CHT
SMART CHEMISTRY
WITH CHARACTER.

HANSA® XFOAM

SILICONE ANTIFOAM & DEFOAMER SOLUTIONS FOR
SMOOTH APPLICATION AND PRODUCTION PROCESSES

GENERAL INFORMATION

The key difference between an antifoam and a defoamer is that antifoam agents can prevent foam from forming, whereas defoamers can control the amount of existing foam, and are generally applied as needed.

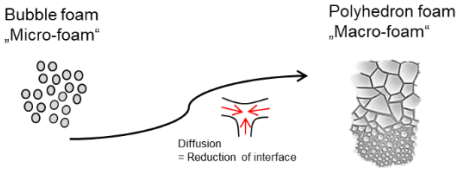
Industrial producers use these kind of additives in their formulations if they anticipate the tendency for the formation of foam during its use. Antifoams are generally slightly soluble in foaming solutions and can serve to decrease the surface tension. The most common class of antifoams include high boiling alcohols, polydimethylsiloxanes, and various silicone compounds with silica.

Defoamers are useful in similar industries by controlling the existing foam in liquids. These kind of additives eliminate any existing foam in liquid systems, but they generally do not prevent the future formation of new foam. The most common class of defoamers include insoluble oils, polyethersiloxane concentrates and compounds, stearates as well as EO/PO glycol copolymers.

CHT`s highly concentrated HANSA® XFOAM solutions based on tailor-made polysiloxanes combine high process safety with long-term performance.

FOAM STABILIZATION MECHANISM

Building of foam lamellae with surfactant double layers by interfacial tension reduction:



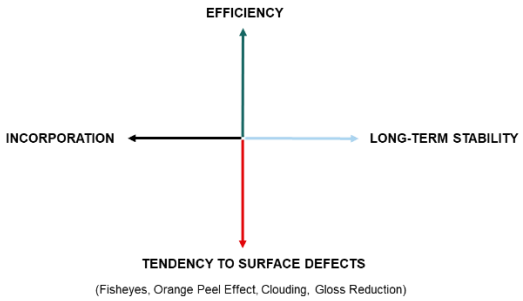
In addition, both the so-called drainage-effect (filling the vesicles with new liquid) and electrostatic repulsion support foam stabilization.

CHARACTERISTICS

General properties of silicone-based antifoams & defoamers:

- High efficiency, low dosage
- Excellent persistence
- Effective on macro & micro foam
- Stable at pH 2 to pH 11
- Active in hot & cold systems
- Free of BTX, SVHC, and VOC

The final performance will be affected by the level of material incompatibility in the application.



APPLICATION FIELDS

- Chemical Production additives
- Water-based dispersions
- Coating materials
- Distillation & Extraction processes
- Pulp & Paper
- Wastewater treatment
- Metalworking fluids & lubricants
- Agriculture formulations
- Cleaning agents
- Food & Beverage processing

CHT PORTFOLIO OF ANTIFOAMS

POLYDIMETHYLSILOXANES (FORMULATED COMPOUNDS)

Product	Active [%]	CAS no.	Polarity	Viscosity [mPas]
ICM AF 100	~ 100	63148-62-9	- -	3000
ICM XAF 101	~ 100	63148-62-9	-	10000
ICM XAF 102	~ 100	63148-62-9	+	10000
HANSA XFOAM I 6015	~ 100	63148-62-9	- - -	550

POLYDIMETHYLSILOXANES (EMULSIONS)

Product	Active [%]	Recommended for	pH	Viscosity [mPas]
TA 10	~ 10	Macro foam	3 - 4	3000
TA 20	~ 20	Macro foam	3 - 4	2000
TA 30	~ 30	Macro foam	3 - 4	2000
ICM XAF 40	~ 40	Macro & Micro foam	4 - 5	2000

FOOD GRADE ANTIFOAMS

Product	Active [%]	Regulations	pH	Viscosity [mPas]
HANSA XFOAM F 6105	~ 5	US FDA CFR 21 173.340 European Union EU 1129/2011 & 231/2012 German BfR Kosher & Halal	3 - 4	3000
HANSA XFOAM F 6110	~ 10		3 - 4	2000
HANSA XFOAM F 6120	~ 20		3 - 4	2000
HANSA XFOAM F 6130	~ 30		3 - 4	2000
HANSA XFOAM F 6195	~ 25		3 - 6	1000 - 2000

CHT PORTFOLIO OF DEFOAMERS

POLYETHERSILOXANES (CONCENTRATES)

Product	Silicone [%]	End-Group	CAS no.	Polarity	Viscosity [mPas]
HANSA XFOAM I 1075	~ 40	OH	68937-55-3	+	650 - 1000
HANSA XFOAM I 1080	~ 20	OH	68937-55-3	++	500 - 800
HANSA XFOAM I 1085	~ 20	OH	68937-55-3	+++	500 - 800
HANSA XFOAM I 1090	~ 23	O-Bu	68440-66-4	-	300 - 600
HANSA XFOAM I 1095	~ 44	O-Bu	68440-66-4	- -	300 - 600

POLYETHERSILOXANES (COMPOUNDS)

Product	Silica [%]	Concentrate	Defoaming properties	Viscosity [mPas]
HANSA XFOAM I 5080	~ 6	HANSA XFOAM I 1080	++	2000 - 5000
HANSA XFOAM I 5085	~ 6	HANSA XFOAM I 1085	+	2000 - 5000
HANSA XFOAM I 5090	~ 6	HANSA XFOAM I 1090	+++	1000 - 2500
HANSA XFOAM I 5095	~ 4	HANSA XFOAM I 1095	++++	500 - 3500

POLYETHERSILOXANES (EMULSIONS)

Product	Active [%]	Recommended for	Polarity	Viscosity [mPas]
HANSA XFOAM I 1175	~ 20	Deaeration	+++	100 - 300
HANSA XFOAM I 1183	~ 20	Deaeration	++++	< 100
HANSA XFOAM I 1184	~ 20	Micro foam	++	< 100
HANSA XFOAM I 1117	~ 17	Micro foam	+	500 - 1000
HANSA XFOAM I 1110	~ 10	Macro foam	-	1000 - 2500
HANSA XFOAM I 1115	~ 15	Macro foam	-	1000 - 2500
HANSA XFOAM I 1135	~ 20	Macro foam	0	1500 - 3000
HANSA XFOAM I 5144	~ 20	Foam knock-down	-	200 - 400
HANSA XFOAM I 5160	~ 70	Foam knock-down	- -	1900 - 3100

CHT Germany GmbH
Bismarckstraße 102
72072 Tübingen
www.cht.com

Technical Service
BU Industrial Production
Tel. +49 7071 154 462
formulation-additives@cht.com