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Antacid

ANTACID

- The substance which
- neutralizes
- excess amount of acid
- in gastrointestinal tract
- is called as antacid.”

E.g: Sodium bicarbonate, etc



ANTACID

“The substance which neutralizes excess amount of acid in gastrointestinal tract is called as antacid.”

E.g: Sodium bicarbonate, etc



Ideal properties of antacid

- Insoluble in water
- Fine particle size
- should not be absorbable
- should not causes constipation
- should not be act as a laxative
- should exert effect rapidly
- should not causes systemic alkalosis



- Should effect over a long period
of time
- Should not causes evolution
of large amount of gas
(by reacting with acid in git)
- Probably inhibit pepsin
- Easily available
- Non toxic
- not causes any side effect
- should be stable



Antacid compounds

1. Sodium Bicarbonate
2. Magnesium Oxide
3. Magnesium Carbonate
4. Magnesium Trisilicate
5. Calcium carbonate
6. Aluminium Phosphate
7. Aluminium Hydroxide
Gel



Sodium Bicarbonate

NaHCO_3 / 84.01

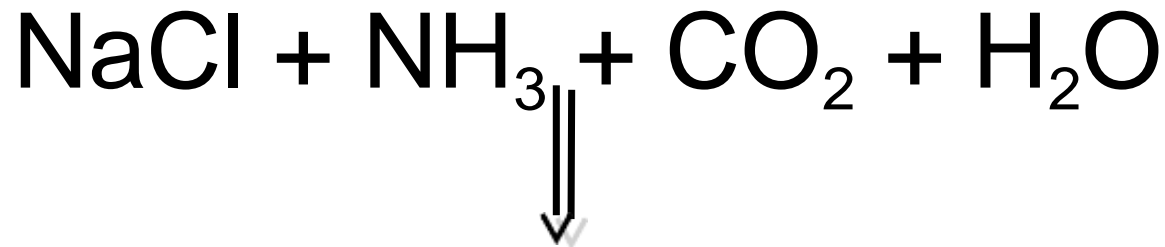
Synonym:

Sodium hydrogen carbonate



MOP :

By reacting sodium chloride solution, ammonia and carbon dioxide



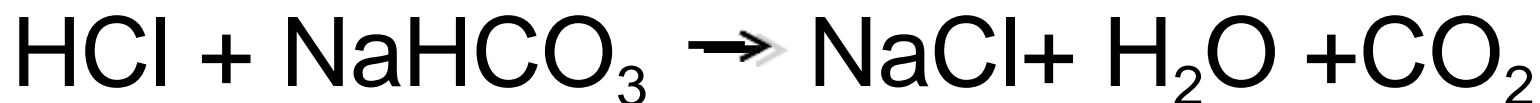
Physical Properties:

- White crystalline powder
- Saline taste
- Odorless
- Soluble in water
- Insoluble in Ethanol
- Insoluble in Ether
- Aqueous solution is alkaline in nature



b) Chemical Properties:-

Sodium bicarbonate react with hydrochloric acid gives sodium chloride, water & carbon dioxide



Uses:

- Gastrointestinal agent
- Antacid
- In Electrolyte Repleniser
- Treatment of systemic acidosis
- In eye drops
- In effervescence powder



Storage

“ It should be stored in well closed container at a cool Place.”



Magnesium Oxide

MgO / 40.30

Synonym: Magnesia

2 Types :-differ in bulk density (15 gm)

– **Heavy magnesium oxide (30 ml)**

– **Light magnesium oxide(150ml)**



Mop :

Heating the respective
magnesium carbonate.

Light MC heating light MO

heavy MC heating heavy MO



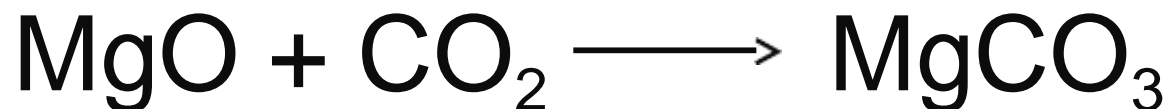
Physical Properties:

- White powder
- alkaline taste
- Odorless
- Practically insoluble in water
- Insoluble in Ethanol
- Soluble in dilute mineral acids



b) Chemical Properties:-

i) They absorb carbon dioxide on exposure to air



ii) On addition of water it form magnesium hydroxide



Uses:

- Gastrointestinal agent
- Antacid
- Antidote



Storage

“ It should be stored in air tight container at a cool Place and away from light ”



Magnesium Carbonate



2 Types :-differ in bulk density (15 gm)

– **Heavy magnesium carbonate (30 ml)**

– **Light magnesium carbonate (125ml)**



Mop :

By reacting magnesium sulphate & sodium carbonate



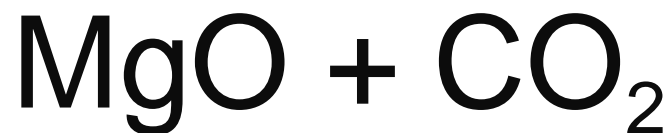
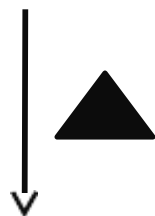
Physical Properties:

- White powder
- Tasteless
- Odorless
- Practically insoluble in water
- Insoluble in Ethanol
- Soluble in dilute mineral acids



b) Chemical Properties:-

On heating convert in magnesium oxide.



