

Distinguish, differentiate, compare and explain what is the main difference between ionic and molecular compound.

Difference between ionic and molecular compound

1. Characteristics: Melting points

An ionic compound is made up of ions (cations and anions) held together by strong ionic bonds. Thus they have high melting and boiling points. Molecular compounds are made up of molecules and no ions are present. These molecules are held together by weak covalent bonds. Hence, they have low melting and boiling points.

2. Characteristics: Solubility

Ionic compounds are soluble in water but insoluble in organic solvents. Molecular compounds are insoluble in water but soluble in organic solvents.

3. Characteristics: Conduction of Electricity

In the molten state, they conduct electricity because ions start moving towards the oppositely charged electrodes. Molecular compounds do not conduct electricity even in the solution or molten state because no ions are present.

4. Characteristics: Reaction Rate

Reactions between ionic compounds are fast because oppositely charged ions combine quickly. Their reactions are slow because for the reaction to occur, the bonds in the molecular compounds have to be broken which require energy.