

TEGO[®] Antifoam products for the Production of SBR-Latex & SBR-Rubber

BL Interface & Performance



Two Types of Styrene Butadiene Rubber (SBR)

1. SBR-Latex

- Synonyms: SB-Latex, SBR liquid
- Liquid material
- Main applications: paper coating, carpet backside, foams, asphalt
- 40% of globally produced SBR

2. SBR-Rubber

- Synonyms: SBR, SBR-Elastomer, SB-Elastomer, SB-Rubber
- Solid material, properties similar to natural rubber, cross-linkable
- Main applications: tires, tubes, mechanical rubber goods, shoe sole
- 60% of globally produced SBR

1. SBR-Latex and its Main Applications



Paper coatings



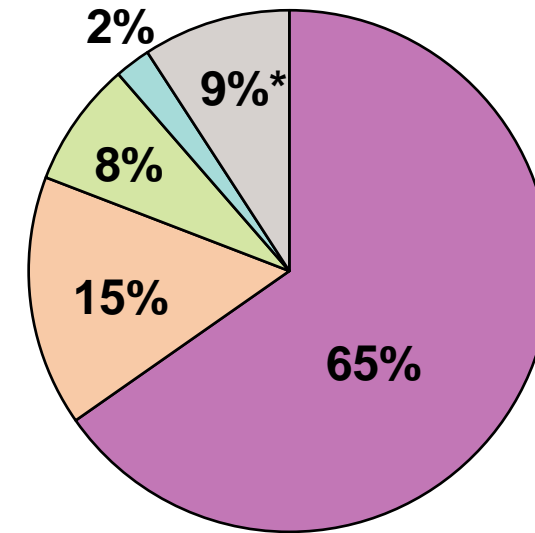
Carpet backings



Foams & adhesives

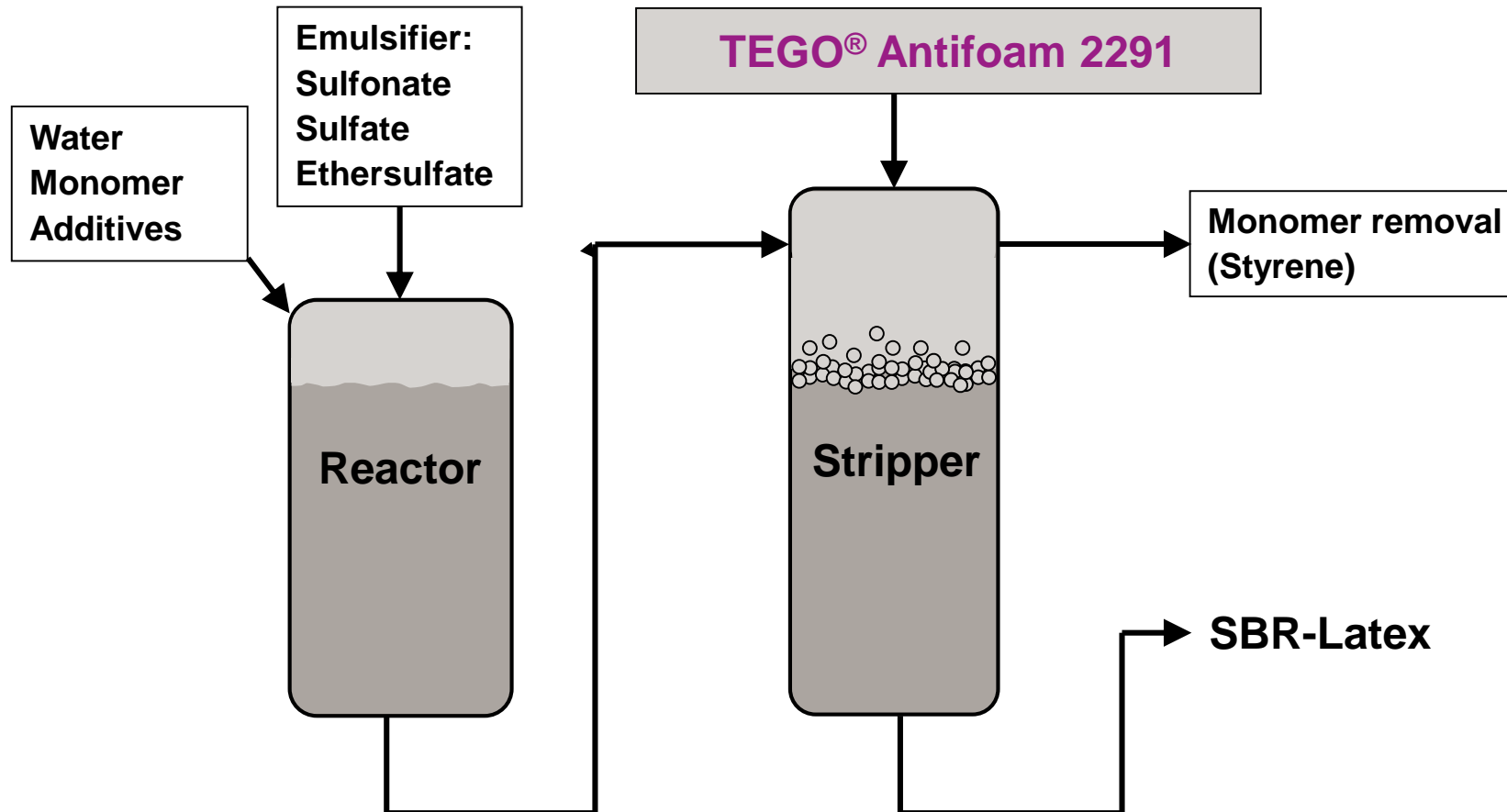


Asphalt modification

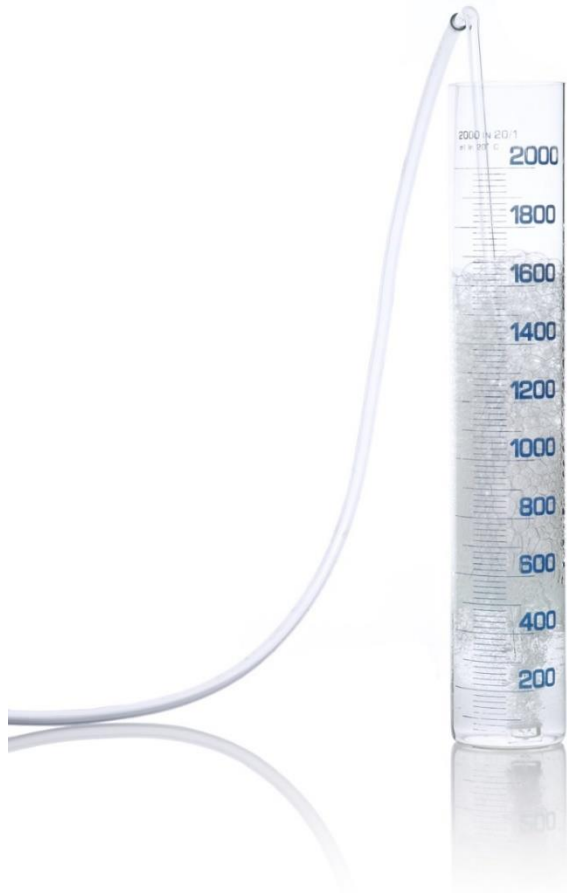


Total market: 3,2 Mio t

TEGO® Antifoam in the Production of SBR-Latex



Test Method – Sintered Glass Test



Preparation

One liter surfactant solution is poured into a 2-litre graduated cylinder. Defined amount of prediluted antifoam is added.

Test

Six liters of air per minute are bubbled through the sintered glass into the solution whereby foam is formed.

