Why and how is foam controlled?
To achieve maximum return on investment in processing equipment and raw materials, process foam must be controlled. Foam control promotes smooth, efficient operation and the production of consistent, high-quality products. There are two ways to control problem foam:
• Destroy it (defoamer)
• Prevent it (antifoam)
Defoamers – Chemicals or formulated products that destroy, or knock down, foam that has already formed. Defoamers, except in relatively large amounts, don’t prevent foam from forming.
Antifoams – Chemicals or formulated products that prevent the formation of foam. Sometimes antifoams are called defoamers and vice versa. When discussing these materials, it is important to notice at what point in the process they are used. There are other factors you should consider as well.

What should I consider when choosing an antifoam?
There are thousands of chemicals that behave as antifoams, either alone or in combination with others. When selecting an antifoam, you must consider numerous variables, including:
• Regulatory status
• Effectiveness
• Cost
• Service by the supplier
Antifoam products should be formulated to have minimal impact – other than foam suppression – on the products in which they are used. Generally, the smaller the amount of antifoam required, the less impact there will be on the product.

Antifoams – Chemicals or formulated products that prevent the formation of foam.

How do silicone antifoams work?
Basically, a silicone antifoam droplet or particle penetrates a bubble wall, spreading the liquid-gas interface and causing the bubble wall to become unstable and collapse.

How do silicone antifoams work?
Spreading the liquid-gas interface and causing the bubble wall to become unstable and collapse.

How do I know which antifoam to use?
To obtain the best antifoam for your process, you may want to work with an expert – such as a XIAMETER® brand distributor. You can also contact the XIAMETER® Technical Information Center or visit our website, www.xiameter.com. When requesting assistance, be prepared to answer these questions:
1. Is the system aqueous or nonaqueous?
2. Is the system high shear or low shear?
3. What is the temperature of the foaming system?
4. What is the pH?
5. What is the pressure?
6. What is the volume or batch size of the foaming material?
7. What are the processing conditions?

How can I test an antifoam?
Simulate the conditions in which the antifoam is expected to perform. Use a test medium that is similar – preferably identical – to the foaming medium in which the antifoam will be used.
Various test methods are available to assist in your evaluation:
• ASTM D 1173-53 simulates bubble formation at the base of a reaction vessel.
• ASTM D 1173-52 simulates bubble formation at the base of a reaction vessel.
• ASTM D 3919-76 uses a blender to simulate conditions of high shear and air entrainment.
• ASTM D 3601-77 simulates a low-shear foaming environment.

Whichever test method you choose, follow these procedures:
• Use only clean apparatus.
• Avoid cross-contamination between runs.
• Make multiple runs and statistical evaluations to avoid wrong conclusions.
• Compare your findings with in-plant performance.

For more information and technical data sheets, please visit www.xiameter.com.

How do I test an antifoam?
Spreading the liquid-gas interface and causing the bubble wall to become unstable and collapse.

Silicone foam control agents are available as fluids, compounds and emulsions and are suitable for use in both aqueous and nonaqueous systems. They have found success in a wide range of applications in diverse industries around the world, including:
• Chemical manufacturing
• Petrochemicals
• Food processing
• Wastewater treatment
• Metalworking
• Agrochemicals
• Textiles
• Paper and printing
• Adhesives and coatings

Silicone foam control is the solution.
When excess foam causes processing vessels to overflow, maintenance costs increase. Capacity is lost, reducing production efficiency. Processing time increases, and larger, more expensive equipment may be required to handle the foam.

Silicone foam control agents from Dow Corning eliminate problem foam. Eliminating foam can increase productivity and reduce your production costs.

Silicone foam control agents are available as fluids, compounds and emulsions and are suitable for use in both aqueous and nonaqueous systems. They have found success in a wide range of applications in diverse industries around the world, including:
• Chemical manufacturing
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• Food processing
• Wastewater treatment
• Metalworking
• Agrochemicals
• Textiles
• Paper and printing
• Adhesives and coatings
### General Product Information and Characteristics

**Active Ingredients, %**

<table>
<thead>
<tr>
<th>Product</th>
<th>Active Ingredients, %</th>
<th>Solvent/Dispersant</th>
<th><strong>Suitable Diluents</strong></th>
<th><strong>Powder (P), Compound (C), Fluid (F)</strong></th>
<th><strong>Concentration and Color</strong></th>
<th><strong>Emulsification System</strong></th>
<th><strong>Suitable Diluents</strong></th>
<th><strong>Food Contact Approval</strong></th>
<th><strong>Effective at High Temperatures</strong></th>
<th><strong>Usable in Strong Acid or Alkaline Systems</strong></th>
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*Note: Shelf life information can be found on the Xiameter® website (www.xiameter.com) product pages under “Sales Specification.”

### Major Applications for Silicone Foam Control Agents

**Foaming Environment or System**

**Aqueous**

**Aqueous or Nonaqueous**

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*To determine the concentration of antifoam required for a particular application, start at the recommended concentration. Results will indicate whether to increase or decrease the level of antifoam for optimum performance.*

*See product data sheet for details.*

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*Primary Recommendation*

*Alternate Recommendation*

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*Form No. 24-391.*

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*Refers to separate Dow Corning coating additive literature for antifoam recommendations for paints, inks and coatings.*