

SILCOLAPSE®

The art of foam control

Bluestar Silicones. Delivering Your Potential.

BLUESTAR
SILICONES

Bluestar Silicones antifoams

Bluestar Silicones is one of the world's leading fully integrated silicone manufacturers with application and research laboratories, production sites and sales offices located around the globe.

We focus on developing state-of-the-art application expertise to help our customers challenge their boundaries.

At Bluestar Silicones, we're more than just manufacturers of high quality silicone products. We are dedicated people located around the globe committed to your success.

From technical support, to customized formulations, Bluestar Silicones has the people in place when and where you need them.

Bluestar Silicones is dedicated to serving the Antifoam market by building a lasting partnership you can rely upon. A silicone producer for more than 50 years, Bluestar Silicones is committed to serving its customers by respecting all regulatory standards and offering you extensive service, material expertise, and helping you in your sustainable development policy.

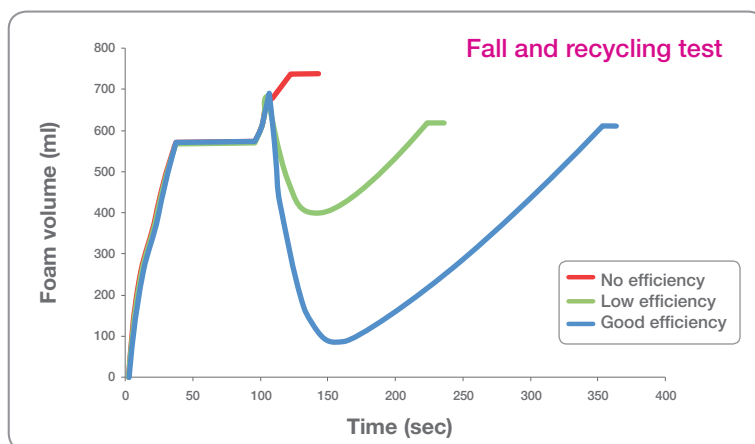
Our Technical Service

From laboratory testing to the industrial trials, our teams help you to choose the best antifoam/defoamer.

All quality controls are made in reference standard NF T-77 112.

In addition, we carry out other tests to regularly measure the effectiveness of our products with for example:

- Fall and recycling test: NF T-73 412
- Gas bubbling test: NF T-73 413
- Shaking test: NF T-77 112
- Washing machine test for detergency
- Ross-Miles test for diesel fuel: NF M-07 075



What type of foam control agent do you need? Do you need a liquid or a solid? A water free or a water based product? If aqueous what is the pH? What is the temperature of the system? What is your foaming material? Is there any regulation status requested? Which defoamer are you currently using?

Our experts have the competence & equipment to answer all these questions, to test your systems with several **SILCOLAPSE®** antifoams to define the best optimum **SILCOLAPSE®** product, and check which **SILCOLAPSE®** is most compatible with your formulation.



Our applications



Water treatment

Our SILCOLAPSE® defoamers are used in:

- domestic and industrial waste water treatment.

Thanks to the harmless nature of our silicones:

- our customers achieve compliance with environmental standards.

Oil and gas

Our SILCOLAPSE® defoamers improve overall productivity in oil and gas operations:

- drilling
- extracting
- producing
- purification process
- separation process.

Our silicone formulations are classified non-toxic in aquatic environments (algae and marine fauna).



Chemical industries

Our SILCOLAPSE® defoamers are used to:

- control and regulate foam in numerous processes like synthesis, distillation, transfer, filtration...

And are optimized to:

- withstand the most hostile environments, whether very strongly acid or alkaline.

Agrochemicals

Our SILCOLAPSE® antifoams have been developed to control foam:

- during manufacturing of pesticides and specialty fertilizers
- in tank mix spray applications
- in accordance with Agricultural (Ag) regulations.



Pulp

Our SILCOLAPSE® antifoams are used in pulp mills for both hardwood and softwood to:

- speed up pulp washing and drainage.

Our range includes:

- ready-to-formulate silicone compounds
- ready-to-use emulsions.