Uses:

- Gastrointestinal agent
- Antacid
- Used in tooth powder
- Used in cosmetics
- Used in silver Polishes



Storage

“ It should be stored in well closed container at a cool Place.”



Magnesium Trisilicate



260.86

MOP:

Prepared from sodium silicate and magnesium sulphate



Physical Properties:

- White powder
- Tasteless
- Odorless
- Practically insoluble in water
- Insoluble in Ethanol
- Hygroscopic



Uses:

- Gastrointestinal agent
- Antacid
- Emulsifying agent



Storage

“ It should be stored in well closed container at a cool Place.”



Calcium carbonate

CaCO_3 / 100.89

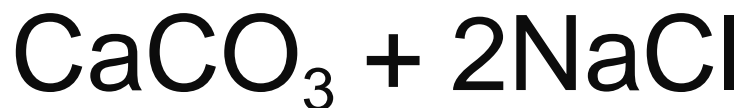
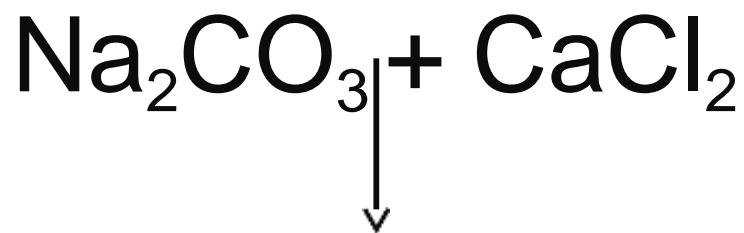
Synonym:

**Precipitated chalk,
Precipitated calcium
carbonate**



MOP:

Prepared from sodium carbonate
and calcium chloride.



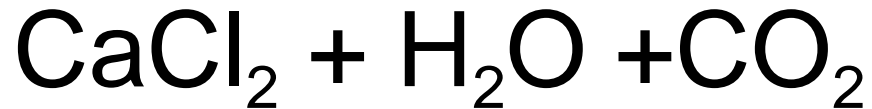
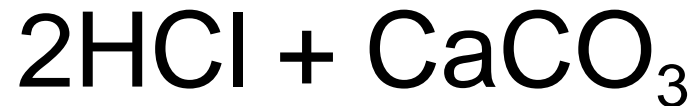
Physical Properties:

- White powder
- Tasteless
- Odorless
- Practically insoluble in water
- Insoluble in Ethanol
- Stable in air



b) Chemical Properties:-

When it react with hydrochloric acid gives calcium chloride, water



Uses:

- Gastrointestinal agent
- Antacid
- Electrolyte repliniser



Storage

“ It should be stored in well closed container at a cool Place.”



Aluminium Phosphate

AlPO_4 / 121.95

Synonym:

Dried Aluminium
Phosphate gel



Mop :

By using aluminium chloride and sodium phosphate so salt formed.



Physical Properties:

- White powder containing some friable aggregates
- Characteristic Odor
- Insoluble in water
- Insoluble in Ethanol
- Soluble in Ether mineral acids
- Aqueous solution is alkaline in nature



Uses:

- Gastrointestinal agent
- Antacid



Storage

“ It should be stored in well closed container at a cool Place.”



Aluminium Hydroxide Gel



Synonym: Aluminium Hydroxide powder, Aluminium Hydrate powder



Mop :

Add hot solution of potash slowly to sodium carbonate solution.



Precipitate is filtered



Wash with hot water up to free from sulphate.



Precipitate is suspended in water to required strength and gel



2 Types of physical forms

- Aluminium hydroxide gel
- Dried Aluminium hydroxide gel



Physical Properties:

a) Aluminium hydroxide gel:

- White viscous suspension ,small amount of clear liquid may separated on standing.
- Permitted to contain sodium benzoate as preservative



Physical Properties:

b) Dried aluminium hydroxide gel

- White amorphous powder
- Tasteless
- Odorless
- Practically insoluble in water
- Insoluble in Ethanol
- Soluble in mineral acid solution



Storage

“ The gel should not be stored at temperature not exceeding 25°C, it should not be allowed to freeze”

or

“The dried gel should not be stored in airtight containers at temperature not exceeding 25°C”



Stability

“Heating to temp. much in excess of 30°C results in gradual dehydration and loss of therapeutic value”



Uses:

- Gastrointestinal agent
- Antacid
- Mild astringent
- As desiccant
- Dusting powder

