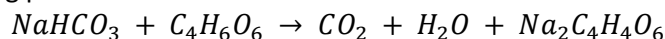


Baking powder:

- Baking powder is the mixture of baking soda and a mild edible acid. Generally, tartaric acid is mixed with baking soda to make baking powder.

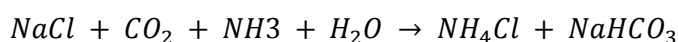


- When baking powder is heated, the sodium carbonate formed because of heating of baking soda neutralizes after reacting with tartaric acid and sodium tartarate salt is formed.
- The smell of sodium tartarate is pleasant and taste is good. This makes the cake or any other food tasty.
- Baking powder produces carbon dioxide on heating, so it is used in cooking to make the batter spongy.
- Although baking soda also produces carbon dioxide on heating, but it is not used in cooking because on heating; baking soda produces sodium carbonate along with carbon dioxide. The sodium carbonate; thus produced; makes the taste bitter.

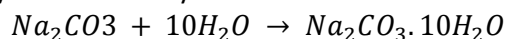


Washing Soda (Sodium carbonate)

- Sodium carbonate is manufactured by the thermal decomposition of sodium hydrogen carbonate obtained by Solvay process.

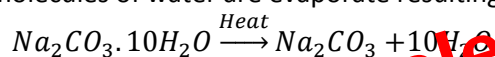


- The sodium carbonate obtained in this process is dry. It is called soda ash or anhydrous sodium carbonate. Washing soda is obtained by rehydration of anhydrous sodium carbonate.



- Since there are 10 water molecules in washing soda, hence it is known as Sodium bicarbonate decahydrate. Sodium carbonate is a crystalline solid and it is soluble in water when most of the carbonates are insoluble in water.

- On heating the washing soda all molecules of water are evaporate resulting Na_2CO_3 called soda ash



Use of sodium carbonate:

- It is used in cleaning of cloths; especially in rural areas.
- In making of detergent cake and powder.
- In removing permanent hardness of water.
- It is used in glass and paper industries.

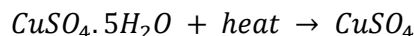
Water of crystallization:

Many salts contain water molecule and are known as hydrated salts. The water molecule present in salt is known as water of crystallization.

Examples:

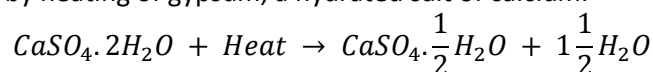
Copper sulphate pentahydrate ($CuSO_4 \cdot 5H_2O$):

Blue colour of copper sulphate is due to presence of 5 molecules of water. When copper sulphate is heated, it loses water molecules and turns into grey-white colour, which is known as anhydrous copper sulphate. After adding water; anhydrous copper sulphate becomes blue again.

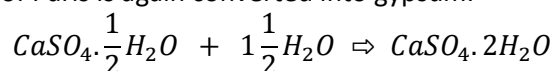


Plaster of Paris

- Plaster of Paris is obtained by heating of gypsum, a hydrated salt of calcium.



- After addition of water Plaster of Paris is again converted into gypsum.



- Plaster of Paris is used in making of toys, designer false ceiling, etc. Doctors use Plaster of Paris to set the fractured bone.