

# [Factors to consider for the design and development of emulsion](https://assignbuster.com/factors-to-consider-for-the-design-and-development-of-emulsion/)

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ADMINISTRATION Academia-Research ORDER # 293930 FACTORS TO CONSIDER FOR THE DESIGN AND DEVELOPMENT OF EMULSION. EMULSION is the process of dispersing the mixure of two or more immiscible liquids   
  
while EMULSIONS is the mixture of the immiscible liquids wherein the first liquid is   
  
suspended to the second liquid. A very common example of this mixture is oil-in-water   
  
or water-in-oil. It is very important to know the identity of the chemicals you are dealing   
  
with when applying emulsion. Physically, the mixture of two immiscible liquids is very   
  
visible to the eyes because of the phase interfaces of scattered light passing through the   
  
emulsion. System of immiscible liquids are understood by integration of models at   
  
different length scales.   
  
  
The ultimate goal of emulsion is to know and understand the main factors of dispersion   
  
of the mixture. STABILITY is one factor to consider because Emulsions are unstable and   
  
thus do not form spontaneously. Energy input are needed to form emulsion. To develop   
  
emulsion is through shaking of the mixture, or stirring, or homogenizing and lastly, or by   
  
spraying. Addition of surfactants can also stable the formed emulsion even if the mixture   
  
is stored for a long time. Coalescence is another form wherein the small droplets recom-   
  
to form bigger ones. Lastly, Emulsion will also take place under the influence of   
  
buoyancy or centripetal force with the use of centrifuge.   
  
Another factor to consider is DENSITY, wherein particles form clumps or creaming and   
  
tends to concentrate towards the surface or bottom of the mixture depending on the   
  
relative density of the two phases. While staying separated or coagulated, the particles   
  
will form a layer of liquid.   
  
  
  
  
Last factor to consider is VISCOSITY of the liquid. It will simply explained here, where   
  
both the emulsifier and emulsifying particles will promote emulsion of the phases of the   
  
liquid which both will not dissolve quickly, thus forming oil-in-water emulsions.   
  
Emulsify the water so to distort color and this promotes the dispersion of oil droplets.   
  
Another class of surfactants are detergents which will interact both to oil or water and   
  
Stabilizes the interface between oil or water droplets in suspension.   
  
Colloidal stability is a factor in design of an emulsion polymerization process. Polymer   
  
dispersion is isolated and converted to solid form. Heat is applied to this process wherein   
  
the water evaporates, and the polymer will be isolated. Dispersion are also designed to a   
  
very high degree of stability. Colloidal property of particle size, viscosity are critical   
  
importance to the performance of dispersion.   
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Source / Source   
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