

Complete the table :-

Mixture	Method of separation	Principle of separation
As 1) Salt from its Water sea water	Evaporation	This method is used to separate the components of a homogeneous solid-liquid mixture, in which only the solid is recovered, while the liquid escapes in the form of vapour.
<del>Sugar from its solution</del>		
2) Sugar from its solution	Crystallisation	In this method, hot solution containing more solute than it can hold at room temperature is slowly cooled. The solvent gets evaporated, while the solute starts separating out.

3) Distilled water  
from Tap  
water

Distillation

This method is used to separate the component of a solid liquid mixture in which both solid and liquid are recovered.

Q. Name the method to separate the constituents of the following mixtures and also give their principle of separation

⊕ Cream from  
milk

Liq/L Mixture

Method

Principle of separation

1) Cream from  
milk

Centrifugation

This method is used to separate the components of the liquid-liquid homogeneous mixtures in which components have different density.

2) Water and  
Kerosene oil

~~Fractional~~  
distillation  
By separating  
funnel

This method is used to separate the components of liquid liquid heterogeneous

mixtures, in which liquids have different densities

3) Water and ethyl alcohol  
Fractional distillation

This process is used to separate liquid liquid homogeneous mixture in which the liquids have different boiling points

Q2 Differentiate between miscible and immiscible liquid

ans -  
Miscible liquids  
Liquids which dissolve in each other completely in all proportions.

Immiscible liquids  
Liquids which do not dissolve in each other. are called imm

Eg - alcohol and water

Eg - oil and water.

Q 3a) What is Chromatography? & For which type of mixture it is used?

ans. The process of separating different dissolved constituents of a mixture by their adsorption on an appropriate material is called chromatography. It is used to separate all the components of mixture when all the components are very similar in their properties.

b) What are the advantages of chromatography?

ans. Advantages of chromatography are:-

1. A very small quantity of the mixture substance can be separated.
2. Components with very similar physical and chemical properties can be separated.
3. It identifies the different constituents of a mixture.
4. It also helps in quantitative estimation of components of a mixture.

c) Give two applications of chromatography.

- 1) To separate
- a) colour in drugs & dye
- b) drugs from pigments & bloods
- c) ~~Pigments from natural colours~~
- c) Pigment Pigments from natural colours
- 2)

27 to purify many industrial products.

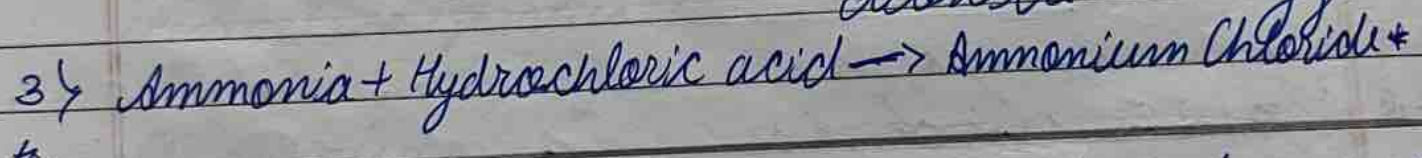
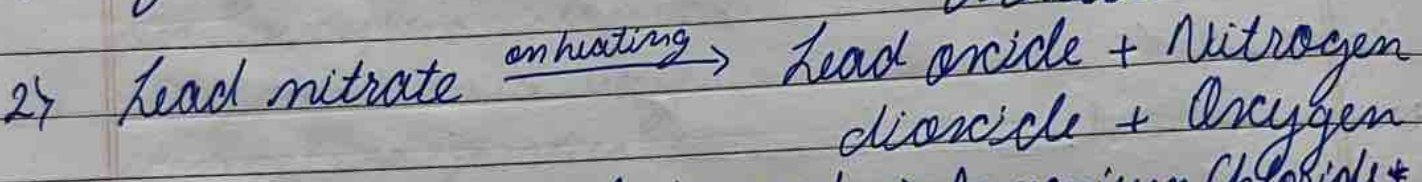
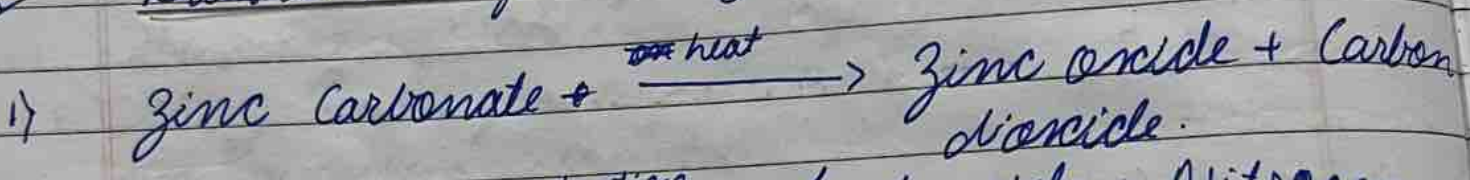
✓

