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1. Diamond and graphite are covalent crystal’s, compare their properties.

Diamond and graphite are covalent crystal. Diamond is a crystalline material and solely composed of carbon, crystals is a regular, geometric organization of atom, diamond is a crystal form of carbon. Although they’re made from the exact same components. A diamond differs from graphite in the atomic structure in diamond the atoms are carefully to various other carbon atom or composed to graphite where the bond in between the layers are weak High melting point while graphite as reduced melting point. The carbon atoms in the structure are sp3 hybridized, while graphite as the carbon atoms of sp2 hybridized.

2. There are three types of binary hydride, write short note on them.

a. Ionic Hydride

b. covalent Hydride

c. metallic Hydride

Ionic Hydride

Ionic or saline, hydride is a hydrogen atom bond to an extremely electropositive metal, or an alkaline earth. For example; potassium hydride or (KH). These types of hydrides are insoluble in conventional solvent, reflecting their non-molecular structure. Most ionic hydride exists as “binary” Material that involves only two elements one of which is hydrogen. Ionic hydrides are often used as heterogeneous bases and deducting reagents inorganic synthesis.

2. Covalent Hydride

 Covalent hydrides refers to hydrogen centers that react as hydrides, or those that nuclephilic. In these substances, the hydride bond, formally, is a covalent bond much like the bond that is made by a person in a weak acid. This category includes hydrides that exist as a discreet molecules, polymers, or hydrogen that has been chem-absorbed to a surface. A particularly important type of covalent hydride is the complex metal hydride, a powerful (reducing) soluble hydride that is commonly used in organic synthesis (for example sodium borohydride or NaBH4). Transition metal hydrides also include compounds that can be classified as covalent hydrides. Some are even described as covalent hydrides. Some are even classified as metallic hydrides and others bridging hydrides, classified transition metal hydrides features as a single bond between the hydrogen center and the transition metal.

3. Metallic Hydrides

Metallic hydrides most commonly exists within metals or alloys their bonding is generally considered metallic, Such bulk transition metals from metallic binary hydrides when exposed to hydrogen. These systems are usually non-stoichiometric, with variable amounts of hydrogen atoms in the lattice.

3. Crystals can be classified into ionic, covalent, metallic, compare and contrast these four types of crystals.

Ionic crystals are compound of alternating positive and negative ions. Metallic crystals consists consist of metal cations surrounded by a “sea” of mobile valence electrons. Covalent crystals are composed of atoms which are covalent crystals are covalently bonded to one another. Molecular crystals are held together by weak intermolecular forces.

4. write short note notes on the similarities and differences between groups 5,6,and 7 in the periodic table

1. They are non-metals

2. They are electronegative elements

3. They are oxidizing agents.