



Gas Well Supply

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Drill Stix vs. Soap Stix

Drill Stix and Soap stix, while similar in appearance, are very dissimilar in chemical composition. The chemical composition in the **Drill Stix** is designed primarily as a friction reducer. This friction reducer helps to increase the drilling efficiency and increase the life of the drill bit. The slick coating of the friction reducer increases the efficiency of the drilling process by preventing the clays from sticking and balling up on the bit. This will also improve the integrity of the hole. The same slick coating will help prevent the jets on the bit from plugging, therefore optimizing mud and cutting returns to the surface and improving drill bit penetration into the formations.

The Soap stix has been used for decades to help in the unloading of fluid from the tubing of producing gas wells. The chemical composition of the Soap stix is designed to create foam as the stix dissolves down hole from the agitation of the gas bubbling through the fluid column. The foam that is created, helps to lighten the hydrostatic head on the well, allowing the bottom hole pressure to unload the well, lifting the foam and fluid to the surface.

The products used in **Drill Stix** are 100% active. The products used in Soap stix are 30% active at best. **Drill Stix** are made of a combination of products that are all surfactants in a solid form before we start the melting and blending process. Since these are in solid form, when they cool, they will be in solid stix form and therefore no hardener is required. This means that you get a 100% active surfactant stix.

Before the **Drill Stix** was developed, the soap stix was used in some cases on the drilling rigs. It is because of some of the problems that arose from this practice that the **Drill Stix** was developed. Some of the most prominent problems that occurred were:

Soap stix are generally made of at least two products. They have a hardener and a surfactant, or a combination of surfactants. In soap stix manufacturing, the hardener will have no foaming or slicking ability.

Since the Soap stix was designed to foam, the stix would sometime create so much foam in the mud system that the mud weight would be lightened and have to be adjusted.

With the Soap stix creating foam, the foam would have to be dealt with at the surface. In some cases, defoamer would have to be applied to the mud tank.

Soap Stix are generally formulated to melt at higher temperatures. While this is an asset in producing wells, allowing the stix to fall further through the fluid column before melting or dissolving, it can be problematic in drilling applications. This higher melting temperature sometimes prevents the stix from being dissolved before it reaches the bit, therefore plugging the jet in the bit and causing the bit to heat up due to friction. The lower melting temperature and general chemical composition of the **Drill Stix**, in most cases, allows the stix to be completely dissolved before reaching the bit.

Since we make both **Drill Stix** and Soap stix we know exactly what both products contain and we control the quality of our product. All major companies have their soap stix outsourced and they have little

control of the quality. These may not seem like major problems, they did cause enough trouble to justify the time and expense of developing the ***Drill Stix***.