SILCOLAPSE® defoamers present:

- outstanding knock down
- high durability in high temperature and high alkaline foaming media
- no deposit on cellulose fibers.



A quality system certified to NF EN ISO 9001: 2008 and NF EN / AS 9100 standard

- Regulatory assistance
- Quality assurance throughout the world
- Dynamic innovation based on partnership
- The assurance of an ecological solution



An ongoing commitment to safety, protection of health and the environment

Having signed its name to the U.I.C. (Chemical Industry's Union) commitment to progress, Bluestar Silicones is committed to manufacturing its products and carrying out its operations with a continuous focus on improving safety and protecting health and the environment.

The **SILCOLAPSE®** range: unique in its ability to solve all your foam control problems

What is foam?

Foam often results from contamination of a pure liquid by dirt, surfactants, pigments or metabolized waste. It is a dispersion of gas in a continuous phase. Foam is thermodynamically unstable but remains because of:

- the nature and proportion of surfactants (mainly impurities)
- the viscosity of the medium.

Why is foam a problem?

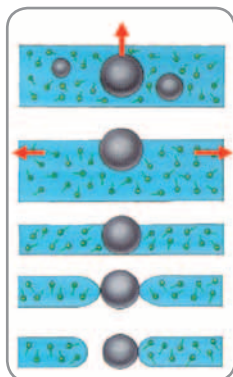
- Less productivity, loss of product, loss of plant efficiency...
- Product defects: voids in inks, paints & coating, adhesion loss, spots in textile...
- Safety hazards: liquid levels misreadings, liquid overflowing...
- Eye irritation risks
- Environmental hazards.

How do silicone antifoams work?

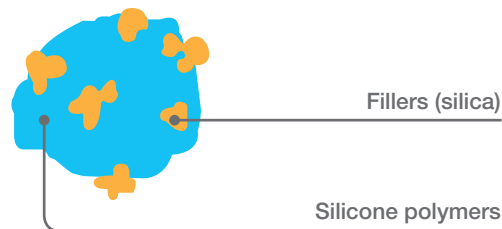
A silicone antifoam droplet penetrates a bubble wall, and spreads on the liquid-gas interface causing the bubble wall to become unstable and collapse.

Antifoam mechanism

- 1- Antifoam introduction in the film between the air bubbles
- 2- Silicone spreading on the film surface > Drainage
- 3- Film dewetting - Bridging
- 4- Film breaking and air release

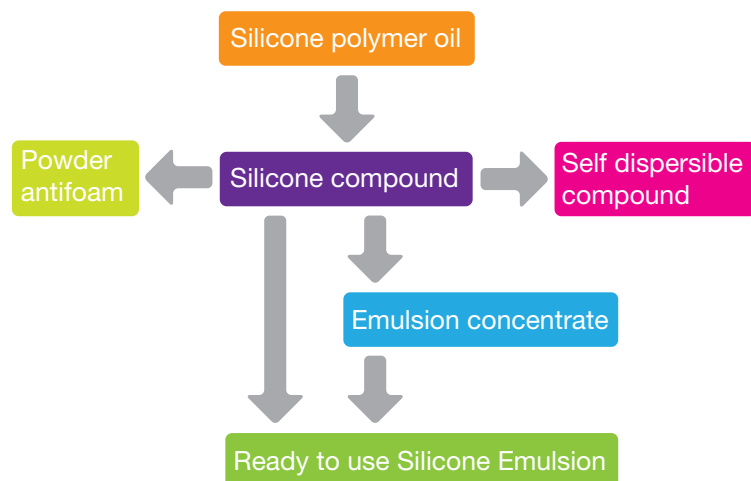


Compounds are recommended for non aqueous foaming media.



Emulsions are recommended for aqueous foaming media.

What is an emulsion? Emulsion is a dispersion of an antifoam compound in water, stabilized by surfactants. For some applications, compounds can be solid supported to be provided in powder form.



Note:

- Foam destroying agents are called "defoamers".
- Foam preventive substances are known as "antifoam agents".
- Bubbles preventive agents are called "deaerating" agents.