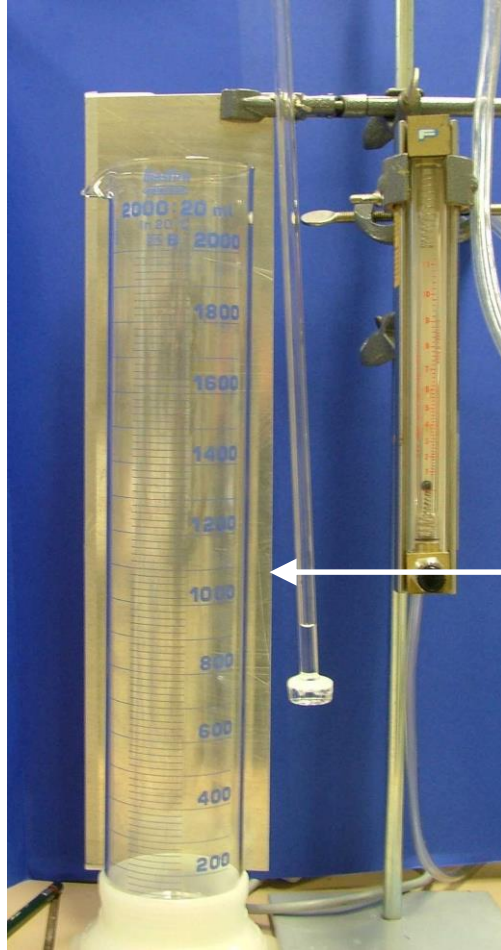
When the foam reaches the 2 liter mark antifoam is added again and the time is noted. This is done for 30 minutes.

Analysis

The total number of dosages is used as measurement for the antifoam's efficiency.

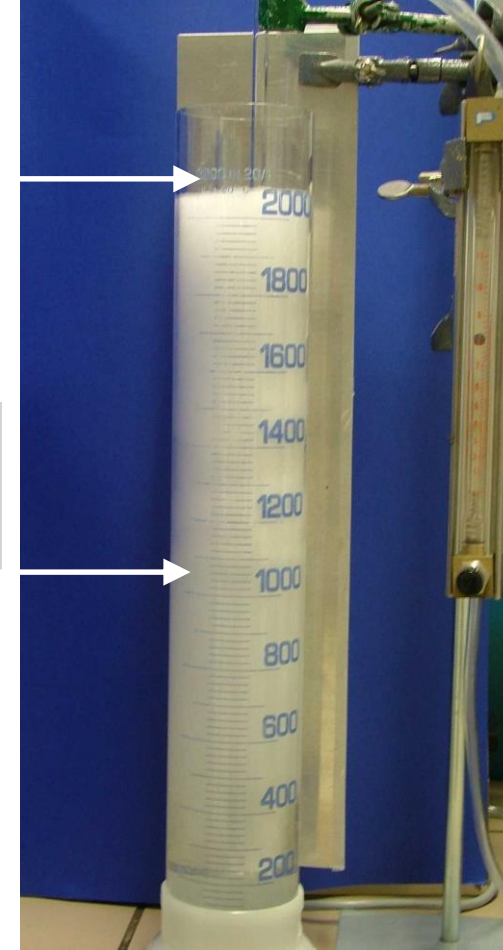
In case the antifoam efficiency is checked in emulsifiers or dispersants for the production of polymer dispersions this test is run at 60 °C.

