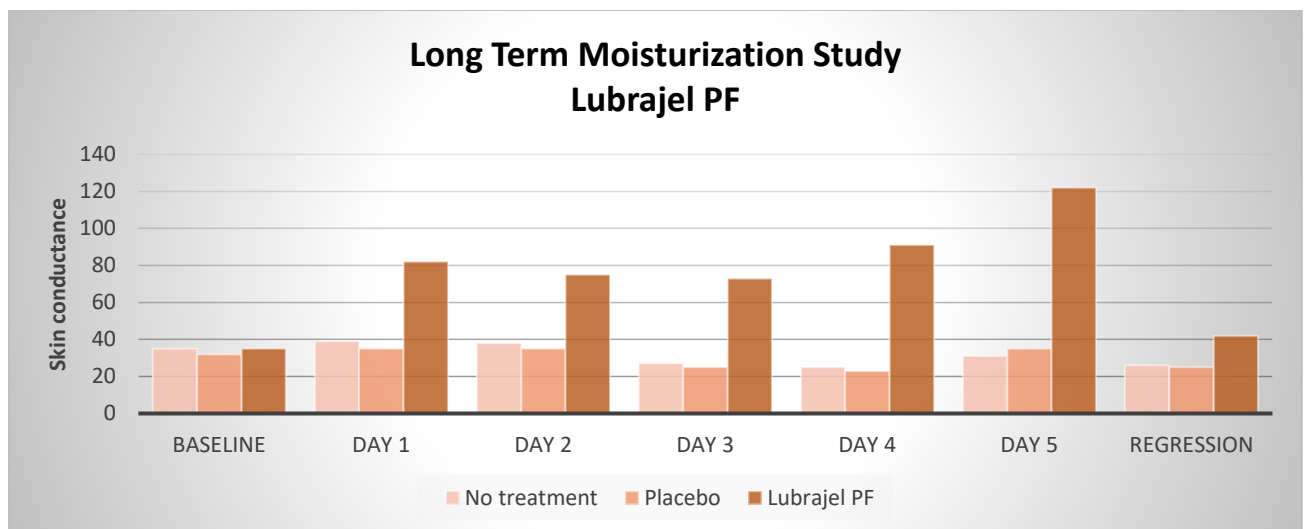


## When was the last time you really looked at a spiderweb?

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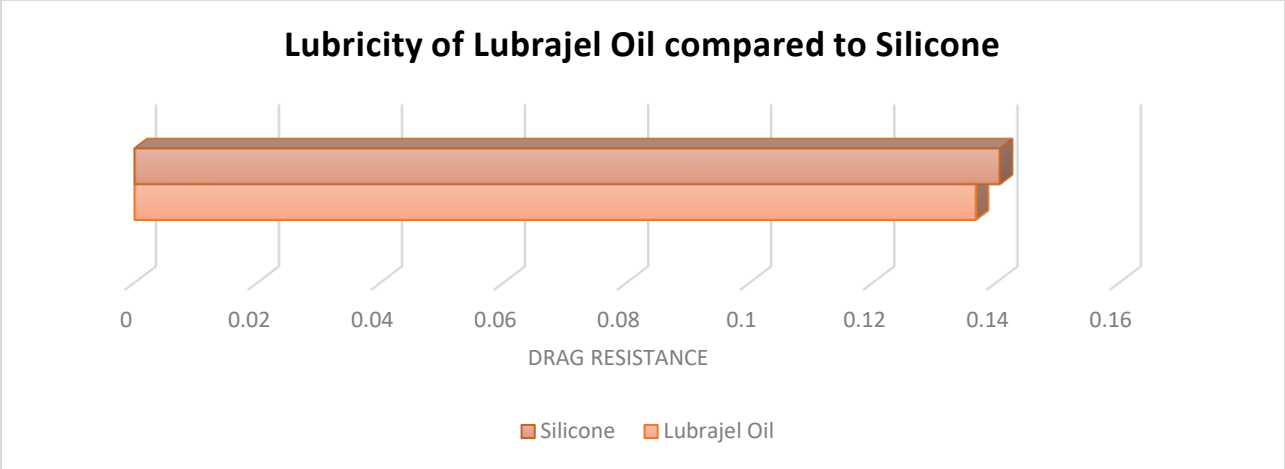
Did you ever notice how a spider web holds water after a rainstorm? And, how once you disturb the web the water is released? That is the principle behind the moisture matrix of Lubrajel® technology. The moisture matrices created are called clathrates. A clathrate is a group of molecules enclosed within a cage from which they cannot escape until the structure is destroyed. When a series of cages are linked together a matrix is formed and with the addition of water, a moisture matrix is created.

