Silicones Simplified
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XIAMETER® from DOW CORNING

XIAMETER® brand Silicones for Foam Control

Silicone antifoams from Dow Corning have been designed to safely and efficiently reduce problems with foam during processing or to serve as formulation aids.

The broad range of applications where silicone antifoams are used includes:

- Home laundry
- Detergent
- Textile dyeing and scouring
- Pulp and paper manufacturing
- Adhesives
- Latexes
- Emulsion polymerization
- Chemical production
- Food and beverage
- Distillation
- Paint and coating
- Gas/oil separation
- Refinery operations
- Drilling mud
- Gas treatment
- Lubricants
- Agrochemicals
- Metalworking
- Wastewater treatment
- Water desalination
- Fermentation
- Life sciences

Advantages of silicone antifoams

Silicone antifoams:

- Are effective at much lower dosage rates than organic antifoams, leading to significantly lower cost-in-use.
- Tend to be much more persistent (longer lasting) than organic antifoams
- Tend to be less reactive in the foaming medium, leading to fewer compatibility problems
- Are stable over a wide temperature range

Suggested Usage Level:

A typical usage level is 50 parts per million silicone for industrial applications. This level will depend on the exact application, as factors such as the pH, temperature, shear and formulation composition will affect the antifoaming performance.

Antifoam Types

Fluid: Inert, low-toxicity silicone fluids, available in a wide range of viscosities. Good option for controlling foam in nonaqueous applications.

Dispersion: Aliphatic solvent dispersion of fluids. Mainly used in oil and gas applications.

Compound: Silicone fluids containing a suspension of finely powdered silica to enhance their defoaming efficiency. Primarily used in nonaqueous applications.

Emulsion: Emulsified antifoam compound in water. Good option for controlling foam in aqueous applications.

Concentrate: High-concentration, self-emulsifiable products.

Powder: Solid powdered compound antifoam. Can be added to dry products to prevent foaming when liquids are added.

Foam Control Keywords

Antifoams are added to prevent foam from occurring.

Defoamers are added to reduce or eliminate foam after it has formed.

Foam Control is a general term to describe defoaming and/or antifoams.

Knockdown is a measure of the reduction of the foam height upon addition of a defoamer. While the rapidness of foam being eliminated is important, the critical measure is reduction of foam height.

Persistency is a measure of how long the antifoam performs.

