

Silicone Foam Control Agents for Household Cleaning Applications

The XIAMETER[®] brand offers a wide range of outstanding foam control products. These products **control** (foam control agents), **prevent** (antifoams), and **knock down** (defoamers) foam that occurs in both the manufacture of detergents and during their use by the consumer at home, or by professionals.

Process applications

Antifoams help maximize process efficiency by ensuring that unwanted foam does not slow down or shut down the manufacture of detergents. That's why the XIAMETER[®] brand offers antifoams to:

- Help all types of liquid processing
- Densify laundry powders, by de-airing the wet slurry in the spray-drying tower process
- Facilitate all types of bottle-filling operations promote foam

Consumer applications

Antifoams are also critical in many consumer applications. For example, in a laundry washing machine, a steady control of the foam is needed, rather than its complete elimination or prevention. Correct foam control is essential since consumers are very perceptive about foam levels. Moreover, incorrect foam levels can reduce the detergent's cleaning efficiency.

The most cost-effective solution

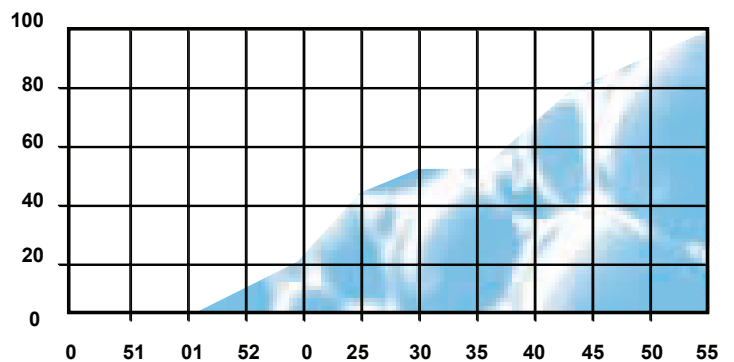
Thanks to their long-lasting performance and low use levels (typically 0.1 to 0.4%), silicone antifoams are recognised as the most cost-effective solution for foam control in detergents. They offer efficient and robust foam control with greater flexibility and functioning over a broad range of temperatures and wash conditions.

Ideal for liquid and powdered detergents

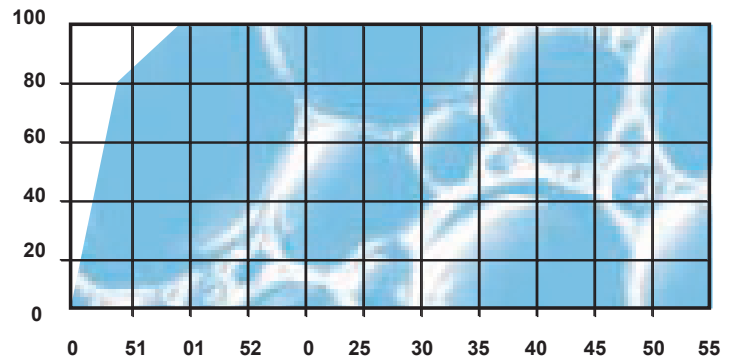
Silicone antifoam products (compounds and ready-to-use emulsions) can be stabilized in liquid detergents. In addition, granulated powder antifoams are available which can be easily incorporated, using a simple dry mixing process, into laundry powder and tablet detergents.

For powdered detergents the silicone must be carefully dispersed and protected in a powdered form to achieve superior foam performance. Powdered antifoams are stable in storage under extreme conditions of temperature and humidity, as demonstrated in Figure 1. Furthermore powdered silicone does not cake and is free-flowing so it is easily incorporated into your formulations.

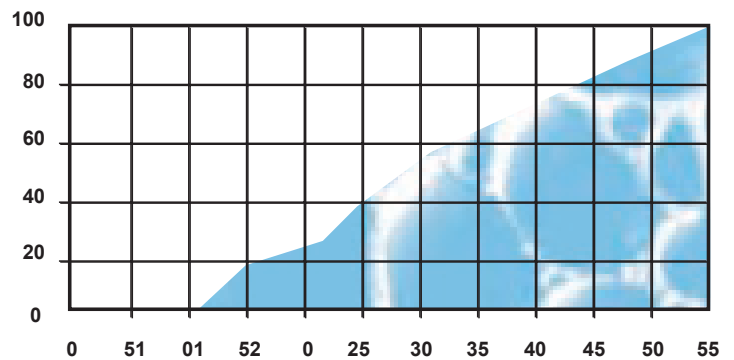
Figure 1: Powdered antifoam gives good protection of antifoam



Fresh antifoam: Good performance initially.



