

Mixtures



A mixture is a combination of two or more substances where there is **no** chemical combination or reaction.



Mixtures combine
physically in no specific
proportions.
They just mix.



Solids, liquids and gases
can be combined to
create a mixture.



You make a mixture by adding at least one material to another. When you add material to a gas or liquid, the material you add is called the **solute** and the material you are adding to is called the **solvent**.



When you create a mixture, there are no new substances formed. Each part of a mixture keeps its own properties.



Mixtures can be heterogeneous or homogeneous.



Heterogeneous mixtures are those where the substances are not distributed evenly. They usually involve a mixture of a solid in a solid.

A mixture of stones in soil is an example of a heterogeneous mixture.



Homogeneous mixtures are those where the materials are evenly distributed throughout. Homogenized milk is an example.



Mixtures can be classified into three types: suspension, colloidal and solution. Some liquid mixtures are solutions.



Suspension mixtures have larger particles and are heterogeneous. Most mixtures are suspension mixtures.

Italian salad dressing is a good example.



Colloidal mixtures fall between suspension and solution mixtures. The ingredients in colloidal mixtures are smaller and usually homogeneous.



Solutions are homogeneous mixtures that consist of microscopic particles and evenly spread out molecules.



You can separate a simple mixture by physical means. No chemical reaction is needed.



Elements and compounds

- *Elements*- are the simplest form of matter that can exist under NORMAL laboratory conditions
 - Cannot be separated into simpler substances by chemical means
 - Are the building blocks for all other -- substances
- *Compounds*-are substances that can be separated into simpler substances by chemical means



Compound Review

- *A pure compound has the same elements and the same amount of elements all of the time*
- Elements are chemically combined
- They cannot be separated physically
- Physical properties such as boiling point or melting point of pure substances are do not change

