

Antifoams for the Production of SBR/NBR Latex and Rubber

Production of SBR/NBR Latex:

TEGO® Antifoam 2291

- Si free antifoam, APEO free
- Corresponds to EU Regulation 10/2011 and FDA 175.105, 175.300, 176.170, 176.180, 177.1520, 177.2600
- Dosage: approx. 300 ppm

TEGO® Antifoam 2290

- Si free antifoam, APEO free
- High effective paraffin based antifoam
- Corresponds to FDA 175.105, 175.300, 176.170, 176.180, 177.2600 and BfR XIV
- Dosage: approx. 300 ppm

TEGO® Antifoam 4-88

- Mineral oil free, APEO free
- High efficient antifoam based on organo-modified siloxane
- Corresponds to EU Regulation 10/2011 and FDA 175.105, 175.300, 176.170, 176.180, 176.200, 176.210, 177.2600
- Dosage: approx. 300 ppm



Production of SBR/NBR Rubber:

TEGO® Antifoam 2450

- Silicone oil free antifoam based on vegetable oil
- Corresponds to EU Regulation 10/2011 and FDA 177.2600
- Dosage: approx. 1000 – 3000 ppm

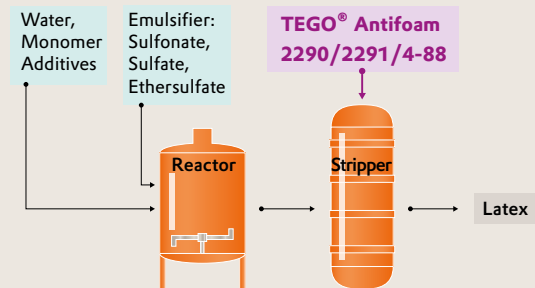
TEGO® Antifoam 2460

- Silicone oil free antifoam based on mineral oil
- Corresponds to FDA 175.105 and BfR XIV
- Dosage: approx. 1000 – 3000 ppm



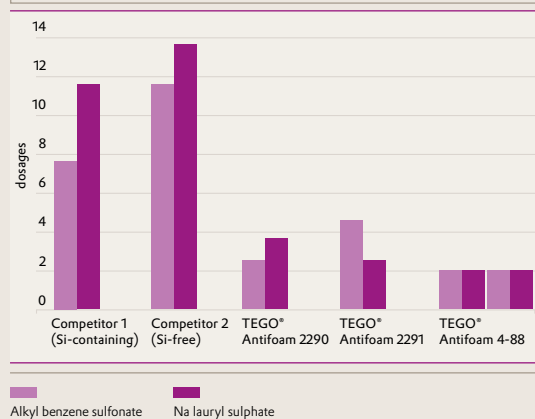
TEGO® Antifoam 2291, TEGO® Antifoam 2290 and TEGO® Antifoam 4-88 for the Production of SBR/NBR Latex

In the production process of SBR/NBR dispersions foam occurs in the demonomerization step. By adding TEGO® Antifoam the foam is suppressed and can not slow down the production speed.



TEGO® Antifoam 2291, TEGO® Antifoam 4-88 and TEGO® Antifoam 2290 show improved foam inhibition. To achieve the same foam reduction less than 50% of antifoam dosage is necessary compared to the competitor antifoams. (Test method on page 4)

Antifoam performance of TEGO® Antifoams compared to competitors



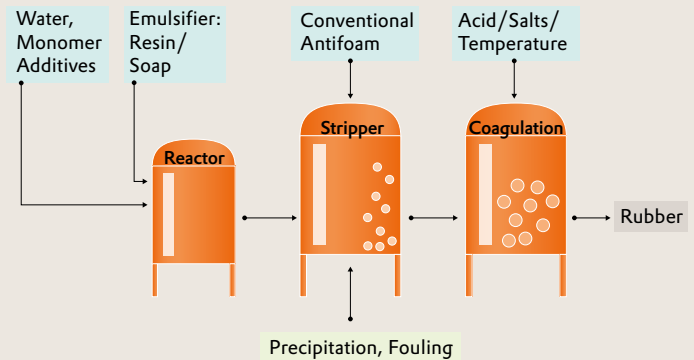
The right choice of the antifoam depends, beside the food contact status, also on the emulsifier which is used in the polymerization. Please contact us for detailed product recommendation.

SBR/NBR latex are used in adhesives and paper coatings. This means that the antifoam used in the production may not lead to surface defects. TEGO® Antifoam 2291 and TEGO® Antifoam 2290 do not create problems in these applications. They are also used as antifoam in adhesive and paper coating formulations. (Test method on page 4)



TEGO® Antifoam 2450 and TEGO® Antifoam 2460 for the Production of SBR/NBR Rubber

In the production process of SBR/NBR rubber the remaining monomer must be removed in the stripping column. Standard antifoams either do not work sufficiently or they lead to fouling in the stripper what results in high maintenance efforts. TEGO® Antifoam 2450 and TEGO® Antifoam 2460 show improved antifoaming performance and do not lead to fouling.



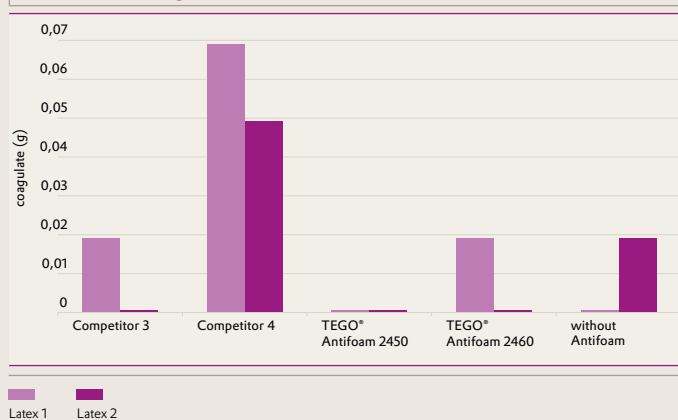
TEGO® Antifoam 2450 and TEGO® Antifoam 2460 show much better foam inhibition than competitor 3 and slightly better performance than competitor 4. (Test method on page 4)

Antifoam performance of TEGO® Antifoams compared to competitors



Compared to the latex without antifoam TEGO® Antifoam 2450, TEGO® Antifoam 2460 and competitor 3 do not lead to an increased fouling. Competitor 4 which was the best competitor antifoam shows significant fouling and will lead to problems in the production. (Test method on page 4)

Influence on fouling



Test Methods

Antifoaming test

Six liters of air per minute are passed through the sintered glass into one liter of surfactant solution, which is poured into a 2 litre cylinder. A defined amount of diluted antifoam is added again as soon as the foam reaches the 2 litre mark and the time is noted down.

The foam height is regularly noted down over a certain period of time. The test is stopped after 30 minutes and the total amount of antifoam is given as a measurement of the 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.



Draw down test to evaluate wetting behavior

The dispersion is applied on a substrate with 50 µm and a speed of 80 mm/s. A photo of the wet film is taken to evaluate the compatibility with the substrate.



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 measured.



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