

15-16 Define & classify antacid  
ppt. assay, uses of CaCO<sub>3</sub> 8m 2017

## Antacid

These Drugs used for neutralizing  
Excess acid in the stomach.

Classification:-

Acid neutralizing  
capacity of antacid?

① Systemic antacid

② Non systemic antacid

I Systemic antacid

They are used to reduce the acidity  
of blood.

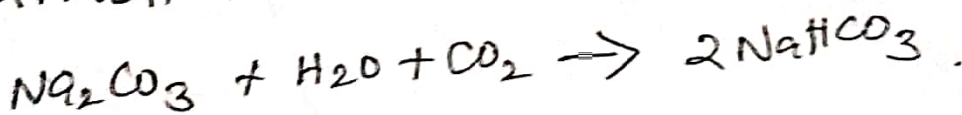
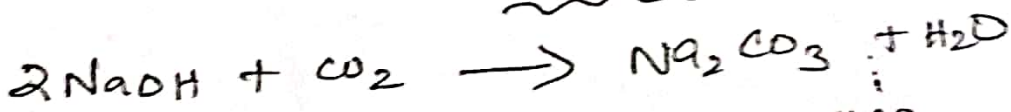
eg: Sodium bicarbonate inj  
Sodium citrate.

II Non-systemic antacid.

They are used to reduce gastric  
acidity.

eg Aluminium hydroxide.  
magnesium trisilicate.  
magnesium hydroxide.

① Sodium Bicarbonate  
NaHCO<sub>3</sub>.



Assay

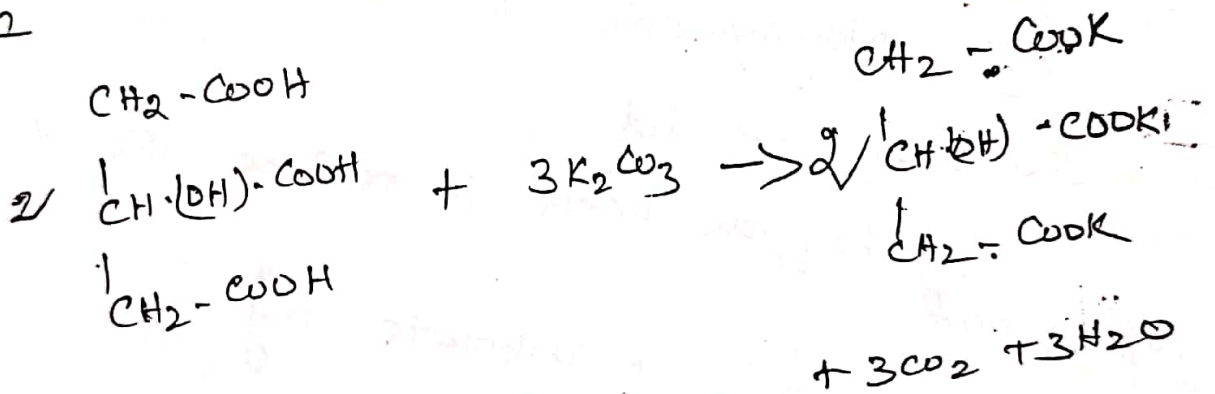
$S + H_2O \rightarrow$  Titrated with  $H_2O$   
using methyl orange as indicator.

Use

Systemic acidosis.

② Potassium citrate.

PPn



Assay

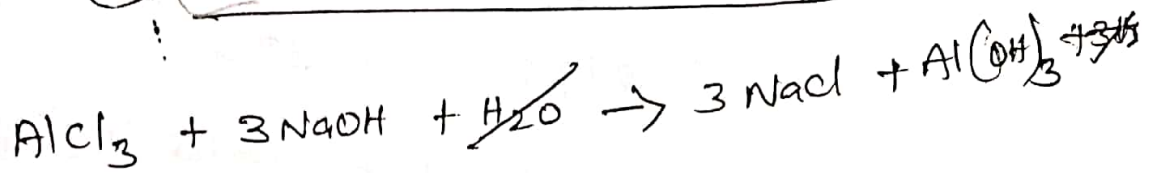
$S \xrightarrow{\Delta}$  residue  $\rightarrow$  dissolved in  $H_2O \xrightarrow{\Delta}$   
 $HCl \rightarrow$  filters the residue  $\rightarrow$  excess of acid  
Titrated with NaOH using methyl orange as indicator.