Sounds simple but producing organic chemical structures that hold moisture is a challenge. A clathrate's water capacity depends on the size of the void in the cage molecule. The cage does not covalently bond with the water but holds it due to the combination of hydrogen bonding and van der Waals forces. Lubrajel technology can hold a remarkably high percentage of water. This leads to a moisturization quality far superior to classical moisturizing ingredients.



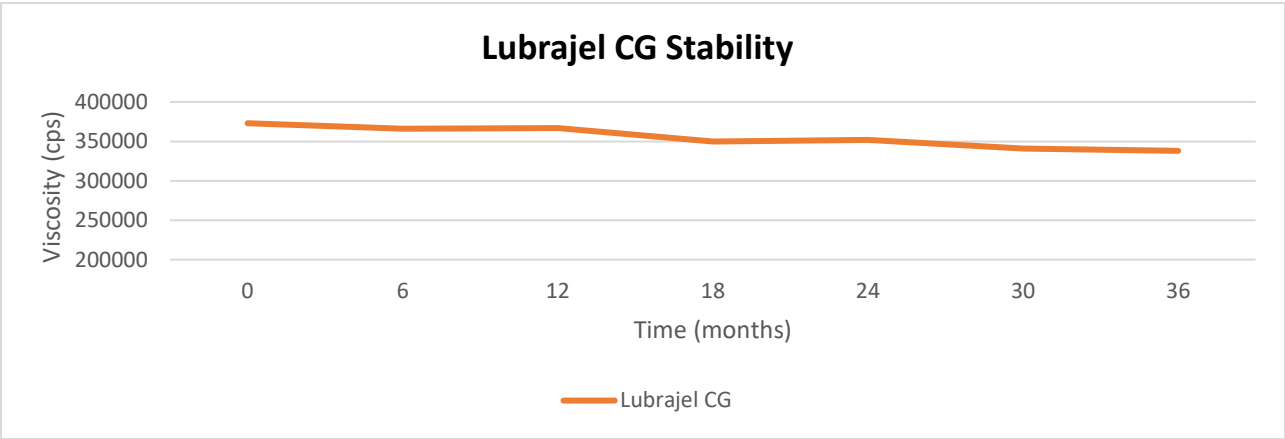
Lubrajel PF provides significant increase in moisturization during treatment and after regression compared to placebo and untreated ( $p < 0.05$ ).

Lubrajel's are structured in such a manner that pH, ionic strength, surface moisture and temperature at the epidermal layer of the skin create a reversible clathrate. This reversibility brings about a moisture balancing effect. Rather than just rewetting or super fattening the skin, a reversible clathrate releases moisture where and when it is needed and avoids over moisturizing healthy skin. This occurs because Lubrajel products are skin activated. They are most effective in a pH range of 5.0 – 5.5, the usual pH range of skin.



Silicone and Lubrajel Oil show no significant differences indicating that both lubricate similarly.

Clathrates created from Lubrajel technology do not only work well on the skin. They also work inside your package stabilizing the emulsion. This stabilizing effect increases the shelf life of your product and ensures that it will look and feel the same each time your customer applies it. As you would expect from materials that help keep your product stable, Lubrajel’s are also stable. Research has shown the viscosity of this product to be very stable at various temperatures over time. Even after years, there is little noticeable change.



Lubrajel products come in a variety of grades and offer many benefits including superior moisturization, slip, lubricity, suspension, and exceptional after-feel. These products are easy to use and can be added during the water phase or post emulsion. They provide formulators with flexibility to create their desired aesthetics in creams, lotions, foundations, face masks and more. Lubrajel products are non-oily, clear, water-soluble, cold processable, biodegradable, high in natural origin content, China listed, Halal and RSPO certified. So, only one question remains, where does your journey with Lubrajel’s begin?