCl₂. Answer in terms of bond type, electronegativity, and electrons involved.

Solution:

The bond between C atoms in isopropanol is covalent, since the bond is formed between two non-metallic elements. The bond between C atoms in isopropanol is nonpolar, but the molecule itself, due to the presence of the hydroxide group, is polar. The electronegativity of the atoms C is the same, therefore, the movement of electrons from atom to atom does not occur. The bond is formed by the formation of an electron pair.

Instead, the bond between Mg and Cl in MgCl₂ is ionic and polar, since a bond is formed between a metal and a rather electronegative nonmetal. The Cl atom, due to its high electronegativity, attracts electrons of the Mg atom, which leads to the formation of a bond.

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