

## SagTex\* PHD

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#### Description

SagTex PhD silicone foam control agent is a high-performance antifoam emulsion designed for multiple uses in the textile industry. The product typically offers very good initial foam knockdown and excellent durability at concentrations less than half that of competitive silicone antifoams. Additionally, SagTex PhD silicone antifoam gives a homogeneous dilution in water or bath formulations with no oiling or agglomerates.

#### Key Features and Benefits

- Long durability in acidic or alkaline conditions
- Outstanding durability at low add-on levels
- Effective performance at significantly lower use levels than competitive antifoams
- Excellent foam control at ambient and elevated temperatures
- Rapid foam knockdown
- No oily spots or agglomerates when diluted with water
- Easily dispersed in hard water

#### Typical Physical Properties

Appearance	Milky white liquid
Active Content, %	45
Viscosity 25°C (77°F) (Brookfield LVT No. 3, 30 RPM), cP	1500-2500
Emulsifier Type	O/W, non-ionic
Specific Gravity at 25/25°C (77°F)	1.0
pH	8

#### Product Usage

SagTex PhD silicone foam control agent is a medium viscosity emulsion that can be easily transferred from its original package using piston pumps. Centrifugal pumps are not recommended, as they risk destabilizing, and in extreme cases, separating the emulsion. In low viscosity formulations, preliminary stability and compatibility studies must be conducted prior to formulation design.

For process application, we recommend prediluting SagTex PhD silicone foam control agent with cold water

(less than 18°C) in a ratio of 1:1 to 1:20. If the diluted SagTex PhD emulsion will be stored before use, then care must be taken to ensure stability of the dilution. Stability can be extended by adding small amounts of a suitable thickening agent, such as xanthan gum or polyacrylates, to the diluting water. Commercial biocides containing 2-Methyl-4 Isothiazolin-3 one and/or 2-Bromo-2-nitro-1,3-propanediol are very effective in this type of product.

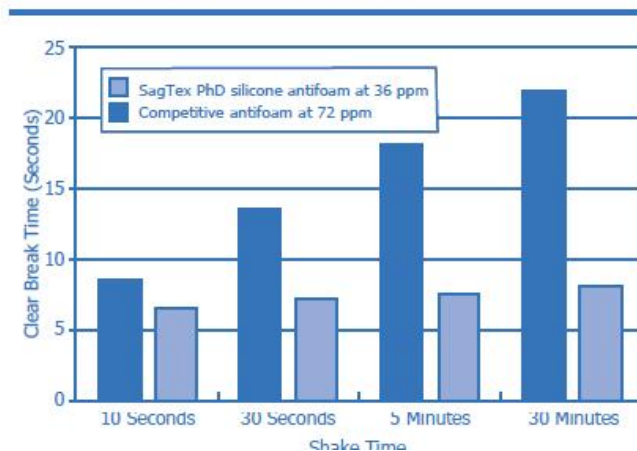
A suggested starting concentration is typically between 0.1 and 2 percent, but this will vary depending on the severity of the foaming problem.

## Processing Recommendations

### Shake Test

Glass bottles containing a blend of a one percent octylphenol ethoxylate solution and the antifoams were shaken using a laboratory wrist action shaker at ambient temperature. Four shakes were carried out; each one lasting longer. At the end of each shake, the amount of time it took for the foam to collapse (clear break) was recorded. Figure 1 shows these results. Note that SagTex PhD silicone foam control agent was quicker at controlling foam and showed excellent durability at half the concentration of the competitive material.

Figure 1: Faster Break Time – Shake Test with One Percent Octylphenol Ethoxylate Solution at Ambient Temperature

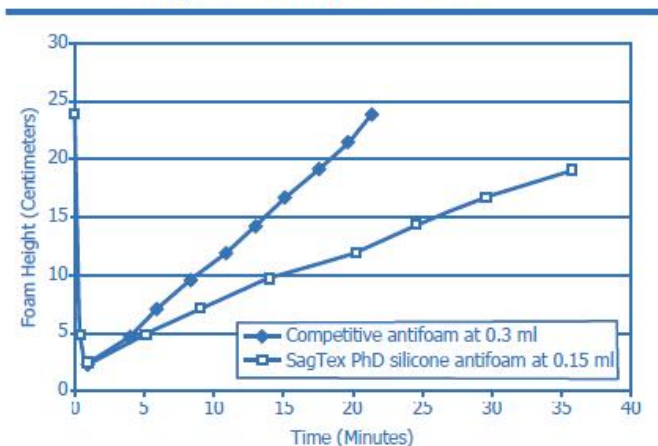


### Recirculation Tests

The following test compares antifoams under dynamic conditions. Two hundred and fifty milliliters of a one percent octylphenol ethoxylate solution is recirculated through a glass cell using a centrifugal pump. As soon as the foam height reaches twenty-four centimeters, the antifoam is injected into the solution without stopping the recirculation. The foam height versus time is recorded.

In this test, SagTex PhD silicone foam control agent showed excellent durability and equivalent foam knockdown compared to the competitive material at half the concentration.

Figure 2: Recirculation Test with One Percent Octylphenol Ethoxylate Solution



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