

High-performance defoamers

Optimal foam control in industrial processes



KEBOSPUM

Highly effective foam control

Keeping foam at bay!

Foam often forms in industrial transportation and production processes, this usually occurs from the turbulence of the air introduced into the system or during the release of process gases in combination with foam-forming substances. This foam can significantly impair the production process and have a negative impact on the following important parameters

→ **Efficiency, maintenance costs, hygiene, occupational safety and product quality.**

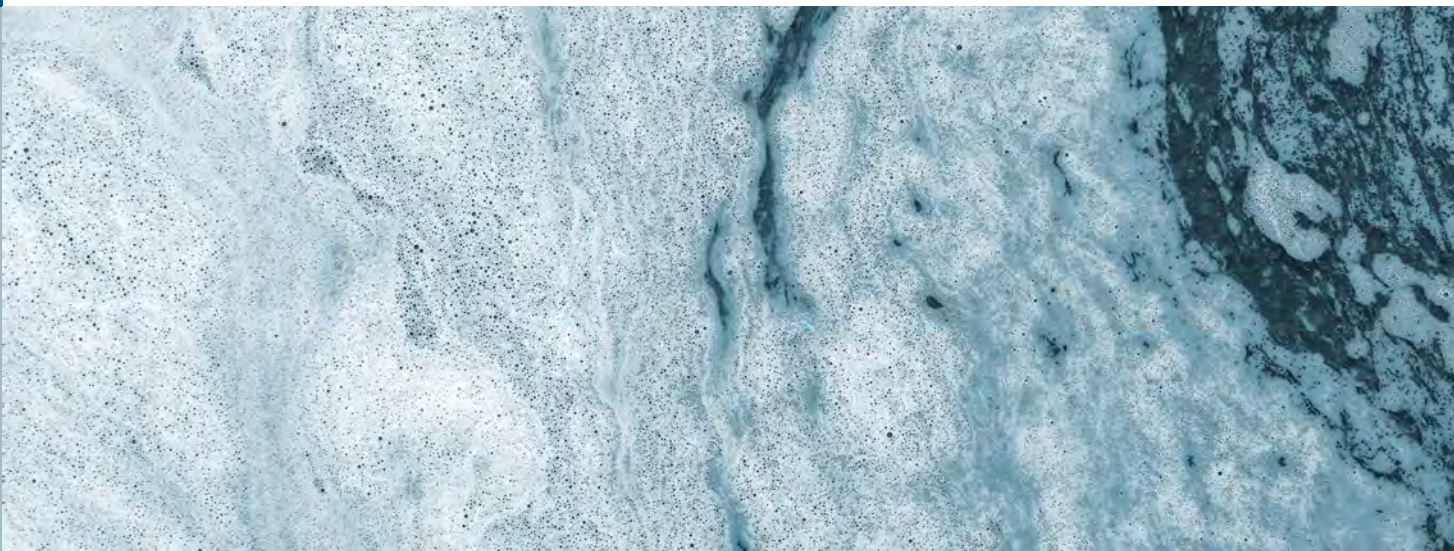
Preventing foaming and actively controlling it are of crucial importance and go hand in hand. At KEBO, we offer a wide range of high-performance defoamers with different compositions and special properties that are tailored to the individual requirements of different customers. This enables us to deliver reliable results for a wide range of applications. These include food processing industries (such as yeast, starch, sugar, potato processing and fermentation) as well as industrial cleaning and paper production. Our optimized defoamers guarantee that the valuable space in containers is not wasted unnecessarily and that the surfaces of substances are not damaged as that can result results in the loss of their natural protective layer.

The basic advantages for you when using KEBOSPUM:

→ **Early prevention, fast foam destruction, and effective control.**

KEBO is at your side to help you select the defoamer that is the most suitable for your production process. Our expertise, spanning many decades, enables us to always offer you innovative, state-of-the-art solutions. You can rely on our professional support in the selection and application of defoamers to ensure smooth and efficient production in your company.

Just like the overall result: efficient and competitive production!





KEBO, your partner with 100% reliability

Product development at KEBO is always a team effort.

That's why we bring together in-house experts from a wide range of disciplines who know exactly which parameters are important for your individual processes and systems in order to take them into account during development, both in the chemical analysis procedures and in the test series. Ultimately, this results in customized, tailor-made solutions that are precisely geared to you and your problems.

Just as we see ourselves as team players and partners at eye level in close cooperation with you as our customer.

After all, at the end of the day, it's all about you and your personal business. That's why listening to you always comes first for us in order to accompany you throughout the entire development process from start to finish as well as to support you with our expertise at all times.








We know from our many years of experience that every industry, process, and system has its own specific requirements. You never get an "off-the-shelf" product from us for this reason. It is always the exact one you need.

Regardless of the segment that you operate in, whether specific application temperatures need to be taken into account or whether a silicone-free or silicone-containing solution is required for your process – the result must be right. We will help you get there!

Benefit now from the many advantages of the **KEBOSPUM defoamers** and exploit the full potential of your systems!