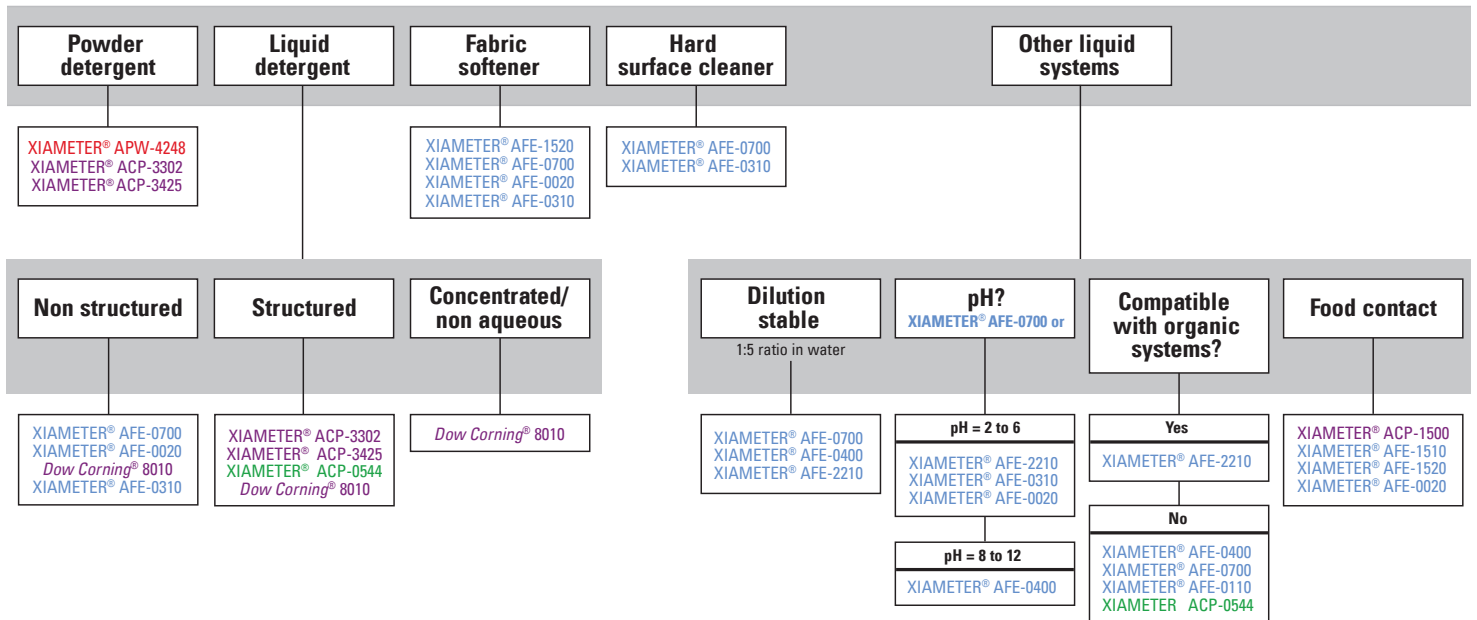
Aged unprotected antifoam: No protection, poor performance, bad stability.



Aged powdered antifoam: Good protection, good performance, good stability.

