

X-SEED® Product Overview

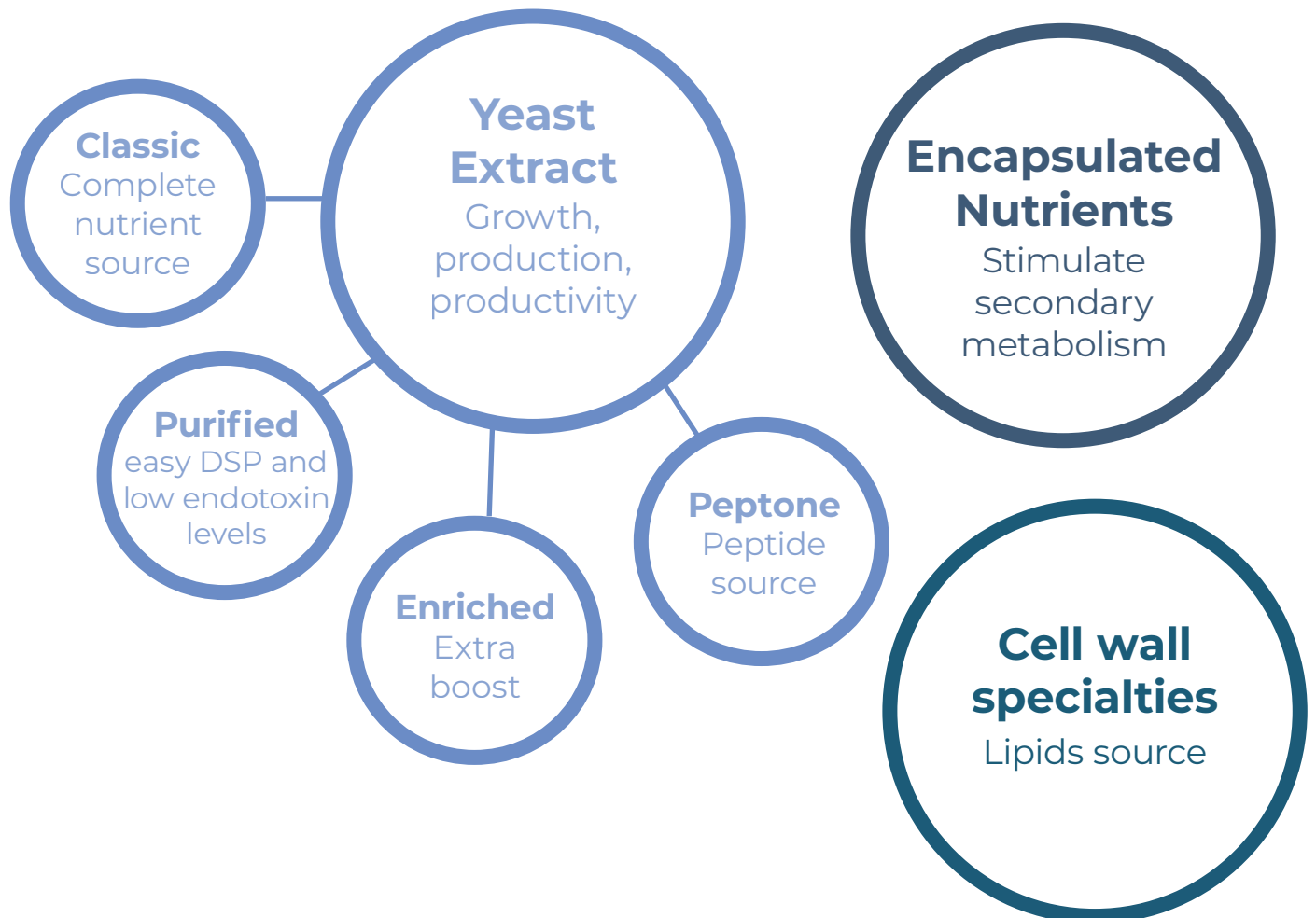
Our yeast-based nutrients are a powerful tool for the biotechnology industry to achieve high yields, titers and productivity in fermentation processes

www.ohly.com/en/bionutrients/enzymes







X-SEED® | The nutrient toolbox

Fermentation processes can be very diverse, from producing probiotics to enzymes, or active biopharmaceutical ingredients to biochemicals. Each of these fermentation processes typically uses a specific production host and dedicated process conditions, resulting in unique nutrient requirements in the fermentation media. Our toolbox of yeast based complex nutrients helps you to provide the optimal nutrient mix for your specific process conditions for maximal outputs.

