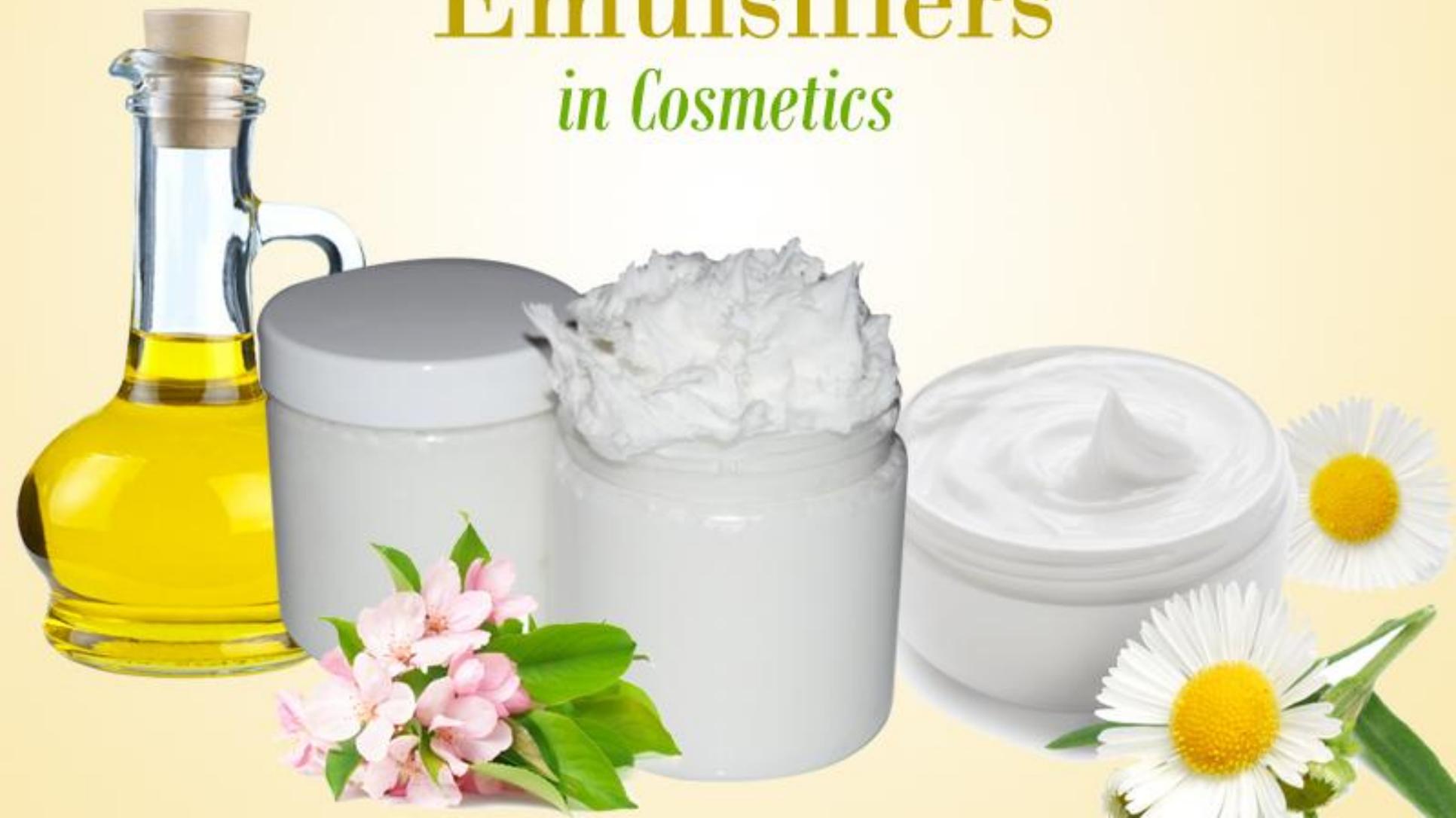




Nature's Garden
Wholesale Candle & Soap Supplies

Emulsifiers

in Cosmetics





Ingredients Found At Natures Garden:

[BTMS 25 Emulsifier](#)

[SILKY EMULSIFYING Wax](#)

[EMULSIFYING Wax NF- Traditional](#)

[POLYSORBATE 80](#)

[BEESWAX White Pastilles](#)

[POLYSORBATE 20](#)

Directions:

If you have ever seen an unshaken bottle of Italian Salad Dressing, then you have witnessed a product that could definitely use the help of an emulsifier!

