

CASE STUDY QUESTION 48

Read the following and answer any four questions from (i) to (v)

Bleaching powder is also known as chloride of lime. It is a solid and yellowish white in colour. Bleaching powder can be easily identified by the strong smell of chlorine. When calcium hydroxide (slaked lime) reacts with chlorine, it gives calcium oxychloride (bleaching powder) and water is formed. Aqueous solution of bleaching powder is basic in nature. The material to be bleached is first passed through solution of NaOH to remove greasy matter. Then it is passed through aqueous solution of bleaching powder and very dil. HCl solution. HCl reacts with bleaching powder to liberate nascent oxygen which bleaches material.



- (i) Bleaching powder is used as
- (a) bleaching agent in textile, paper and jute industry
 - (b) disinfectant for water to make water free of germs
 - (c) oxidising agent in many industries
 - (d) all of these.

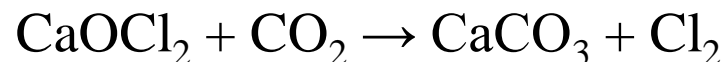
Ans: (d) all of these.

- (ii) Bleaching powder is also known as
- (a) calcium oxychloride
 - (b) calcium hypochlorite
 - (c) chloride of lime
 - (d) all of these.

Ans: (d) all of these.

- (iii) Bleaching powder gives smell of chlorine because it
(a) is unstable (b) gives chlorine on exposure to atmosphere
(c) is a mixture of chlorine and slaked lime (d) contains excess of chlorine.

Bleaching powder gives chlorine on exposure to air by reacting with CO_2 .

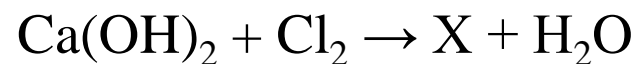


Ans: (b) gives chlorine on exposure to atmosphere

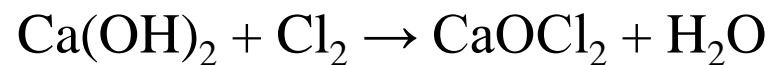
- (iv) Select the correct statement(s) regarding bleaching powder.
- (a) It is pale yellow powder having smell of chlorine.
(b) It is sparingly soluble in water and gives milky suspension when dissolved in water.
(c) As bleaching powder gives nascent oxygen, it shows bleaching property.
(d) All of these.

Ans: (d) all of these.

(v) Identify the product 'X' in the given reaction.



- (a) CaOCl_2 (b) CaCl_2 (c) $\text{Ca(ClO}_3)_2$ (d) CaCO_3



calcium oxychloride
(bleaching powder)

Ans: (a) CaOCl_2