Test Method – What the Sintered Glass Test looks like

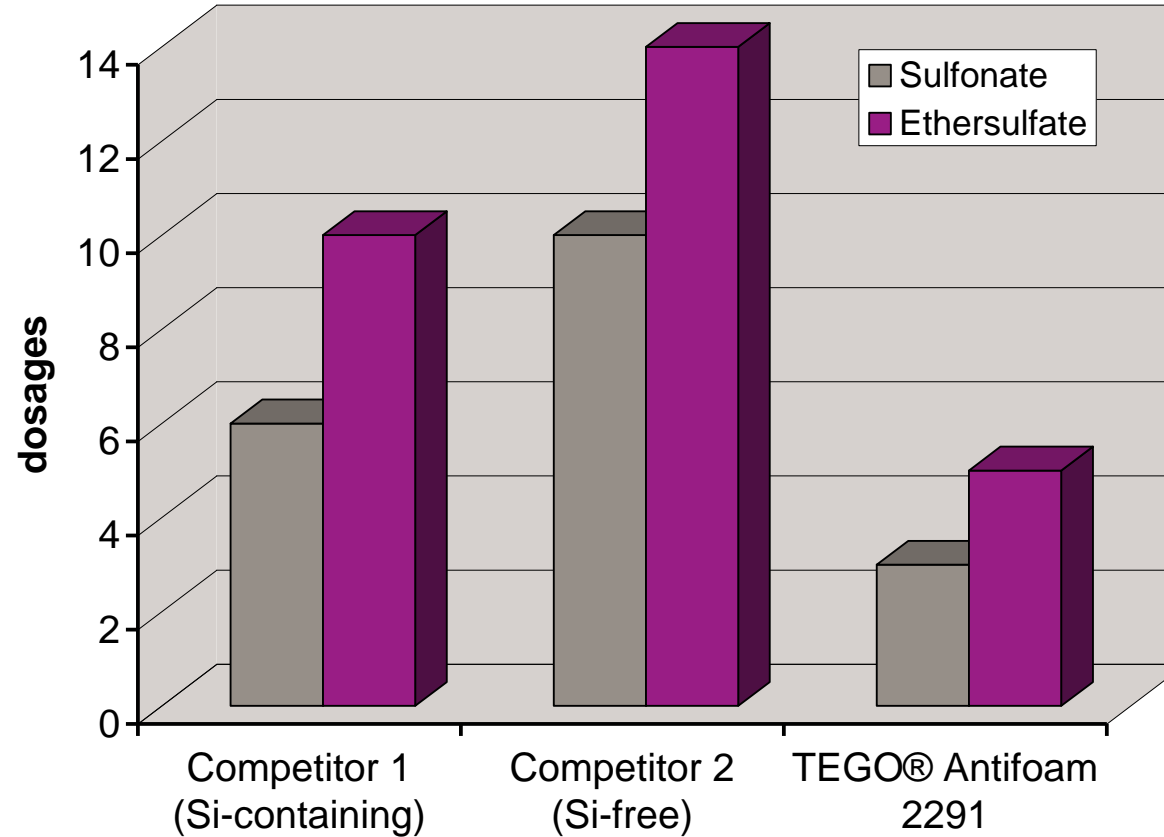


When the foam reaches 2000 mL another amount of antifoam is added

The cylinder has to be filled with 1000 mL of surfactant solution



TEGO® Antifoam 2291 is 2 to 3 Times More Efficient



Less dosages (=shorter bar) means higher efficiency of the antifoam

TEGO® Antifoam 2291 – Product Information

TEGO® Antifoam 2291 is a defoamer based on paraffinic oil

100% active material, silicone free, dosage level: 0,01 - 0,1%

Can be used as delivered or from a predilution in water.

Compliant with Regulation (EU) 10/2011, BfR XIV, FDA 176.210, FDA 175.105, FDA 175.300, FDA 176.170, FDA 176.180 and 177.2600

