

Class-9

CHAPTER -2

Is the matter around us pure

Answers

1. If two or more substances are mixed in the proportion and the substance doesn't change its properties. It is called mixture. On the basis of nature of components, mixtures are of two types –
 - 1.) **Homogeneous mixture-** The mixtures which have uniform composition throughout are called homogeneous mixture.
Ex- salt dissolved in water, sugar dissolved in water.
 - 2.) **Heterogeneous mixture –** Mixture which contains physically distinct part and have non uniform composition are called Heterogeneous mixture.
Ex- oil and water, salt and Sulphur etc.
2. Alloys are mixtures of two or More metals or a metal and a non-metal And cannot be separated into their Components by physical methods.
Ex- Brass is an alloy of 30% zinc and 70% copper.
3. A solution is a homogeneous mixture of two or more substances.
It is made up of two components.
4. **Solvent-** The component of the solution that dissolves the other component in it (usually the component present in larger amount) is called the solvent.
Solute- The component of the solution that is dissolved in the solvent (usually present in lesser quantity) is called the solute.
5. Aerated drinks like soda water, etc., are gas in liquid solutions. These contain carbon dioxide (gas) as solute and water (liquid) as solvent.
6. **Saturated solution –**when no more solute can be dissolved in a solution at a given temperature, it is called a saturated solution.
Unsaturated solution -If the amount of solute contained in a solution is less than the saturation level, it is called an unsaturated solution.
7. The amount of the solute present in the saturated solution at this temperature is called its solubility.
8. The concentration of a solution is the amount (mass or volume) of solute present in a given amount (mass or volume) of solution.
The three methods by which we can find the concentration of solution are-
 - a.) Mass by mass percentage of solution
 - b.) Mass by volume percentage of solution
 - c.) Volume by volume percentage of solution
9. Dispersing phase of sponge is gas and its dispersing medium is solid.

It make the colloid of aerosols type.

Dispersing phase of face cream is liquid and it's dispersing medium is liquid.

It make the colloid of emulsions type.

10.

SUSPENSION	COLLOID
1. The particles of suspension can be seen by naked eyes.	1.The particles of colloid are too small they cannot be seen by naked eyes.
2. The particles of suspension scatter the beam of light passing through it and make its path visible.	2.Colloids are big enough to scatter a beam of light passing through it and make its path visible.
3. Solute particle is settle down when a solute is left undisturbed i.e. a suspension is unstable.	3.They do not settle down when left undisturbed i.e. colloid are quite stable.
4. These solute particles can be separated from the mixture by filtration.	4.These solute particles cannot be separated from the mixture by filtration.

11.

MIXTURE	COMPOUND
1. Elements or compounds just mix together to form a mixture and no new compound is formed.	1. Elements react to form new compound.
2. A mixture has a variable composition.	2. The composition of each new substance is always fixed.
3, A mixture shows the properties of the constituent substances.	3. The new substance has totally different properties.
4. The constituents can be separated fairly easily by physical methods.	4. The constituents can be separated only by chemical or electrochemical reactions.

12. When one substance reacts with other substance to undergo the change in chemical composition. It is called chemical change.

Ex- rusting of iron, cooking of food.

When the physical properties of a substance changes but its chemical composition remains the same it is called physical change.

Ex- ice changes to water and water changes to vapour After gaining heat.

13.

Metal	Non-metal
<ul style="list-style-type: none">Metals have a lustre (shine).	<ul style="list-style-type: none">Non metals do not have lustre.
<ul style="list-style-type: none">They are sonorous.	<ul style="list-style-type: none">They are non sonorous.
<ul style="list-style-type: none">They conduct heat and electricity.	<ul style="list-style-type: none">They are poor conductors of heat and electricity.
<ul style="list-style-type: none">They are ductile	<ul style="list-style-type: none">They are non ductile.
<ul style="list-style-type: none">They are malleable	<ul style="list-style-type: none">They are non malleable.
<ul style="list-style-type: none">Ex- copper, gold, silver etc.	<ul style="list-style-type: none">Oxygen, iodine, hydrogen etc.

14. Element is the basic form of matter that cannot be divided into simpler substances by chemical reactions.

Elements are divided into three types –

- Metals
- Non metals
- Metalloids

15. (a) Sodium chloride from its solution in water → Evaporation

(b) Ammonium chloride from a mixture containing sodium chloride and ammonium chloride → Sublimation

(c) Small pieces of metal in the engine oil of a car → Centrifugation or filtration or decantation

(d) Different pigments from an extract of flower petals → Chromatography

(e) Butter from curd → Centrifugation

(f) Oil from water → Using separating funnel

(g) Tea leaves from tea → Filtration

(h) Iron pins from sand → Magnetic separation

(i) Wheat grains from husk → Winnowing

(j) Fine mud particles suspended in water → Centrifugation