Product Name	Active Content, %	50 ppm Active, kg/1000 kg	Usable Life, months	Current Geographic Availability	Food Grade[1]	Effective at High Temperature (>95°C)	Performance After High-Temperature Aging (10 days @ 80°C)	Performance at High Shear (10 min @ 4500 rpm)	Performance at Low pH (pH < 3)	Performance After Low pH Aging (10 days @ pH < 3)	Performance at High pH (pH > 13)	Performance After High pH Aging (10 days @ pH > 13)	Persistency	Performance After 1% Active Predilution Aging (10 days @ pH7)	Knockdown	Suitable Diluent	1/10 Emulsion Prediltution Stability (12 hr)	Dilution Stability After High Shear (10 min @ 4500 rpm)	Dilution Stability After High-Temperature Aging (10 days @ 80°C)	Dilution Stability After Low pH Aging (10 days @ pH < 3)	Dilution Stability After High pH Aging (10 days @ pH > 13)	Dilution Stability After 1% Active Prediliution Aging (10 days @ pH7)	Deposition Risk (1 hr @ 80°C)
Emulsions																							
XIAMETER® AFE-0010 Antifoam Emulsion FG	10	0.5	36	All regions outside Europe	Y	Y	NE	NE	Y	NE	N	NE	L	NE	H	Demineralized water	L	NE	NE	NE	NE	NE	NE
XIAMETER® AFE-0110 Antifoam Emulsion	10	0.5	12	Europe	N	Y	NE	NE	Y	NE	Y	NE	L	NE	M	Demineralized water	M	NE	NE	NE	NE	NE	NE
XIAMETER® AFE-0200 Antifoam Emulsion	10	0.5	24	Global	N	Y	NE	NE	Y	NE	N	NE	L	NE	H	Demineralized water	M	NE	NE	NE	NE	NE	NE
XIAMETER® AFE-0400 Antifoam Emulsion	10	0.5	18	All regions outside Americas	N	Y	T	N	Y	Y	Y	Y	L	Y	H	Demineralized water	H	L	M	M	L	L	L
XIAMETER® AFE-0700 Antifoam Emulsion	10	0.5	15	Global	N	Y	Y	Y	Y	Y	Y	T	H	Y	M	Demineralized water	H	L	M	L	M	H	M
XIAMETER® AFE-1010 Antifoam Emulsion	10	0.5	36	All regions outside Europe	N	Y	Y	N	Y	Y	N	N	L	Y	H	Demineralized water	L	L	L	L	L	L	L
XIAMETER® AFE-1410 Antifoam Emulsion	10	0.5	12	All regions outside Europe	N	Y	NE	NE	Y	NE	Y	NE	L	NE	M	Demineralized water	L	NE	NE	NE	NE	NE	NE
XIAMETER® AFE-1510 Antifoam Emulsion	10	0.5	24	Global	Y	Y	NE	N	Y	NE	Y	NE	L	NE	H	Demineralized water	L	NE	NE	NE	NE	NE	NE
XIAMETER® AFE-2010 Antifoam Emulsion	10	0.5	12	All regions outside Americas	N	Y	Y	N	Y	N	Y	T	L	Y	H	Demineralized water	M	L	M	M	M	M	L
XIAMETER® AFE-0020 Antifoam Emulsion	20	0.25	12	All regions outside Americas	N	Y	N	T	Y	Y	Y	Y	H	Y	H	Demineralized water	NE	M	M	M	L	M	H
XIAMETER® AFE-1226 Antifoam Emulsion	20	0.05	8	Global	N	Y	NE	NE	Y	NE	Y	NE	L	NE	H	Demineralized water	H	NE	NE	NE	NE	NE	NE
XIAMETER® AFE-1520 Antifoam Emulsion	20	0.25	24	Global	Y	Y	T	N	Y	Y	Y	N	L	Y	H	Demineralized water	M	M	L	L	L	L	L
XIAMETER® AFE-3101 Antifoam Emulsion	20	0.25	12	Global	N	Y	N	T	Y	Y	Y	Y	H	Y	H	Demineralized water	NE	M	M	M	L	M	H
XIAMETER® AFE-0600 Antifoam Emulsion	28	0.18	12	Asia	N	Y	Y	T	Y	Y	Y	T	L	Y	H	Demineralized water	M	H	M	M	M	M	L
XIAMETER® AFE-0030 Antifoam Emulsion	30	0.17	12	Global	N	Y	NE	NE	Y	NE	N	NE	L	NE	M	Demineralized water	L	NE	NE	NE	NE	NE	NE
XIAMETER® AFE-0100 AF Emulsion FG	30	0.17	18	Global	Y	Y	NE	NE	Y	NE	N	NE	L	NE	H	Demineralized water	L	NE	NE	NE	NE	NE	NE

Key: NE – Not evaluated; T – Top (improved performance); Y – Yes (limited or no loss of performance); N – No (loss of performance); H – High; M – Medium; L – Low.
[1]Please refer to "XIAMETER® brand Silicones for Foam Control in the Food Processing Industry," Form No. 95-1082.