**Is listed in the following chemical inventories:
EINECS, TSCA, ENCS, AICS, PICCS, CHINA, DSL, ECL, NZIOC**

2. SBR-Rubber and its Main Applications



Tires



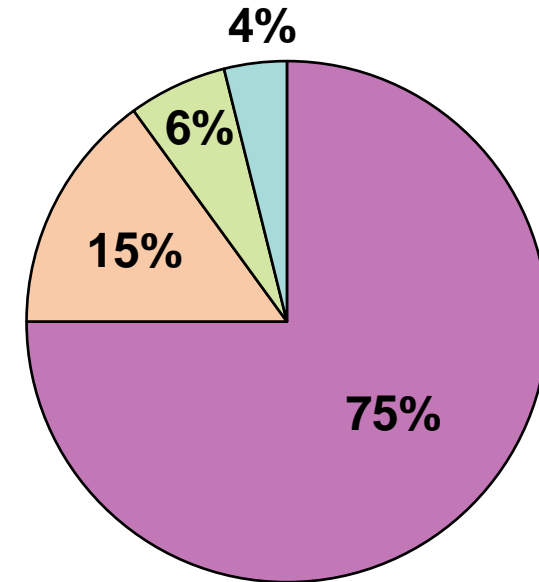
Mechanical goods



Non-tire automotive

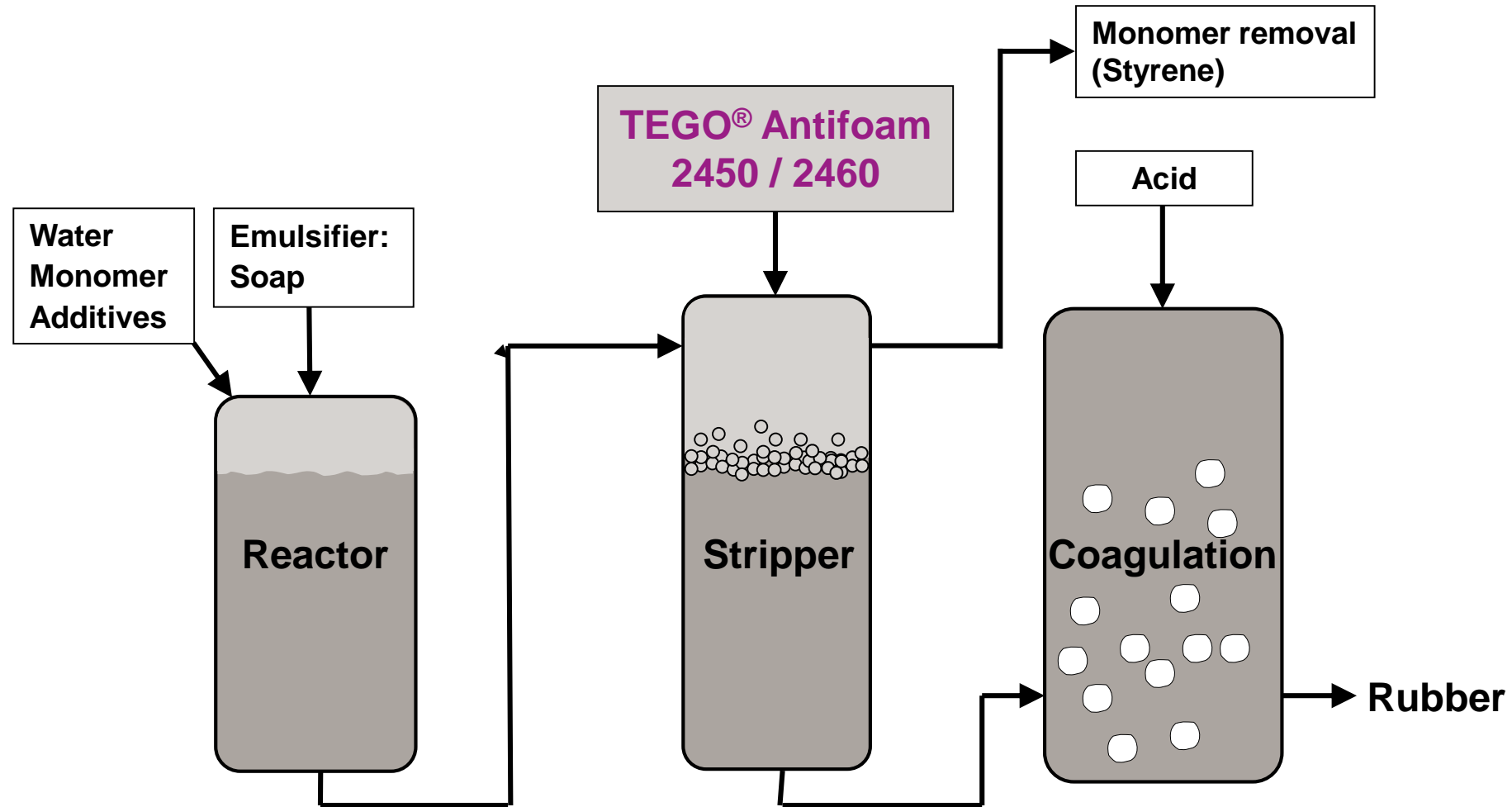


Miscellaneous

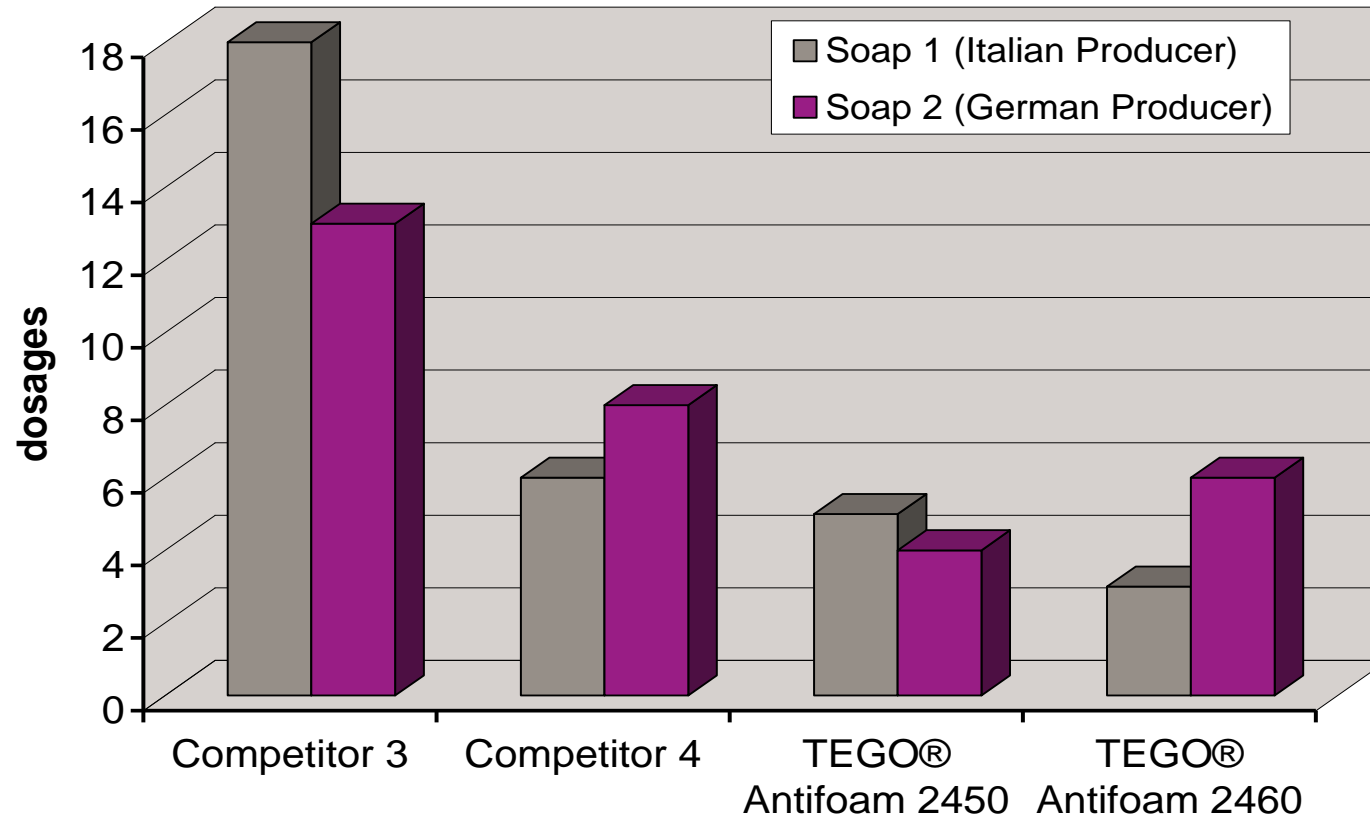


Total market: 4,5 Mio t

TEGO® Antifoam – Excellent Defoaming & no Fouling

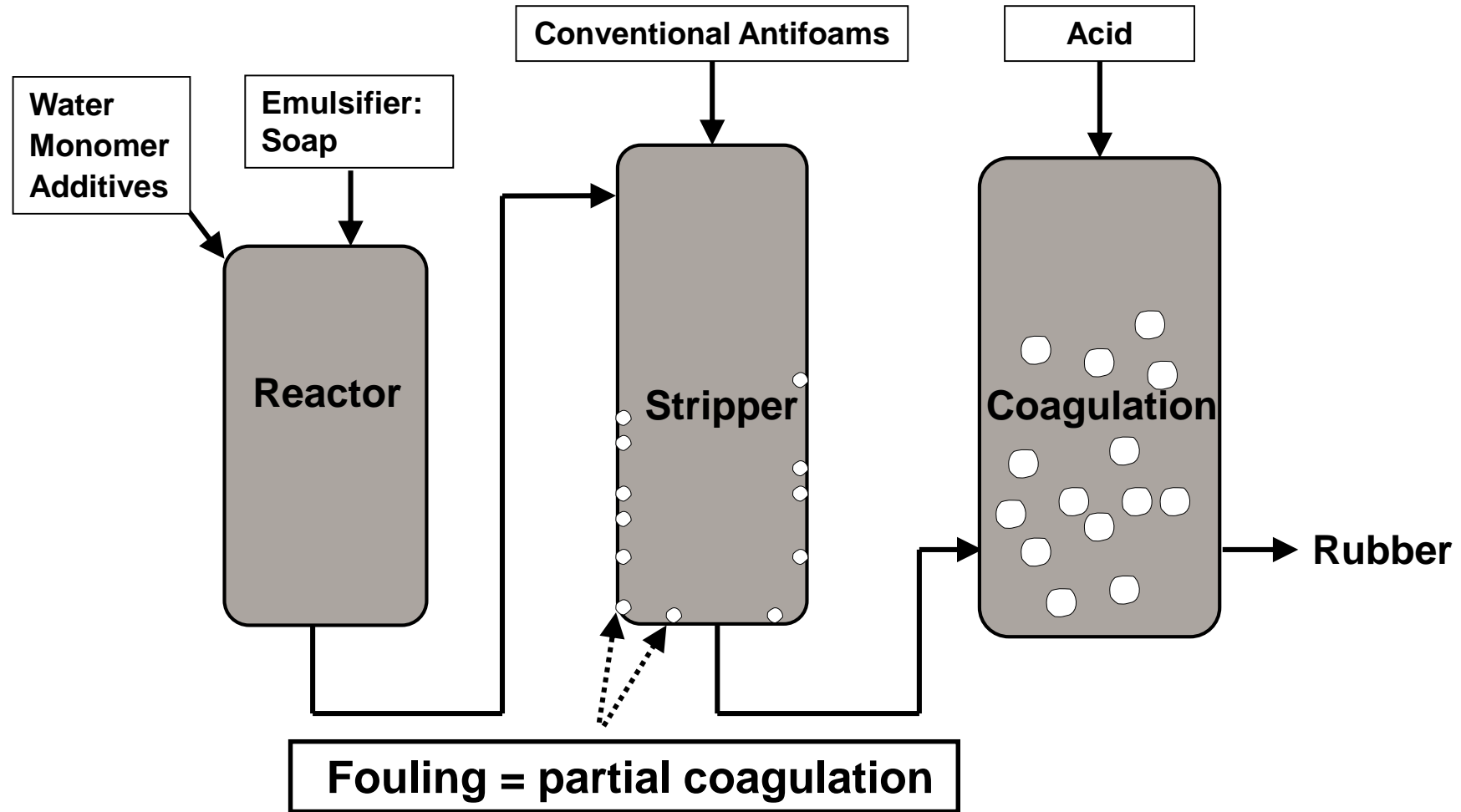


TEGO® Antifoam products are 1,5 to 6 Times More Efficient



Less dosages (=shorter bar) means higher efficiency of the antifoam

Conventional Antifoams can Create Undesired Fouling



Test Method for Fouling Caused by Defoamer

Fouling/Coagulation test

- 100 g of the test dispersion including 0,1% defoamer as delivered is poured into a beaker and stirred for 30 minutes at 60°C.
