

# SEPARATING WATER FROM SILICONE

## STARSCAN ANALYSIS - LIQUISEP®

### DEMONSTRATING HIGH EFFICIENCY SEPARATION OF WATER FROM SILICONE

Pentair Porous Media conducted a performance demonstration designed to validate the high efficiency water separation achievable with our LiquiSep® technology. The performance results indicated in a StarScan report supported our technology's ability to address re-occurring water contamination challenges impacting silicone and chemical based production processes. Bottle samples of a silicone based material (referred to as TMDSO) were provided to Pentair Porous Media's STAR labs for simulating the LiquiSep® systems ability to separate virtually 100% of the free and emulsified water, resulting in enhanced product quality and reduced operating costs.

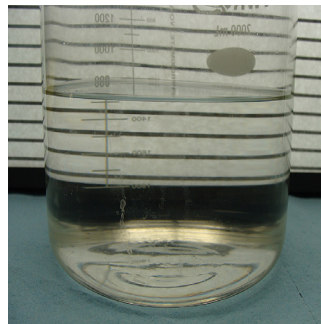
Pentair Porous Media evaluated the removal of aqueous contaminants from the sample via a small scale system located at our STAR labs. Pentair Porous Media utilized TMDSO for this evaluation.

1. One hundred milliliters of tap water was added to 900 mls of TMDSO to obtain a one liter solution with 10% water content.
2. This sample was photographed and tested with water test strips.
3. The sample was passed through Porous Media's LIQUIFORM® media to remove the aqueous contaminants simulating the liquid/liquid removal process. The effluent and TMDSO/water phase (filter boot) effluents were then photographed and analyzed via water test strips to determine the presence of water.



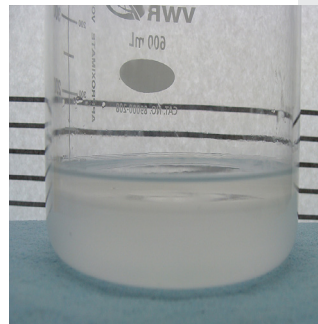
**Figure 1** – Photograph of TMDSO sample with 10% tap water (Inlet Fluid Quality)

Pre-LIQUISEP sample (inlet) is noticeably hazy. This is a typical indicator of free and emulsified water being present.



**Figure 2** – Photograph of TMDSO sample outlet (LIQUISEP Outlet Fluid Quality)

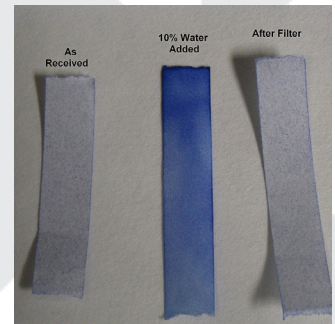
Sample of post-LIQUISEP (effluent) treatment indicating a noticeable clarity difference from the inlet, suggesting complete separation of free and emulsified water content.



**Figure 3** – Photograph of Water/TMDSO Sample. Collected from LIQUISEP boot.

Sample extracted from the boot of the LIQUISEP indicating high level of water separation. Virtually 100% free and emulsified water was extracted.

Some product is present in the sample due to manually draining the boot. This may be eliminated on a commercial system.



**Figure 4** – Water Test Strips

The strip on the far left indicates the purity of the sample provided to our lab before adding 10% wt. water. The white color signifies no/low water is present.

The bright blue strip in the middle is representative of high water content (10% wt.) present in the inlet sample

The far right strip indicates the LIQUISEP has removed virtually 100% of the water added, equaling the original fluid quality (prior to water addition).

