

SagTex™ DSA Silicone Antifoam

SagTex* DSA

Description

SagTex DSA silicone antifoam is a medium viscosity, highly potent antifoam emulsion that offers excellent foam control as well as excellent compatibility in a variety of surfactant concentrates and foaming systems. Compared to common silicone defoamers, it offers exceptional foam knockdown and durability, and greater compatibility in difficult surfactant systems, e.g., such as those rich in solvents and/or electrolytes.

Key Features and Benefits

- High antifoam efficiency in surfactant-rich systems
- Rapid foam knockdown
- Excellent foam control at temperatures up to 95°C (203°F)
- Long-term foam inhibition
- Easy dispersion in all foam systems
- Easy dispersion in hard water
- Long durability in acid and alkaline conditions
- No oily spots or lumps when diluted with water
- Compatibility with a variety of surfactant concentrates

Typical Physical Properties

Appearance	Milky white liquid
Active Content, %	20
Viscosity 25°C (77°F) (LVT No. 3,30 RPM)	1000 cP
Emulsifier Type	O/W, non-ionic

Specific Gravity at 25/25°C (77°F)	1.0
pH	7

Potential Applications

TEXTILE PROCESSES

- Sizing
- Scouring
- Printing
- Finishing

Product Usage

SagTex DSA silicone antifoam 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.

If SagTex DSA silicone antifoam is intended to be used in surfactant concentrates (primarily surfactants, water and solvent), it is recommended that the product be dosed in as received, i.e., without any predilution. Following its addition, carry out slow to moderate mixing to ensure complete and homogenous dispersion of the antifoam. Typical levels of use range between 0.1 and 0.5% depending on the formulation and the degree of foam control required.

For process applications, we recommend prediluting SagTex DSA silicone antifoam with cold water in a ratio of 1:1 to 1:10. For high dilutions level, care must be taken to ensure stability of the dilution. Stability can be extended by adding small amounts of a suitable thickening agent, e.g., xanthan gum or polyacrylates. Commercial biocides(a) containing 2-Methyl-4 Isothiazolin-3 ones 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%, but this will vary

depending on the severity of the foaming problem.

(a) Biocides must be used in accordance with FIFRA regulations and manufacturer's guidelines.

Processing Recommendations

Shake Tests

Glass bottles containing a blend of a 0.5% w/w Sodium linearalkylbenzenesulphonate solution and 100 ppm of SagTex DSA silicone antifoam were vertically shaken using a laboratory wrist action shaker. Seven shakes were carried out; each one lasted progressively longer. (The first shake lasted less than 1 minute and the last one lasted 20 minutes.) Immediately at the end of each shake, residual foam height was recorded. Figure 1 below exhibits the results.

The data show the fast acting nature of SagTex DSA silicone antifoam, as well as its outstanding durability. SagTex DSA MB.indd_Chemical Structures_Image1.JPG

Recirculation Tests

The following test evaluates the foam control performance of SagTex DSA silicone antifoam under fully dynamic conditions. 1000 ml of a 0.5% sodium dodecylbenzenesulphonate solution is placed in a 2000 ml volumetric cylinder heated to 77°C (171°F) and recirculated. As soon as the foam reaches 1800 ml, 100 ppm of antifoam is dosed and with the recirculation on-going, the foam height against time is recorded. The recirculation test is run for 300 seconds.

The foam profile of SagTex DSA silicone antifoam indicates fast defoaming, or initial foam collapse. The high activity of SagTex DSA silicone antifoam continues to suppress foam generation and to retain foam control for long periods of time. A competitive silicone antifoam emulsion is tested for comparison. SagTex DSA MB.indd_Chemical Structures_Image2.JPG

Patent Status

Standard copy to come

Product Safety, Handling and Storage

Standard copy to come

Limitations

Standard copy to come

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