HOMOGENIZATION

Homogenization, process of reducing a substance, such as the fat globules in milk, to extremely small particles and distributing it uniformly throughout a fluid, such as milk. When milk is properly homogenized, the cream will not rise to the top. The process involves forcing the milk through small openings under high pressure, thus breaking up the fat globules.

Cream and other food products, such as peanut butter, may be homogenized to produce a stable emulsion—one in which fats or oils will not separate from other elements. A similar process is used in the manufacture of some cosmetics and pharmaceutical products.

Homogenizers are heavy-duty high-pressure pumps equipped with a special valve at the discharge end. In milk production, homogenizers are designed to break up fat globules from their normal size of up to 18 micrometres to less than 2 micrometres in diameter (a micrometre is one-millionth of a metre). Hot milk (with the fat in liquid state) is pumped through the valve under high pressure, resulting in a uniform and stable distribution of fat throughout the milk. The benefits of homogenization for milk include a whiter appearance, richer flavour, more uniform viscosity, better “whitening” in coffee, and softer curd tension (making the milk more digestible for humans).

Homogenization is also essential for providing improved body and texture in ice cream as well as numerous other products, such as half-and-half, cream cheese, and evaporated milk.

The Purpose Of Homogenization?

To Reduce Particle Size

First and foremost, the purpose of homogenization is **to reduce the size of the particles making up a sample**. In simple terms, it's a bit like taking a boulder and smashing it into gravel, except, in this case, the gravel pieces would be all the same size and shape

The Process of Homogenization In Milk?

The homogenization process involves **reducing the size of the fat globules (the cream that rises to the top of the glass or bottle) into minuscule portions that are dispersed evenly throughout the milk**. Homogenization usually is achieved by pumping milk through small openings under very high pressure

Importance of Homogenization:

Milk is homogenized, not for taste, but to give milk its rich, white color and smooth texture that we're used to. This process prevents cream from rising to the top, and saves you the step of mixing the cream back into the milk yourself before drinking it.