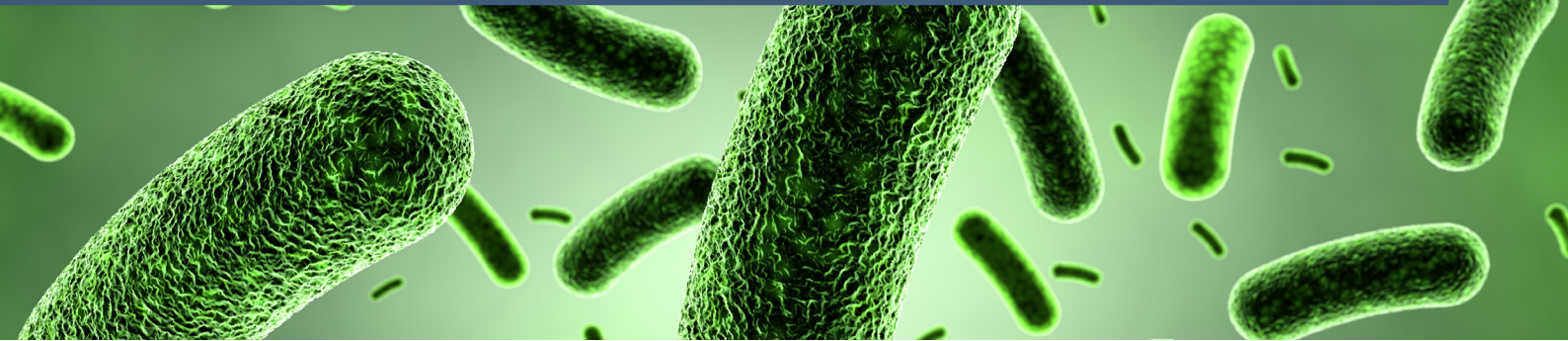


X-SEED® | Classic Yeast Extracts




Produced from primary cultivated yeast, classic X-SEED® yeast extracts act as a source of complex nitrogen in industrial fermentations. The high protein content mainly in the form of free amino acids and easily available peptides allow fast and efficient cellular metabolism. In addition, vitamins, biologically-bound minerals and other growth factors, ensure that micro-organisms such as yeast, bacteria, fungi, have a complete nutrient source for their specific needs.

	Form	Product
	 <p>Available in 3 forms</p>	<p>X-SEED® KAT Yeast extract with a balanced content of free amino acids, B-vitamins, naturally bound minerals and trace elements.</p> <p><i>Also available in liquid (X-SEED® KAT liquid) and viscous (X-SEED® KAT Viscous) forms.</i></p>
Classic Complete nutrient source	 <p>Powder Liquid</p>	<p>X-SEED® KAT Advanced (NEW!) Yeast extract manufactured via precision extraction to contain high amounts of free amino acids. Also possesses B-vitamins, minerals and trace elements.</p> <p><i>Also available in liquid (X-SEED® KAT Advanced Liquid).</i></p>
		<p>X-SEED® KAT Plus (NEW!) Yeast extract processed to contain additional growth factors, free amino acids, vitamins and minerals for enhancing aerobic fermentations.</p> <p><i>Also available in liquid (X-SEED® KAT Plus Liquid).</i></p>
	 <p>Liquid</p>	<p>X-SEED® KAF Low pH yeast extract with a balanced content of free amino acids, B-vitamins, naturally bound minerals and trace elements.</p>
Purified Easy DSP and low endotoxin levels	 <p>Powder</p>	<p>X-SEED® Classic Pure Using an extensive purification process, this yeast extract with high content of free amino acids does not cause any turbidity or precipitation in the fermentation and helps downstream processing. It is very low in vegetative microbes, spores and endotoxins.</p>

X-SEED® | Enriched Yeast Extracts






Ohly's enriched yeast extracts are designed to provide specific nutritional components for enhanced performance of your microorganism. By using different precision production processes, higher concentrations of specialist nutrients like ribonucleotides, naturally-occurring carbohydrates or key growth factors is achieved. The enriched X-SEED® products can either be used in a stand-alone capacity or as a supplement to the classic yeast extracts to provide a holistic solution for your fermentation process.