Use

Systemic alkalies  
Expectorant.

### ③ Aluminium hydroxide gel

PR



ASSAY

S + HCl  $\xrightarrow{\Delta}$  add EDTA  $\rightarrow$  Neutralizing  
by adding 1N NaOH + hexamine (to maintain  
alkaline pH) Excess of EDTA titrated  $\bar{c}$   
std lead nitrate - xylenol orange as indicator

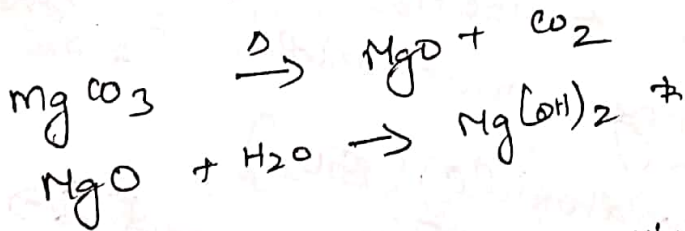
USE

Antacid.

### ④ Magnesium hydroxide

6m = 2014

PR



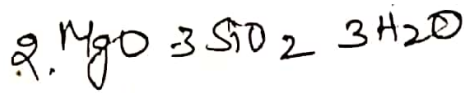
ASSAY

S + dil HCl +  $\text{NH}_3 - \text{NH}_4\text{Cl}$  solution  
 $\rightarrow$  Titrated with 0.05M EDTA using mordant  
black TB mixture as indicator.

USE

Antacid,  
Laxative.

(2) Magnesium trisilicate



This compound having Magnesium Oxide + Silicon Oxide

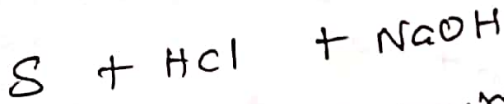
PPN

Sodium silicate treat with magnesium Sulphate  $\rightarrow$  Mg. trisilicate is pptd. The ppt is filtered, washed and dried.

Assay

MgO

Complexometric titration.



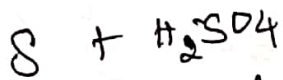
$\rightarrow$  Titrated  $\bar{c}$

EDTA

Using

murexide as indicator.

(3) Silicon dioxide ( $\text{SiO}_2$ )

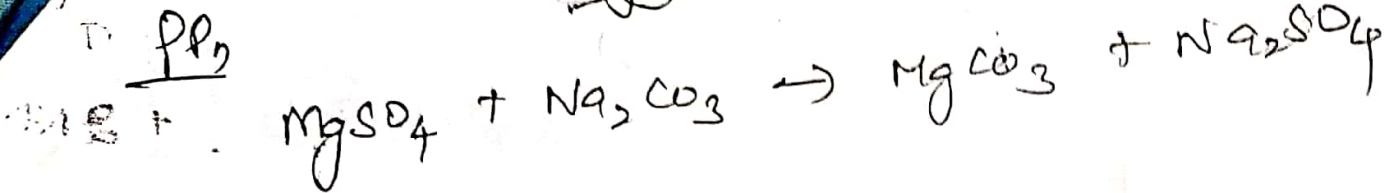


$\rightarrow$  filtered  $\rightarrow$  insoluble until free from sulphate and ignited for 5 min, cooled and weighed

Use

Antacid.