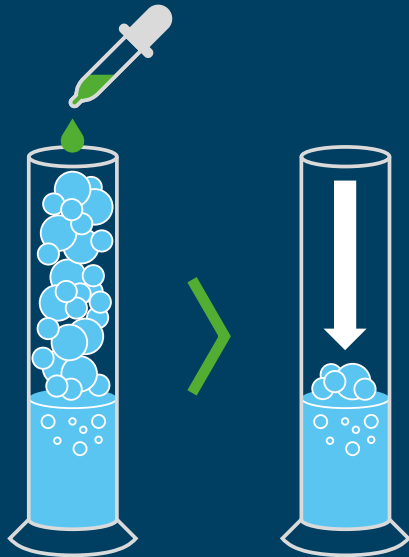


An excerpt from our KEBOSPUM range

	Description	Application temperature	Process section	Application	Halal, Kosher
KIS	Highly concentrated defoamer that only requires a low dosage. Free from silicones and mineral oils. Not water-miscible.	40-100°C	<ul style="list-style-type: none"> • Diffusion • Extraction • Juice purification • Evaporator • Sugar house 	<ul style="list-style-type: none"> • Sugar juice 	
KIX	Highly concentrated, water-miscible defoamer. Free from silicones and mineral oils.	40-100°C	<ul style="list-style-type: none"> • Diffusion • Extraction • Juice purification • Evaporator • Sugar house 	<ul style="list-style-type: none"> • Sugar juice 	
HTS PL	Synergistic active ingredient formulation with excellent temperature stability. Free from silicones and mineral oils. Water-miscible.	45-100°C	<ul style="list-style-type: none"> • Diffusion • Extraction • Juice purification • Evaporator • Sugar house 	<ul style="list-style-type: none"> • Sugar juice 	
BWS	Special combination of active ingredients, suitable for both interior and exterior applications. Free from silicones and mineral oils. Not water-miscible.	Up to 50°C	<ul style="list-style-type: none"> • Food, transportation and washing processes • Foaming processes taking place at ambient temperature 	<ul style="list-style-type: none"> • Water • Beet wash 	
PP	Innovative formulation for effective defoaming and foam inhibition, specially developed for the requirements of the potato and starch industry. Not water-miscible.	10-40°C	<ul style="list-style-type: none"> • Food, transportation and washing processes • Foaming processes taking place at ambient temperature 	<ul style="list-style-type: none"> • Starch • Potato processing 	
HES	High-performance defoamer for yeast production and processing. Chemically stable with a long-lasting effect. Free from silicones and mineral oils. Water-miscible.	5-30°C	<ul style="list-style-type: none"> • Yeast propagation (< 28°C) • Yeast harvest • Processing and storage (0-5°C). 	<ul style="list-style-type: none"> • Fermentation broth 	
FES	Defoamer designed for fermentation processes (e.g. bioethanol production). Free from silicones and mineral oils. Not water-miscible.	15-40°C	<ul style="list-style-type: none"> • Fermentation 	<ul style="list-style-type: none"> • Maize • Grain • Sugar cane 	

When used as intended, KEBOSPUM products meet the requirements of the German Food, Commodities, and Feed Code (LFGB, revised version, published on SEP-15-2021).

The advantages of KEBOSPUM products



- **Effective foam control, reduction, or elimination**
for the sustainable optimization of your production processes
- **Good process compatibility**
without affecting the product quality or the equipment used
- **High stability**
to ensure constant foam control throughout
- **Impressive dosing efficiency**
and low dosing rates for high efficiency

KEBOSPUM: Extremely active with lots of substance!

Our highly effective defoamers are developed to either remove foam immediately as a defoamer (spontaneous effect) or to prevent it from forming in the first place as an antifoam. In both cases, the long-term effect is to suppress (repeat) foaming. Foaming agents include saponins, proteins, glycosides from plants containing sugar and starch, metabolites from wastewater treatment, and surfactants.

Our defoamers meet a wide range of requirements and can be used in various applications. They not only support process stability, but also optimize the quality of the end products by preventing contamination and other negative effects. They have no negative impact on the individual process steps and ensure smooth production.

Innovative solutions for your industry



Sugar



Yeast



Starch



Potato



Fermentation



Pulp

KEBOSPUM KIS – A practical example

We always find the perfect defoamer for your specific production requirements. This was also the case in this specific practical case with the task of finding a suitable defoamer for the interior of a sugar factory. The focus here is on the process steps of extraction, carbonation, and evaporation.

The requirement: The defoamer should not only work effectively at high process temperatures of up to 75°C, but also have a high chemical stability in order to have a long-lasting effect.

Our evaluation included a comparison with our KEBOSPUM KIS and the competitor products in use at the time – both in the form of laboratory measurements and in the form of an operational test directly on site.

The result: Top performance with high cost savings.

Temperature: 70°C				
	Dosage [ppm]	Time to max. foam height after 20 s [s]	Foam volume after 20 s [ml]	Time for foam decomposition up to 50% of the max. foam height [s]
Without defoamer	0	20.6	140.2	> 120
KEBOSPUM KIS	10 ppm	3.0	19.8	2.6
Competitor 1	35 ppm	6.6	39.1	3.6
Competitor 2	50 ppm	13.7	43.6	10.5



Our high-performance process defoamers can achieve **high overall cost savings** as the required dosage is much lower!

A simple sample calculation

	KEBOSPUM KIS	Competitor 1	Competitor 2
Start of the campaign	10 ppm	35 ppm	50 ppm
End of the campaign	Up to 20 ppm	Up to 80 ppm	Up to 100 ppm
Total consumption	4,000 kg	15,000 kg	20,000 kg

Chemistry is our passion



An effective response for every requirement: not only chemical, but also very personal.

We are a globally active company in the specialty chemicals industry. With almost 100 years of tradition, we stand for quality, service orientation, reliability, and innovation. When it comes to operating your production plants, KEBO products and services ensure clean processes. We meet all of the challenges related to chemical cleaning processes, water treatment, and corrosion protection (whether for the sugar industry or for the production of ethanol, starch, yeast, or for the steel industry). We see ourselves as a partner to our customers and provide our knowledge on an equal footing. Trust, responsibility, and respect are our guiding principles in dealing with colleagues, customers, and nature.

Our services:

- Consultation provided by our chemists and engineers in application technology as well as for your planning of the necessary apparatus and operating equipment
- A worldwide network of competent sales partners who are available to assist you directly on site in analysis, planning, and implementation



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