

## SOME IMPORTANT CHEMICALS

### Common salt-Sodium Chloride,NaCl

It is a compound of sodium metal and chlorine gas.

It is obtained from

1. sea water- sea water is run into lagoons and allowed to evaporate.
2. rock salt deposit which are found in some places ,mining also is done to collect salt

#### Properties:

It is a crystalline substance which is highly soluble in water.

It is highly hygroscopic due to the presence of  $MgCl_2$  (as  $MgCl_2$  is a deliquescent Substance)

#### Uses:

It is used :

1. as an essential constituent in our daily diet.
2. in the manufacturing of caustic soda, washing soda and baking soda. Bleaching Powder, etc.  
Bleaching Powder etc

### CHLOR-ALKALI PROCESS

Electrolysis of aqueous NaCl decomposes to give



Uses: NaOH---De-greasing metals, for making soaps, detergents, paper, artificial Fibres, unblocking drains, etc

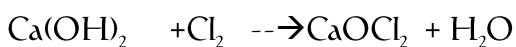
Chlorine---dis infectants, water treatment, PVC, pesticide etc

Hydrogen ---fuels , margarine, ammonia

HCl---- cleaning steel, for the preparation of ammonium chloride and many other salts.

## BLEACHING POWER $\text{CaOCl}_2$

Action of  $\text{Cl}_2$  gas on dry slaked lime.



- Uses:
1. It is used for bleaching  $\left\{ \begin{array}{l} \text{cotton and linen in textile industry.} \\ \text{Wood pulp in paper industry,} \\ \text{Washed clothes in laundry} \end{array} \right.$
  2. It is used as an oxidizing agent in chemical industries,
  3. It is used for disinfecting drinking water to make it free of germs,  
For making chloroform  $\text{CHCl}_3$

## BAKING SODA. — $\text{NaHCO}_3$

**sodium bicarbonate or sodium hydrogen carbonate.**

A conc. Soln of  $\text{NaCl}$  is saturated with  $\text{NH}_3$  and  $\text{CO}_2$  is passed through this.  
(SOLVAY PROCESS)

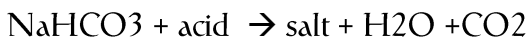


$\text{NaHCO}_3$  is a ppt which can be filtered off.



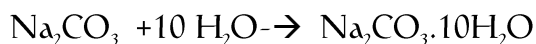
White crystals, only mildly soluble in water, it is a mild alkali in water.

Uses: It is used in fire extinguishers  
It is an antacid  
It is used in baking cakes as it produces  $\text{CO}_2$ , which makes cakes spongy



### WASHING SODA—Na<sub>2</sub>CO<sub>3</sub> sodium carbonate

On heating sod.bicarbonate, we obtain sod. carbonate. Recrystallization of sod.carbonate gives washing soda.



Uses:

It is used in soaps, glass and paper

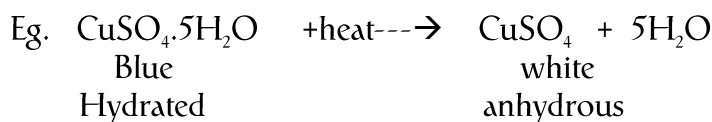
It is used as a cleaning agent for domestic purposes.

Used in the manufacturing of sodium compounds like borax.

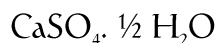
It is used as a reagent in labs

It is used in removing hardness of water

### WATER OF CRYSTALLIZATION—



### PLASTER OF PARIS---CALCIUM SULPHATE HEMIHYDRATE



It is prepared by heating gypsum



Uses:

It is used in setting fractured bones. When it is mixed with water, it sets into a hard mass.

It is used in labs for sealing the air gaps in apparatus

It is used in making statues, decorative materials etc.

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