Product Name	Active Content, %	50 ppm Active, kg/1000 kg	Usable Life, months	Current Geographic Availability	Food Grade[1]	Effective at High Temperature (>95°C)	Performance After High-Temperature Aging (10 days @ 80°C)	Performance at High Shear (10 min @ 4500 rpm)	Performance at Low pH (pH < 3)	Performance After Low pH Aging (10 days @ pH < 3)	Performance at High pH (pH > 13)	Performance After High pH Aging (10 days @ pH > 13)	Persistency	Performance After 1% Active Prediution Aging (10 days @ pH7)	Knockdown	Suitable Diluent	1/10 Emulsion Prediution Stability (12 hr)	Dilution Stability After High Shear (10 min @ 4500 rpm)	Dilution Stability After High-Temperature Aging (10 days @ 80°C)	Dilution Stability After Low pH Aging (10 days @ pH < 3)	Dilution Stability After High pH Aging (10 days @ pH > 13)	Dilution Stability After 1% Active Prediution Aging (10 days @ pH7)	Deposition Risk (1 hr @ 80°C)
XIAMETER® AFE-0310 Antifoam Emulsion	30	0.17	12	Europe	N	Y	T	N	Y	Y	Y	Y	L	Y	M	Demineralized water	M	M	L	M	L	M	M
XIAMETER® AFE-1247 Antifoam Emulsion	30	0.17	6	All regions outside U.S.	N	Y	NE	NE	Y	NE	Y	NE	L	NE	L	Demineralized water	H	NE	NE	NE	NE	NE	NE
XIAMETER® AFE-1430 Antifoam Emulsion	30	0.17	12	All areas outside Europe	N	Y	NE	NE	Y	NE	Y	NE	L	NE	M	Demineralized water	M	NE	NE	NE	NE	NE	NE
XIAMETER® AFE-3168	30	0.17	12	Global	N	Y	NE	NE	Y	NE	Y	NE	NE	NE	NE	Demineralized water	M	NE	NE	NE	NE	NE	NE
XIAMETER® AFE-0013	50	0.1	12	Asia	N	Y	NE	NE	Y	NE	Y	NE	L	NE	L	Demineralized water	M	NE	NE	NE	NE	NE	NE
XIAMETER® AFE-0050 Antifoam Emulsion	50	0.1	18	Global	N	Y	Y	Y	Y	Y	Y	Y	H	Y	H	Demineralized water	L	H	L	L	L	L	H
XIAMETER® AFE-7500 Antifoam Emulsion	50	0.1	12	Global	N	Y	Y	N	Y	Y	Y	T	H	Y	H	Demineralized water	NE	L	M	M	M	M	H
XIAMETER® AFE-7600 Antifoam Emulsion	50	0.1	12	All regions outside Americas	N	Y	Y	Y	Y	Y	Y	T	H	Y	H	Demineralized water	NE	M	M	M	M	M	H
XIAMETER® AFE-3034 Antifoam Emulsion	50	0.1	18	All regions outside Americas	N	Y	T	NE	Y	N	Y	N	L	N	L	Demineralized water	L	H	L	M	M	M	L
Compounds																							
XIAMETER® ACP-0080 Antifoam Compound	100	0.05	8	Global	N	Y	N	T	Y	N	Y	T	L	N	M	Demineralized water	H	H	L	L	L	H	L
XIAMETER® ACP-0100 Antifoam Compound	100	0.05	12	Europe	N	Y	NE	NE	Y	NE	Y	NE	L	NE	M	Aliphatic or Aromatic solvents	H	NE	NE	NE	NE	NE	NE
XIAMETER® ACP-0544 Antifoam Compound	100	0.05	12	Global	N	Y	NE	NE	Y	NE	Y	NE	L	NE	L	Demineralized water	L	NE	NE	NE	NE	NE	NE
XIAMETER® ACP-1000 Antifoam Compound	100	0.05	24	Global	N	Y	NE	NE	Y	NE	Y	NE	L	NE	H	Aliphatic solvents	H	NE	NE	NE	NE	NE	NE
XIAMETER® ACP-1266 Antifoam Compound	100	0.25	8	Global	N	Y	Y	T	Y	Y	Y	Y	H	Y	M	Demineralized water	NE	H	L	M	L	L	L
XIAMETER® ACP-1400 Antifoam Compound	100	0.05	36	All regions outside Europe	N	Y	NE	NE	Y	NE	Y	NE	L	NE	M	Aliphatic or Aromatic solvents	H	NE	NE	NE	NE	NE	NE
XIAMETER® ACP-1500 Antifoam Compound	100	0.05	36	Global	Y	Y	NE	NE	Y	NE	Y	NE	L	NE	H	Food grade glycols	L	NE	NE	NE	NE	NE	NE
XIAMETER® ACP-3183 Antifoam Compound	100	0.05	12	Global	N	Y	NE	NE	Y	NE	N	NE	L	NE	H	Demineralized water	L	NE	NE	NE	NE	NE	NE

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Powders																							
XIAMETER® ACP-1920 Powdered Antifoam	20	0.25	36	Global	Y	Y	NE	NE	Y	NE	Y	NE	L	NE	H	Aliphatic solvents, Demineralized water, food grade glycols	L	NE	NE	NE	NE	NE	NE

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Contact Us

Visit **www.xiameter.com** to learn more about the many product options available to you from the XIAMETER® brand.

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