

YEAST



 **BUSSETTI** 
Gesellschaft mbH



For 90 years now, Bussetti has been developing and manufacturing products, such as antifoams, release agents, emulsifiers, fatting agents and auxiliaries. All these products are perfectly tailored to the needs of Bussetti's customers from a wide variety of industries, like pulp and paper, wood-based materials, leather and fur as well as for textile cleaning and biotechnology.

Bussetti's products enable perfect and smooth production processes. The unique passion for chemistry has made Bussetti a successful company – family-owned with more than 1,000 customers in 90 countries all over the world. Based in Vienna, the company has 80 employees in administration, sales, development and production. The highly specific products are manufactured in Marchtrenk in Upper Austria. This comprehensive experience, the spirit of research and the special customer centricity are the focus of the company's efforts.

RANGE OF PRODUCTS

As leading Austrian manufacturer Bussetti produces the following industrial auxiliaries:

- **Antifoams and emulsifiers** for biotechnology applications (sugar, alcohol, potato, pharmaceutical, yeast and fermentation industry)
- **Antifoams** for the pulp & paper industry
- **Antifoams and release agents** for the wood-based materials industry
- **Fatting agents and other auxiliaries** for the leather and fur production
- **Auxiliaries** for textile care and cleaning

1930	Company Gross, Bussetti und Co. has been founded from the technical department of the "K. u. k Ölindustrie AG" (Imperial and Royal Oil Industry Corporation)
1952	Opening of the new production location in Marchtrenk, Upper Austria
1975	Extension of the product portfolio of chemical and technical industrial auxiliaries
1986	Modernization of the company's own hydroelectric power plant
1990	Further expansion of production capacity in Marchtrenk / Bussetti is now active in 80 countries
1992	ISO 9001 Quality Management Certification – as one of the first chemical companies in Austria
1994	Modernization of the waste water treatment facilities to achieve a purity level of 98.6 %
2002	New tank storage facility with 100 % sealed collecting basins
2005	Restoration of the historic production buildings and opening of the new access road to the production site Marchtrenk
2010	Production capacity exceeds 15,000 tons
2012	New warehouse with space for 1,500 pallets and a modern fire water retention system
2017	Opening of the new waste water treatment plant with state-of-the-art evaporation technology and partial recirculation
2018	ISO 14001:2015 Environmental Management Certification
2019	Opening of the new production hall / production capacity reaches 20,000 tons
2020	Installation of a photovoltaic system on the roofs of the production halls in Marchtrenk



PRODUCT PORTFOLIO

Considering our knowledge and experience of more than 50 years, we are a highly competent supplier of special chemicals for the yeast industry.

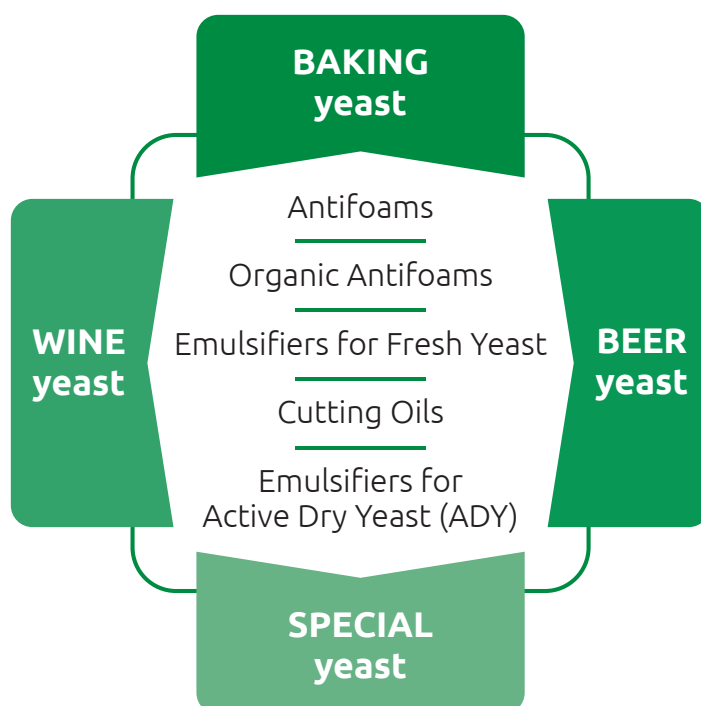
Bussetti's product portfolio for the production of yeast used for baking, beer or wine production and other special purposes includes antifoaming agents, emulsifiers for fresh yeast as well as for active dry yeast (ADY) and cutting oils.

Yeast producers face several challenges during the production process. One of them is the management of the foam level in the fermenter. Foaming is enhanced by constant aeration, formation of metabolic products, certain nutrition sources and ingredients of the raw materials. On one hand a certain foam level is essential to ensure sufficient gas transfer, which is vital for the yeast growth. On the other hand, excessive foaming reduces the production capacity and may cause a complete standstill of the production line. Our **antifoams** for the fermentation of yeast provide an optimal balance between these two requirements. As consumer demand for organic yeast has increased lately, Bussetti also offers **organic antifoams** for the production of organic yeast.

Depending on the target market, yeast of different color and texture is required. Our **emulsifiers for fresh yeast** can be used to brighten the yeast blocks, to modify the physical appearance and to lubricate the yeast during the extrusion.

Bussetti's **cutting oils** work as lubricating agents and cutting auxiliaries for the production of compressed yeast.

For producers of ADY, Bussetti offers **emulsifiers for active dry yeast** which protect the yeast cells during the drying process.



