

Chemistry - 12th Class Chemistry Chapter 2 Short Questions Preparation

Q1. How Portland cement is made? Why Gypsum is added in the cements?

Ans 1: Portland cement:Portland cement is made by strongly heating a finely powdered mixture of clay and limestone. The final product is known as clinker, is cooled and then ground into a very fine powder.

Ans 2: Addition of gypsum: During the grinding there is added about 2% of gypsum which prevents the cement from hardening too rapidly. The addition of gypsum increases the setting time of cement.

Q2. Write the formulae of 1) Natron 2) Dolomite.

Ans 1: Formulae of 1)Natron 2) Dolomite

Formula of Natron: Na₂CO₃.H₂O Formula of Dolomite: MGCO₃.CaCO₃

Q3. What is the action of litmus with aqueous solution of Na₂CO₃?

Ans 1: The solution of Na_2CO_3 in water is basic due to hydrolysis of carbonate ion. So, it will turn red litmus to blue. $Na_2CO_3+2H_2O------->2NaOH+H_2CO_3$

Q4. Why aqueous solution of Na₂Co₃is alkaline in nature?

Ans 1: The solution of Na_2CO_3 in water is alkaline due to hydrolysis of carbonate ion. So it will turn red litmus to blue. It produces an acid and base, but the base is stronger than that of acid. So the aqueous solution of Na_2CO_3 is alkaline in nature.

 $Na_2CO_3 + 2H_2O ----> 2NaOH + H_2CO_3$

Q5. Why lime water turns milky CO₂but becomes clear with excess CO₂?

Ans 1: A saturated solution of $Ca(OH)_2$ is called lime water and is used as a test for CO_2 . When lime water reacts with CO_2 it turns to $CaCO_3$ (lime stone) which is a solid product. Thus lime water turns milky due to the presence insoluble suspension of calcium carbonate, as shown by following reaction.

Ca(OH)_{2aq}+ CO_{2q}----->CaCO_{3s}+ H₂O

Ans 2: But if excess CO₂is added, the following reaction takes place:

CaCO_{3s}+H₂O_i+ CO₂g------>Ca(HCO₃)_{2aq}

The milkiness disappears since calcium bicarbonate is water-soluble.

Q6. How potassium superoxide KO₂has very interesting use in breathing equipment for mountains and space crafts?

,	nteresting use in breathing equipment for mountaineers space crafts because it has it oxygen at the same time as: KO ₂ + 2CO ₂ > 2K ₂ CO ₃ + 3O ₂
Q7. Give reactions of BeO with a) NaOH b) H ₂ SO ₄ .

Ans 1: a) Reactions of BeO with NaOH:BeO + 2NaOH------>Na₂BeO₂+ H₂O

b) Reactions of BeO with H_2SO_4 :BeO + H_2SO_4 ----->BeSO₄+ H_2O

Q8. What are main uses of Plaster of Paris?

Ans 1: 1) Plaster of Paris is used for making plaster walls, casts of statuary, coins, etc.

- 2) It is used in surgery, Plaster of Paris bandages are used for holding in Place fractured bones after they have been set.
- 3) It is also used in cement Plaster in which usually glue or other oils have been added as retarders to prolong the time of setting.
- Q9. Why group II-A elements are called Alkaline Earth Metals.

Ans 1: Group IIA elements are called alkaline earth metals because they produce alkalies in water and are widely distributed in earth's crusts.

Q10. What happen when beryllium react with sodium hydroxide and lithium hydride reacts with water?

Ans 1: Beryllium reacts with alkalies to give hydrogen as: Be+2NaOH------>Na₂BeO₂+ H₂

Ans 2: Lithium hydrides are useful sources of hydrogen when treated with water:

LiH +H₂O----->LiOH +H₂