Chemistry Study Materials for Class 9
(NCERT Based notes of Chapter -02)

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IS MATTER AROUND US PURE

SEPARATION OF COMPONENTS OF MIXTURE

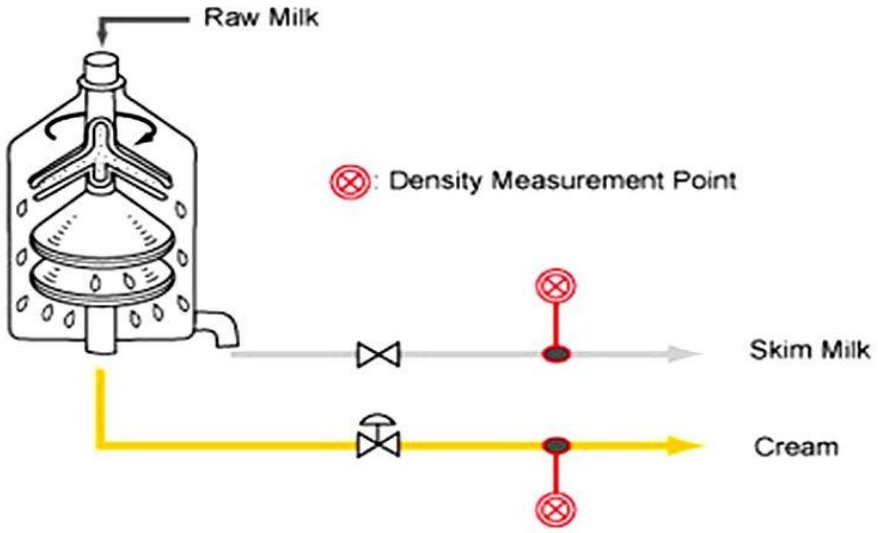
CENTRIFUGATION

In the method of centrifugation, the centripetal and centrifugal forces are used to separate lighter and heavier components of mixture of two immiscible liquids.

This process is used to separate very small solids particles from a liquid mixture.

Example – Milk is the mixture of fat, water, and other constituents. Using the method of centrifugation, most of the fat can be separated from milk. In milk, fat is suspended throughout the milk which is separated out using the method of centrifugation.

When milk is churned rapidly, water which is heavier than fat, migrates away from the centre of centrifuge while fat is forced towards the bottom, which is drained out.



Application of centrifugation –

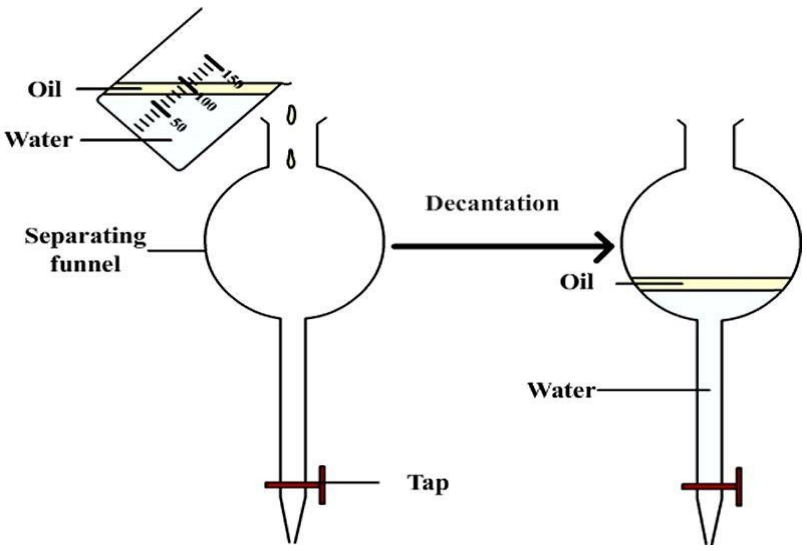
- In pathological test of blood and urine.
- In separation of fat from milk.
- In washing machines to squeeze the water from wet clothes.

DECANTATION

Decantation is used to separate the components from a mixture of two immiscible liquids, such as mixture of oil and water. In a mixture of two immiscible liquids, lighter one and heavier one form separate layer. The lighter one can be decanted after settling of mixture, carefully in other container.

In the process of decantation some of the heavier liquid also poured out with lighter one. Therefore, components from a mixture of two immiscible liquids; can be separated more easily and accurately using a separating funnel.

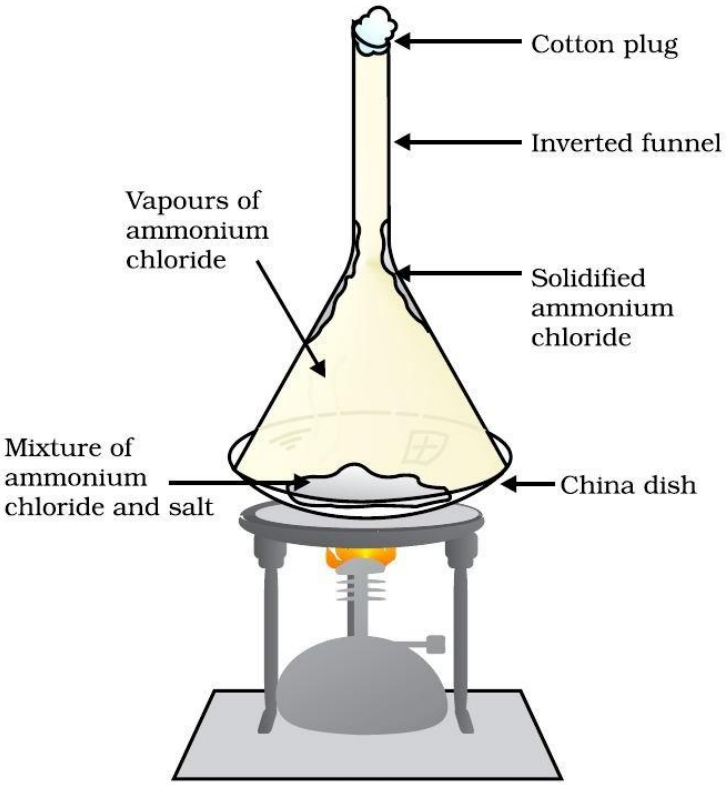
A separating funnel is usually made of glass with a stop cork with drain pipe at bottom. The heavier liquid which is settled at bottom is drained out from the mixture of two immiscible liquids by opening of stop cork from a separating funnel.



SUBLIMATION

There are many substances which are converted into gas from solid when heated, and converted from gas to solid when cooled without converting into liquid. Such substances are known as sublime. For example – ammonium chloride, naphthalene balls, camphor, etc. Therefore, mixture of one sublime and other substance can be separated using the method of sublimation.

The mixture of ammonium chloride and common salt can be separated out using the process of sublimation. For this, the mixture is heated in a China dish. The China dish is covered by an inverted funnel. Cotton is used for plugging the opening of the funnel. After heating, ammonium chloride is converted into vapour and gets deposited over the inner surface of funnel; due to cooling. This leaves the common salt in China dish. Ammonium chloride can be taken out by scratching



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