Revision

Derive the molecular formula of the following compounds

- 1) Calcium Oxalate
- 2) Magnesium Bicarbonate
- 3) Potassium Chromate

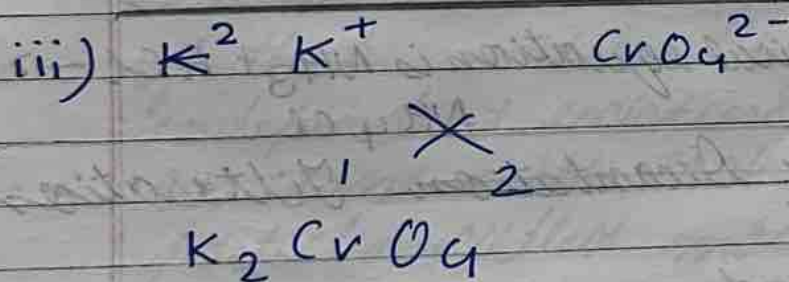
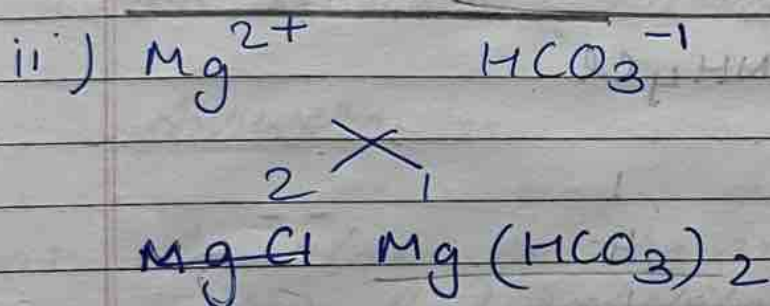
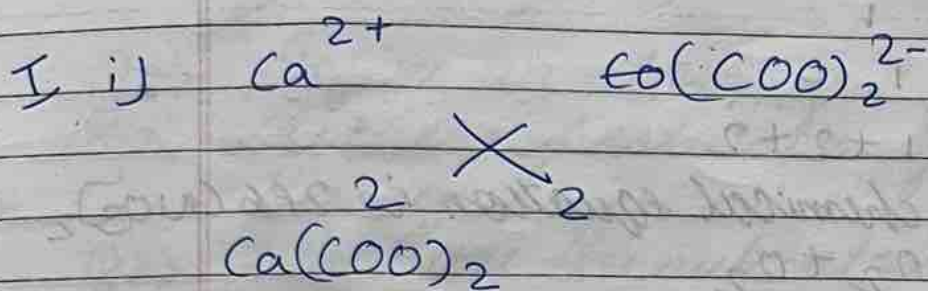
Balance the following chemical equation.



Suggest a suitable technique to separate the constituents of the following mixtures

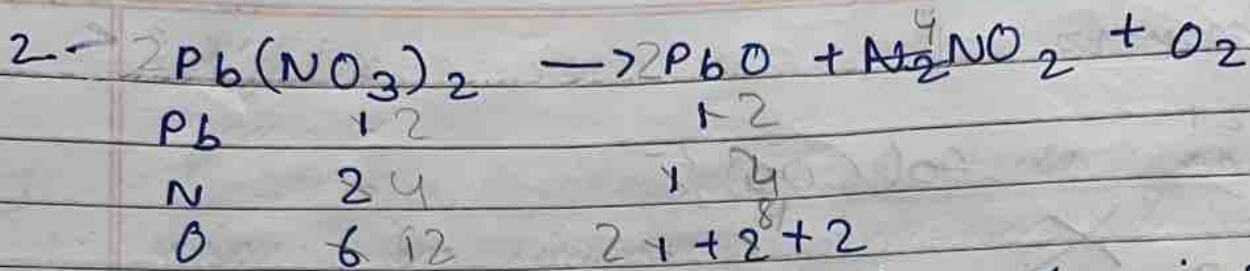
- 1. Clay and water
- 2. Stones and rice
- 3. Sawdust and sand

Answers

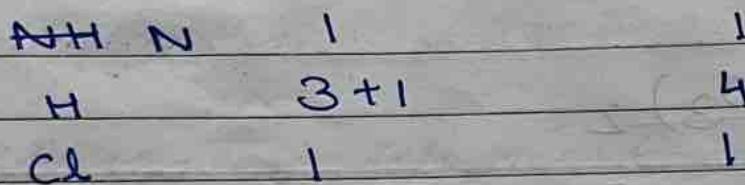


Zn	1	1
C	1	1
O	3	1 + 2

∴ The balanced chemical equation is  $\text{ZnCO}_3 \longrightarrow \text{ZnO} + \text{CO}_2$



∴ The balanced chemical equation is  $2 \text{Pb}(\text{NO}_3)_2 \rightarrow 2 \text{PbO} + 4 \text{NO}_2 + \text{O}_2$



∴ The balanced chemical equation is  $\text{NH}_3 + \text{HCl} \rightarrow \text{NH}_4\text{Cl}$

- III
1. Sedimentation and Decantation
  2. Filtration
  3. Hand picking
  4. Gravitational Method.