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TECHNICAL BULLETIN

**Siltech® Foam Control
Compounds**

DESCRIPTION

Siltech® 2300, Siltech 2500, Siltech C-4800 and Siltech PA-140 are antifoam compounds designed for use in the most challenging foam control situations. These antifoam compound bases exhibit excellent durability, good knock down and good foam prevention properties.

USES AND APPLICATION

Siltech 2300, 2500, C-4800 and PA-140 are foam control agents for formulating highly effective antifoam dispersions or emulsions for aqueous systems. They can also be used as is or preferably diluted in a suitable carrier for non-aqueous systems.

Siltech 2300, 2500, C-4800 and PA-140 are effective at very low levels and show excellent durability to continuous or repeated foam generation in aqueous systems. The recommended usage level is up to 0.1 weight percent at the point in the process when foam is generated. It is preferred to add the antifoam before or while applying mixing or other shear forces.

Siltech 2300, 2500, C-4800 and PA-140 are used as foam control agents in many industrial chemical formulations where they are characteristically used as the only antifoaming active in strong foaming applications such as pulp and paper, laundry, jet-dyeing and other high-shear processes.

Uses for **Siltech 2300, 2500, C-4800 and PA-140**:

- Leather finishing: general foam control
- Pulp & Paper: Active in defoamers, knockdown enhancer, drainage aid
- Textile: Component of defoamers for knockdown and compatibilization.
- Automotive & household products: Foam control in laundry and other high foaming applications such as carpet cleaners
- Filled or pigmented paints
- Any non-aqueous industrial process used neat or diluted in solvent.

Siltech 2300, 2500, C-4800 and PA-140 are not generally recommended for clear coatings due to the risk of defects.

Key features and benefits:

- Highly effective and durable antifoaming and de-foaming
- Much more effective vs. conventional products
- Easy to formulate into stable emulsions

Quick Comparison

Product	Knock-down	Durability	Ease of Dispersion	Foam Control Level
Siltech 2300	Good	>60 min	Good	Good
Siltech 2500	Excellent	>300 min	Excellent	Very Good
Siltech C-4800	Good	>300 min	Excellent	Very Good
Siltech PA-140	Good	>300 min	Good	Excellent

HOW TO USE

Siltech 2300, 2500, C-4800 and PA-140 are designed to be an active component of water based defoamer formulations. The product used needs to be emulsified into water or your foaming system to minimize the risk of undesired side effects and to provide quick knockdown of foam. The emulsion preparation below is an example only.

Suggested formulation:

15.0%	Siltech® 2300
52.7%	Water I
30.0%	Water II
0.2 %	Thickening Agent e.g Carbopol 941
0.2%	NaOH 50%
0.1%	Biocide

Procedure:

1. Add Thickener to Water I and mix at 450 rpm until dispersed
2. Adjust pH to 6.5-7.5 using 50% NaOH
3. Add Siltech 2300 slowly, mix at 450 rpm
4. Add Water II and Biocide

It is important to mix the product prior to use. Particle size of these emulsions is critical to performance. The amount of shear during step 3 is the main factor in affecting this particle size.

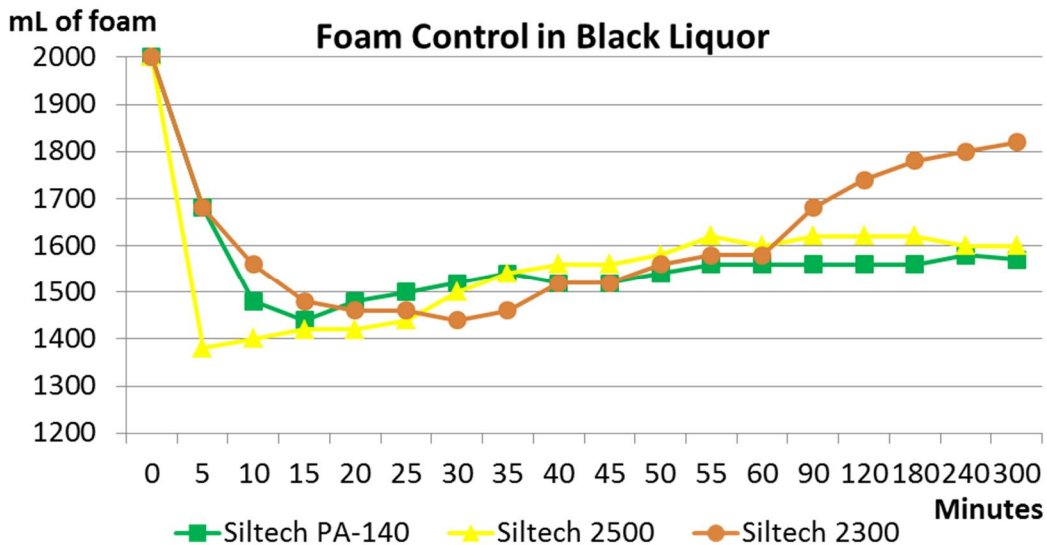
For non-aqueous systems, the product can be used neat, but is better used diluted in an appropriate carrier.