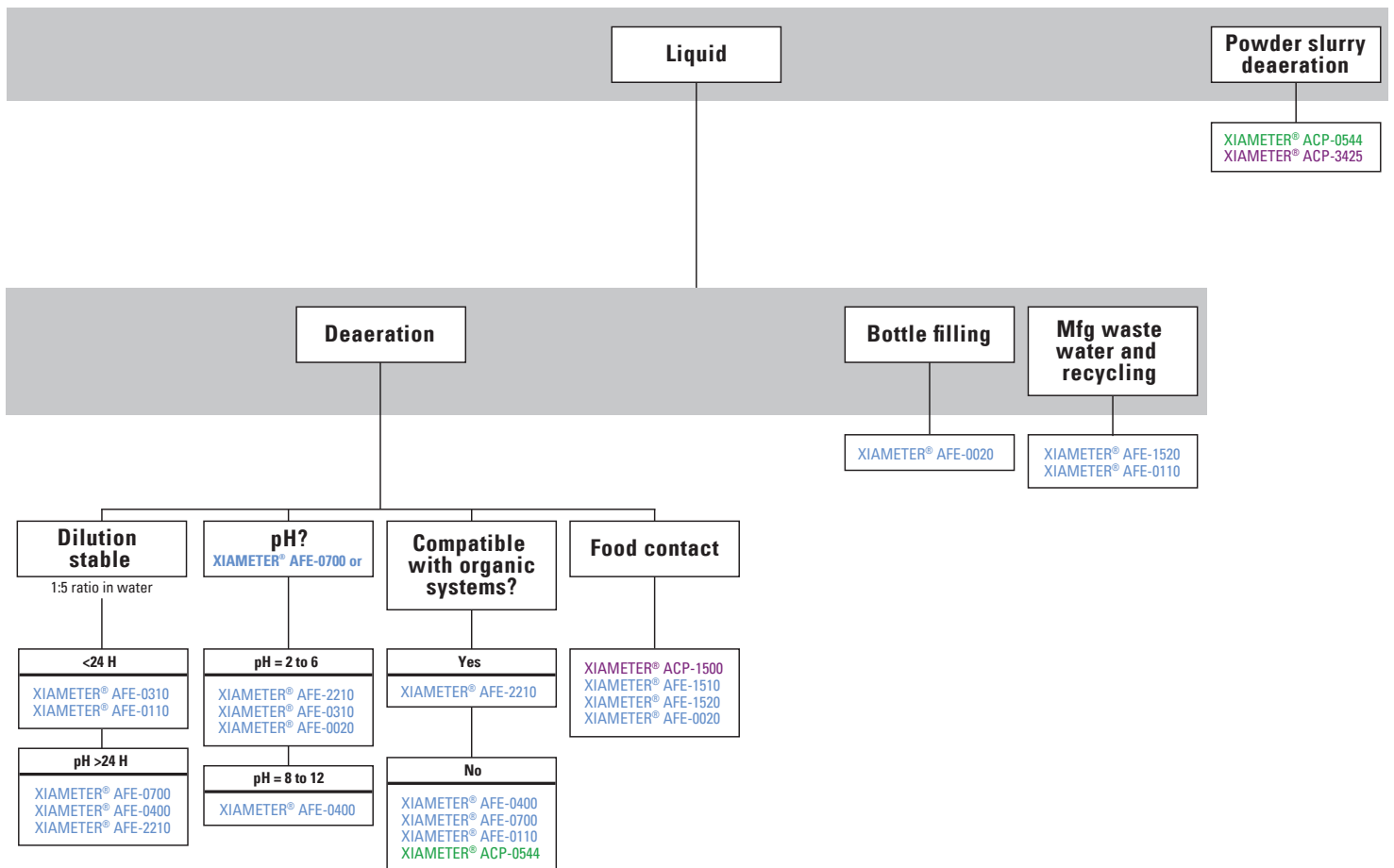
Antifoams for Consumer Benefits

Application type



Antifoams as Process Aids

Process type




XIAMETER® AFE-1430 Antifoam Emulsion is US equivalent to XIAMETER® AFE-0310 Antifoam Emulsion
 XIAMETER® AFE-1410 Antifoam Emulsion is US equivalent to XIAMETER® AFE-0110 Antifoam Emulsion
 XIAMETER® AFE-1430 Antifoam Emulsion is US equivalent to XIAMETER® AFE-0310 Antifoam Emulsion

Silicone Antifoams

Compounds


Silicone Antifoam Compounds are 100% active ingredients.

Product		Typical product properties			
		Active content (%)	Viscosity (cP)	Specific gravity	Food contact approved
	Dow Corning® 8010 Antifoam Compound	100	1900-2900	1.03	No
	XIAMETER® ACP-3302 Antifoam Compound	100	25300-29600	0.98-1.02	No
	XIAMETER® ACP-3425 Antifoam Compound	100	2600-3600	1.02-1.04	No
	XIAMETER® ACP-1500 Antifoam Compound	100	2000	1	Yes*

* See datasheet


Self-emulsifying Compound

To aid their dispersion in aqueous media, combinations of silicone antifoam compounds and non-aqueous dispersion delivery systems are also available. XIAMETER® ACP-0544 Antifoam Compound is a water dispersible 100% silicone antifoam compound containing hydrophobic silica, silicone surfactants and PDMS.

Product		Typical product properties			
		Active content (%)	Viscosity (cP)	Specific gravity	Food contact approved
	XIAMETER® ACP-0544 Antifoam Compound	30	2000-4000	1.03	No

Emulsions


Silicone Antifoam Emulsions are non-ionic aqueous emulsions of silicone antifoam compounds.

Product		Typical product properties			
		Active content (%)	Viscosity (cP)	Specific gravity	Food contact approved
	XIAMETER® AFE-0400 Antifoam Emulsion	10	500-2000	5.0-7.0	No
	XIAMETER® AFE-0110 Antifoam Emulsion	10	1000-6000	6.0-8.0	No
	XIAMETER® AFE-2210 Antifoam Emulsion	10	2700	7.0	No
	XIAMETER® AFE-0700 Antifoam Emulsion	10	1500	7.0-9.0	No
	XIAMETER® AFE-1510 Antifoam Emulsion	10	750	3.5	Yes*
	XIAMETER® AFE-1520 Antifoam Emulsion	20	1500	3.5	Yes*
	XIAMETER® AFE-0020 Antifoam Emulsion	20	700	3.5-5.0	Yes*
	XIAMETER® AFE-0310 Antifoam Emulsion	30	3000	3.0-5.5	No

* See datasheet

Powdered Antifoam

Silicone Powdered Antifoam is a granulated preparation of the antifoam compound. EAF (Encapsulated Antifoam) is made of 100% detergent active ingredients.

Product		Typical product properties					
		Active content (%)	Bulk density (cP)	Mean particle size (mm)	Cake strength (N)	Appearance	Food contact approved
	XIAMETER® APW-4248 Powdered Antifoam	12	740	0.500	Zero	White Free-flowing	No

Specification writers: These values are not intended for use in preparing specifications.

Please contact your local XIAMETER® brand sales representative prior to writing specifications on this product.

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.

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