- The dispersion is filtrated and the filter (with coagulate) is dried in an oven.
- After that the amount of the dry coagulate is weighted.



No Coagulation Observed with TEGO® Antifoam 2450/2460

	Dispersion 1	Dispersion 2
Controle	0,00g	0,02g
Competitor 3	0,02g	0,00g
Competitor 4	0,07g	0,05g
TEGO® Antifoam 2450	0,00g	0,00g
TEGO® Antifoam 2460	0,02g	0,00g
Defoamer for SBR-Latex	0,22g	0,31g
Standard Defoamer	0,24g	0,27g

TEGO® Antifoam 2450 & 2460 - Product Information

TEGO® Antifoam 2450 is a defoamer based on vegetable oil, TEGO® Antifoam 2460 is a defoamer based on mineral oil (2460), 100% active material, both contain no silicone oil

**We recommend to test both products in a specific formulation to identify the most suitable defoamer.
Dosage level: 0,02 – 0,2%**

**Can be used as delivered or from a predilution in water.
It is preferred to use the antifoam undiluted**

Both compliant with FDA 176.210 and FDA 175.105, in addition 2450 compliant to Regulation (EU) 10/2011, BfR XIV

**Listed in the following chemical inventories:
EINECS, TSCA, ENCS, AICS, PICCS, CHINA, DSL, ECL**

TEGO® Antifoam and Emulsifiers for SBR-Latex & SBR-Rubber

	Emulsifiers for E-SBR Production					
	Alkyl Ether Sulfate Sodium Salts	Alkyl Sulfates Sodium Salts	Alkylbenzene Sulfonic Acids Sodium Salts	Dialkyl SulfosuccinicAcids Sodium Salts	Disproportionated Resin Acid Soaps	Fatty AcidSoaps
TEGO® Antifoam 2291	X	X	X	X		
TEGO® Antifoam 2450					X	X
TEGO® Antifoam 2460					X	X

Overview Food Contact Status and National Registrations

	Reg. 10/2011	FDA 176.210	FDA 175.105	FDA 176.170	FDA 176.180	FDA 175.300	FDA 177.2600	BFR XIV	Registrations
TEGO® Antifoam 2291	X	X	X	X	X	X	X	X	EINECS, TSCA, DSL, ENCS, AICS, ECL, PICCS, CHINA, NZIOC
TEGO® Antifoam 2450	X	X	X					X	EINECS, TSCA, DSL, ENCS, AICS, ECL, PICCS, CHINA
TEGO® Antifoam 2460		X	X						EINECS, TSCA, DSL, ENCS, AICS, ECL, PICCS, CHINA

TEGO® Antifoam for SBR – Your benefits & What You Can Expect

TEGO® Antifoam 2291 for SBR-Latex

- Substantial cost savings due to 2 to 3 times higher efficiency
- Broad food contact status gives freedom for final applications, e.g. coated paperboard for food packaging

TEGO® Antifoam 2450 & 2460 for SBR-Rubber

- Substantial cost savings due to 1.5 to 6 times higher efficiency
- Products do not cause fouling/precipitation in stripper

Support by our technical team in testing and identifying the optimal defoamer for your specific application!



EVONIK

Leading Beyond Chemistry