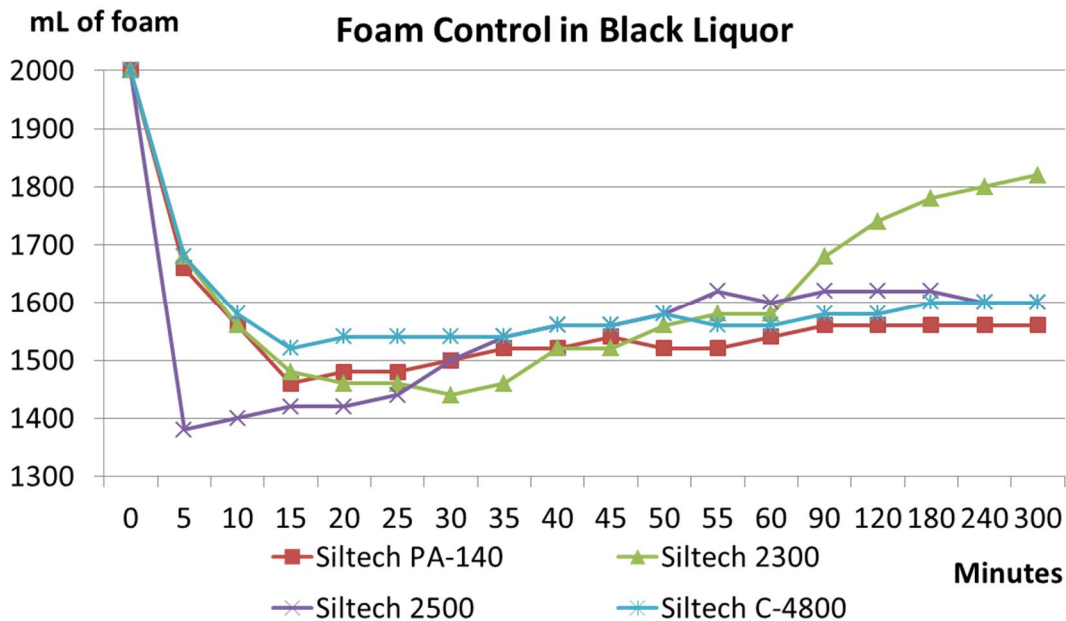
Application Data

These products were compared in a recirculating apparatus where the foaming solution is brought to an elevated temperature and pumped through the recirculation apparatus to create foam. The foam control agent is then added and data measurement begins.

Knock-down is the immediate decrease in foam height, and **durability** is the time at which control is maintained at some pre-defined foam height.

In the below data, we show the performance of these products using two different black liquor sources. Black liquor is an alkaline digestion of pulp used in the making of paper and is an extremely difficult environment for foam control agents. Actives are 55 ppm.





Siltech 2500 shows quick knock-down. In these systems, **Siltech 2300** is the least durable losing efficacy after 60 min in the alkaline broth. **Siltech PA-140** has moderate knockdown but strong durability and best control. **Siltech C-4800** is similar to **Siltech PA-140** but has better dispersibility.

SAFETY

Before handling, read the Material Safety Data Sheet and container label for safe use, physical and health hazard information.

THIS MATERIAL IS NOT FOR MEDICAL OR DRUG USE.

STORAGE AND SHELF LIFE

When stored in the original, unopened containers between 10 and 40⁰C, **Siltech[®] 2300, 2500, and PA-140** have a shelf life of 24 months from date of manufacture.

When stored in the original, unopened containers between 10 and 40⁰C, **Siltech[®] C-4800** has a shelf life of 12 months from date of manufacture.

PACKAGING

Siltech[®] 2300, 2500, C-4800 and PA-140 are available in 20kg and 200kg containers.

LEGAL DISCLAIMER

Siltech Corporation believes that the information in this technical data sheet is an accurate description of the typical uses of the product. Siltech Corporation, however, disclaims any liability for incidental or consequential damages, which may result from the use of the product that are beyond its control. Therefore, it is the user’s responsibility to thoroughly test the product in their particular application to determine its performance, efficacy and safety. Nothing contained herein is to be considered as permission or a recommendation to infringe any patent or any other intellectual property right.

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