In Elementary School, we all learned that oil and water just simply will not combine on their own accord. They are just not compatible. It is all about polarity. Let's magnify down to the molecular level of things and really get down to the nitty gritty.

Simply put polarity is the nature of a molecule or a compound to either be attracted to or repelled from another molecule. The attraction or opposition is based on the charge of the nucleus, and the formation of the atoms that have bonded. Based on this makeup, compounds are either polar or non-polar.

Polar molecules are not balanced in their chemical makeup. Usually it is because one of the elements is pulling all of the electrons to one side of the atom. Therefore, polar elements are constantly looking to bond with other polar elements in order to be a balanced compound. On the flip side, if an atom is completely balanced, and has an equal charge on both sides, then it is classified as non-polar.

Now, when polar and non-polar elements are present in the same mixture what you get is separation. Whether the mixture is stirred, heated, or shaken; eventually the polar and non-polar elements will isolate themselves from one another.

This is a physical trait, which you can literally see. What is missing from the equation is an emulsifier.

Emulsifiers are most commonly used in the food industry. They have a great impact on the texture and composition of food. Another benefit of using emulsifiers in food is the extension of freshness. Some common foods that use emulsifiers are: salad dressings, candy, frozen desserts like ice cream and yogurts, cake mixes, and icings. There are even foods that are natural emulsifiers such as milk, mustard, and eggs.



In the department of bath and body, or any product that is made to be put on the skin, emulsifiers will become your new best friend. Since, in our industry, most of our scenting is accomplished with oils, it poses a problem when the product that we are creating is water based. The reasoning: just like the Italian dressing, water and oil will not mix. The chemistry concept to remember is like dissolves like. This means that polar will always bind and dissolve in polar, and vice versa with non-polar.

When a mixture is water based; it is termed Aqueous. This means that in order to mix other elements to this recipe, the additional ingredients need to be hydrophilic, or water loving (polar). Fragrance and Essential oils are not water loving, therefore they are termed lipophilic (non-polar).



No matter how much you shake, mix, blend, or beat a mixture, if it contains both water and oils, there will be separation that occurs. The only way to solve this is by adding an emulsifier to your recipe.

An emulsifier is quite an amazing little thing. Let's look at the molecular level again. ***An emulsifier consists of a hydrophilic (water-loving) head, and a lipophilic (oil-loving) tail. This is the perfect peace maker between water and oil.*** This is because the emulsion allows for the lesser mass element to be "insulated" by the emulsifier to prevent it from joining the other elements with the same polarity. What this allows for is a dispersion of water and oil together, and this is referred to as a stable emulsion.

When an emulsifier is added to a recipe, it is drawn to the layer where binding is needed. It is then able to position itself, by lessening the surface tension, between the oil and water. Emulsifiers, besides being wonderful binders between polar and non-polar elements, also act as aerating agents, starch complexing agents, and even crystallization inhibitors.

Emulsifiers create emulsions. There are two types of emulsions. The first is an oil in water emulsion. This is where the greater mass is water, and there are oil droplets which are dispersed into the water. This is created by the emulsifier covering the oil particles and allowing the hydrophilic end to bind with the hydrophilic water. Now, since both are water-loving elements, they will bind together. The second emulsion is a water in oil emulsion. This is where the greater mass is oil, and there are water droplets which are dispersed into the oil by the emulsifier covering the water particles. This then allows for the lipophilic end to bind with the lipophilic oil. With the addition of an emulsifier, both emulsions are now stable and evenly dispersed without separation.



These two different emulsions are important to know if for example you are trying to make a specific kind of cream or lotion.

In the case of water dispersed in oil, oil will encase the water so therefore the oils in the recipe will touch the skin first. There will of course be some greasiness in the feel of the lotion when it is applied to the skin. This is because of the oils, and will be absorbed into the skin. These recipes are great for adding beneficial aspects of the oils directly to the skin.





In the case of oil dispersed in water, water will encase the oil so therefore the water in this recipe will touch the skin first. These recipes have a less greasy feel to them. These are also great emulsion recipes in situations where you are looking for moisture to be one of the benefits of the lotion or cream.

For bath and body crafters, common emulsifiers that are used are: Borax with Beeswax, [Beeswax](#), [BTMS 25%](#), Carbomer, Cetaryl Alcohol, [Emulsifying Wax-NF](#), Lecithin, PEG-20 Stearate, Propylene Glycol, [Silky Emulsifying Wax](#), Stearyl Alcohol NF, [Polysorbate 80](#) and [Polysorbate 20](#).



Nature's Garden

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