Magnesium Carbonate



Assay

Complexometric

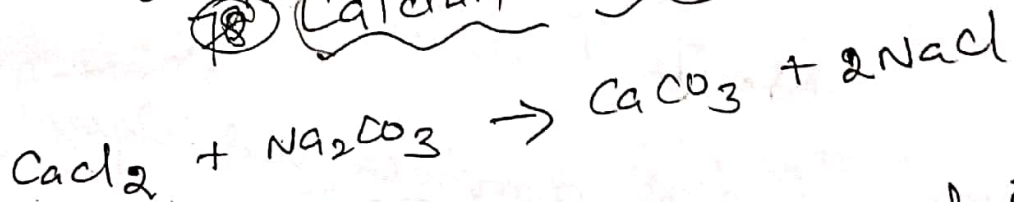
S + HCl + NaOH → titrated with EDTA  
murexide as indicator

Use

Antacid  
Laxative

2017 SM + 3m definition & classification of antacid  
Calcium Carbonate

PP<sub>3</sub>



Assay

S + HCl + NaOH → titrated with EDTA mixture as indicator  
murexide + naphthol green

Use

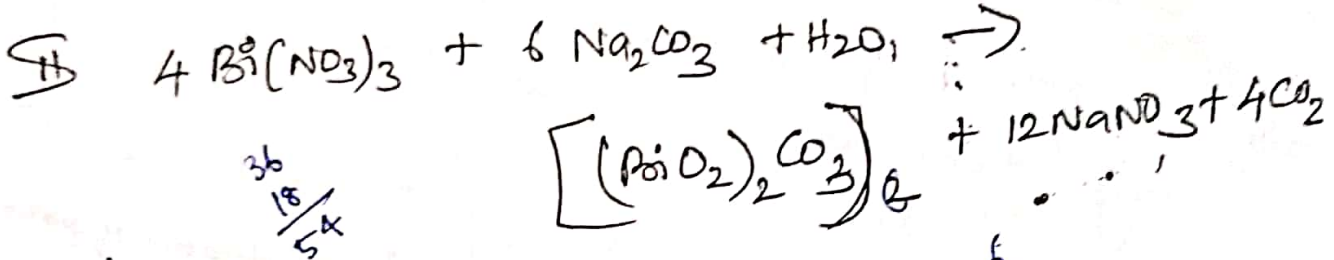
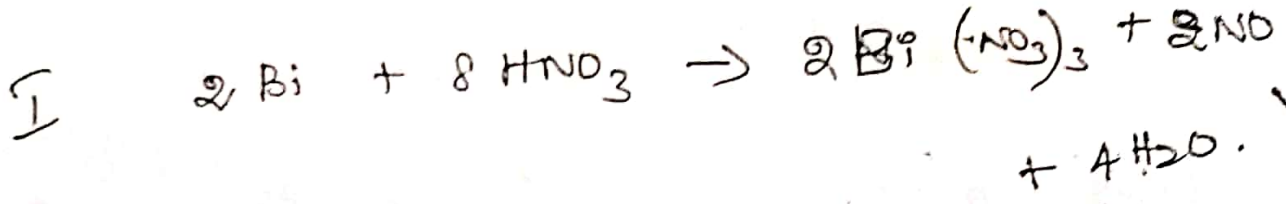
Antacid.

Aluminium phosphate 18  
Magnesium oxide 20

(47)

Bismuth Carbamate

ppn



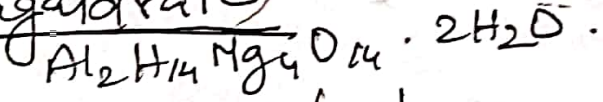
Assay

Gravimetric method

S → ignited → weighed  $\frac{600}{236} \times \frac{500}{50}$   
 N. L. T. 90% Bismuth oxide.

Use used in diarrhoea and dysentery.

Magaldrate



Preparation

Aluminium hydroxide +  $Mg(OH)_2$   
 28 to 39% MgO + 17 to 25% Aluminium Oxide

Assay

MgO ⇒ Complexometric titration

S + HCl + NaOH → titrated w/ EDTA using murexide as an indicator.

Aluminium Oxide

S + HCl → added EDTA → Neutralizing added w/ NaOH + hexamine → excess of EDTA titrated w/ Lead nitrate  
Use xylensyl orange as an indicator.  
 Antacid.