Antifoaming and defoaming benefits of silicone compared to organic antifoams:

- Lower surface tension, greater defoaming action
- Better resistance to heat and chemicals
- Chemically inert, no reaction with other substances
- Persistence, longer lasting action
- Cost efficiency thanks to its effectiveness and persistence at low use levels
- Highly safe and environmentally compatible.

Bluestar Silicones throughout the world

Commonwealth of Independent States (CIS),

Middle East, Eastern Europe, Africa

Bluestar Silicones France SAS

21, avenue Georges Pompidou
F - 69486 Lyon cedex 03
Tel. + 33 (0)4 72 13 19 00
Fax + 33 (0)4 72 13 19 88

France, Belgium, Luxembourg, the Netherlands

Bluestar Silicones France SAS

Customer Service

55, rue des Frères Perret
F - 69191 Saint-Fons cedex
Tel. + 33 (0)4 72 73 71 00
Fax + 33 (0)4 72 73 76 58

Italy

Bluestar Siliconi Italia SpA

Via Archimede, 602
I - 21042 Caronno Pertusella (Va)
Tel. + 39 02 96 41 41
Fax + 39 02 964 50 209

Germany, Switzerland, Austria

Bluestar Silicones Germany GmbH

Borsigstrasse 1
D - 51381 Leverkusen
Tel. + 49 (0) 2171 91349 0
Fax + 49 (0) 2171 91349 10

Spain, Portugal

Bluestar Siliconas España SA

C/Vic 3, Poligono Industrial La Florida
E - 08130 Santa Perpètua de Mogoda (Barcelona)
Tel. + 34 935 040 200
Fax + 34 935 608 049

Norway, Sweden, Denmark

Bluestar Silicones Scandinavia A/S

Dronningensgate 6
N - 0152 Oslo
Tel. + 47 22 91 07 60
Fax + 47 22 91 07 64

Finland

Bluestar Silicones Finland OY

Eskolantie 1 A
FI - 00720 Helsinki
Tel. + 358 9 350 877 30
Fax + 358 9 350 877 17

United Kingdom, Ireland

Bluestar Silicones UK Ltd

Wolfe Mead, Farnham Road
Bordon, Hampshire GU35 0NH
Tel. + 44 14 20 477 000
Fax + 44 14 20 483 200

USA - Canada

Bluestar Silicones North America

Two Tower Center Blvd - Suite 1601
East Brunswick - NJ 08816 - 1100 - USA
Tel. + 1 732 227 2060
Fax + 1 732 249 7000

Latin America

Bluestar Silicones Brasil Ltda

Av. Maria Coelho Aguiar, 215
Bloco G - 1º ANDAR - São Paulo - Brazil
CEP : 05804-902
Tel. + 55 11 37 47 78 87
Fax + 55 11 37 41 77 18

Hong Kong - Asia Pacific Regional Office

Bluestar Silicones Hong Kong Trading Co., Ltd

29/F, 88 Hing Fat Street
Causeway Bay, Hong Kong
Tel. + 852 3106 8200
Fax + 852 2979 0241

China

Bluestar Silicones Shanghai Co., Ltd

3966 Jin Du Road
Xin Zhuang Industrial Zone
Shanghai 201108, China
Tel. + 86 (0)21 5442 6600
Fax + 86 (0)21 5442 3733

Korea

Bluestar Silicones HK Trading Co., Ltd

Korea Branch 17/F, Kangnam Bldg., 1321-1,
Seocho Dong, Seocho Gu, Seoul, Korea
Tel. + 82 (0)2 3472 5137
Fax + 82 (0)2 3472 5007

Japan

Bluestar Silicones Hong Kong Trading Co., Ltd

Roppongi First Building, 1-9-9 Roppongi, Minato-Ku,
Tokyo, 106-8540, Japan

For detailed commercial contacts please visit our website:
www.bluestarsilicones.com

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Bluestar Silicones France SAS

21, avenue Georges Pompidou
F-69486 Lyon Cedex 03 - France
Tel. : +33 (0)4 72 13 19 00 - Fax : +33 (0)4 72 13 19 88

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