ANTIFOAMS FOR YEAST FERMENTATION

Our antifoaming agents for yeast fermentation give an optimal balance between foam level control and a sufficient gas transfer. They have been developed to ensure an optimal performance depending on the specific customer requirements. Therefore, our experts analyze the entire production process and, based on the outcome of the system analysis, select the most suitable antifoam. We recommend determining the optimal dosage by industrial trials.

Product	Viscosity at 20 °C [mPas]	Emulsifiable in water	Kosher	Halal	Features
Glanapon DG 160	450-650	✓	Passover kitniyot	✓	Versatile antifoam used worldwide
Glanapon DG 162	300-560	✓	Passover kitniyot	✓	Related to Glanapon DG 160 but with lower viscosity
Glanapon DG 163	~ 200	no	Passover kitniyot	✓	Based on vegetable oil Tolerant against overdosing
Glanapon DA 203	~ 400	no	Passover	✓	Very efficient antifoam with low consumption Optimal defoaming effect above 30 °C
Glanapon DB 9200	500-1500	no	Pareve	✓	Silicone based antifoam Excellent foam knockdown

Due to the chemical nature of the products as well as the production methods, all yeast antifoams mentioned above are practically free of microorganisms. The total plate count of the products is usually <1 CFU/g. But, if required, the antifoams Glanapon DG 160, Glanapon DG 163, Glanapon DA 203 and Glanapon DB 9200 can be sterilized in neat form without the addition of water or steam.

ORGANIC ANTIFOAMS

As the consumer demand for organic food increases every year, Bussetti offers two antifoams for the production of organic yeast. Both products mentioned below are fully compliant with European Council regulation (EC) No 834/2007 and regulation (EU) 2018/848.



Product	Viscosity at 20 °C [mPas]	Emulsifiable in water	Kosher	Halal	Features
Glanapon BR-BIO	~ 60	no	Passover kitniyot	✓	Economic, organic antifoam
Glanapon BZ-BIO	~ 100	no	Passover	✓	Highly efficient organic antifoam with kosher for Passover certification

EMULSIFIERS FOR FRESH YEAST

Depending on the target market, yeast of different color and texture is required. Bussetti's emulsifiers can be used to modify the physical appearance and to lubricate the yeast during the extrusion. The emulsifiers should be dosed directly before the extruder onto the fresh yeast or into the extruding press to facilitate an even distribution in the fresh yeast.

All emulsifiers for fresh yeast mentioned below can be diluted with refined food-grade vegetable oils.

Product	Kosher	Halal	Features
Olindronal PF	Pareve	✓	Leads to brighter appearance and increased plasticity of the yeast blocks
Olindronal 4979	Pareve	✓	Same application as Olindronal PF, but based on different raw materials and emulsifiers
Olindronal DEKO	Pareve	✓	Gives a brighter yeast and an improved friability
Olindronal TG-NP (palmfree)	Pareve	✓	Palmfree emulsifier which improves the color and the texture of the yeast

CUTTING OILS FOR EXTRUSION

Bussetti's cutting oils act as lubricating agents and cutting auxiliaries for the production of compressed yeast. The use of these auxiliaries prevents clogging of the sinter ring.

The cutting oils should be dosed in undiluted form through the sinter ring of the extruding press.

Product	Kosher	Halal	Features
Olindronal CUT	Passover	✓	Hydrocarbons of pharmaceutical purity Very low viscosity
Olindronal GTL	Pareve	✓	100 % based on renewable vegetable raw materials Very low consumption





EMULSIFIERS FOR ACTIVE DRY YEAST (ADY)

Sorbitan monostearate, also known as SMS, is an off-white powder that is widely used in the production of ADY to protect the yeast cells during the drying process.

Prior to the application of SMS, the powder has to be emulsified in water. For an optimal emulsification it is necessary to add alkalization agents during this preparation step. Unlike usual SMS-based emulsifiers, which are commercially available, Bussetti's **Olindronal SMS** and **Olindronal SK** are self emulsifiable. Therefore, no addition of alkali is required in the preparation of the emulsions. This results in an easier, safer and more efficient emulsification process.

If producers of ADY wish to optimize their process even further, we recommend using the emulsifiers **Olindronal SK** and **Olindronal SPL** instead of Olindronal SMS. The use of these two emulsifiers protects the yeast cells thus leading to a higher retention of the yeast activity during the drying step and prolonging the shelf life of the dried yeast. Olindronal SPL has another important feature as it prevents the yeast from sticking to the wall of the dryer. This leads to an increased output, a reduced drying time and a prolongation of the intervals between the required cleaning steps of the dryer. By using Olindronal SPL it is possible to prepare highly concentrated aqueous emulsions with an active content of up to 20 %. Therefore less water is added to the yeast before the drying step.

When filter presses are used, we recommend dosing the emulsifiers for ADY directly into the yeast cream. In case of vacuum filters, a dosing into the wet yeast cake is indicated.

Product	Kosher	Halal	Self-emulsifiable	Features
Olindronal SMS	Pareve	✓	✓	Self-emulsifiable: Addition to hot water while stirring to form a 5-10 % stable emulsion
Olindronal SK	Pareve	✓	✓	Self-emulsifiable as Olindronal SMS Higher retention of the yeast activity Prolongation of the shelf life
Olindronal SPL	Pareve	✓	no	Higher retention of the yeast activity Prolonged shelf life and increased output Highly concentrated emulsions possible
Olindronal SMS-NP (palmfree)	Passover	✓	no	Palmfree emulsifier with kosher for passover certification

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