	Form	Product
Nucleotide-rich Economical, different levels available	 Powder	X-SEED® Nucleo Advanced Yeast extract produced from baker's yeast wherein cells are processed to convert RNA into free ribonucleotides. It is an excellent and economical source of free ribonucleotides and easily available peptides.
		X-SEED® Nucleo Max Yeast extract manufactured to provide highest amount of free ribonucleotides and easily available peptides.
		X-SEED® Nucleo Classic Yeast extract with a well-balanced composition of free amino acids, easy available natural peptides and ribonucleotides.
		X-SEED® Nucleo Classic Plus (NEW!) Yeast extract with free amino acids and an increased content of ribonucleotides and natural peptides.
Carbohydrate-rich Source of nitrogen and carbon	 Powder	X-SEED® Carbo Max (NEW!) Yeast extract made using precision extraction to maximise the presence of naturally-occurring carbohydrates. Acts as a source of both complex nitrogen and carbohydrates to supplement provide optimal nutrient balance and labelling benefits.
		X-SEED® Vitaboost Liquid yeast extract containing free amino acids, minerals and high levels of B vitamins.
Vitamin-rich Source of free amino acids & extra vitamins	 Liquid	

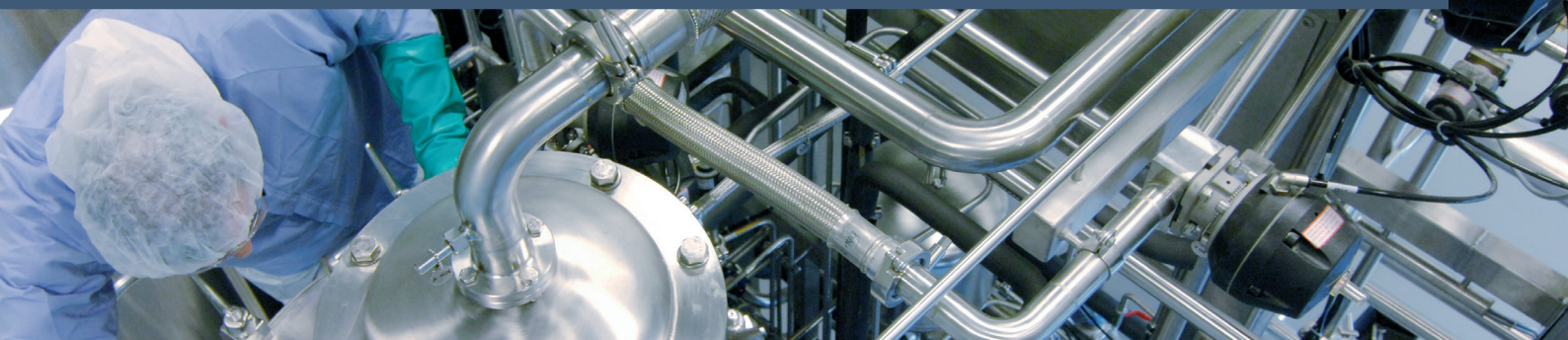
X-SEED® | Yeast Peptones

X-SEED® yeast peptones are produced from primary cultivated baker's yeast and thus offer higher quality consistency compared to alternative peptone sources which can suffer from seasonal variations and diminished process control. Additionally, they are labelling-friendly by being allergen-free, BSE-free, of non-GMO origin and vegan.

X-SEED® yeast peptones primarily act as a source of short-chain peptides for ease of microbial use and are available in conjunction with carbohydrates or growth factors for increased microbial performance.

	Form	Product
Yeast Peptone Peptide source	 Powder	X-SEED® Peptone Yeast peptone having 80% of amino acids in peptide form and ~90% of the peptides being small sized (molecular weight lower than 2 kDa) to allow easy uptake from microbial cells.
	 Powder Liquid	X-SEED® Carbo Peptone (NEW!) Yeast peptone with an optimal balance of naturally-occurring carbohydrates, small-sized peptides and specially-induced yeast metabolites for enhanced microbial performance. <i>Also available in liquid (X-SEED® Carbo Peptone Liquid)</i>
	 Powder	X-SEED® Nitroboost Well-balanced composition of free amino acids and easily available peptides with the supply of growth factors.



X-SEED® | Beyond Extract



Adding nutrients in the form of yeast extracts or peptone to your fermentation medium generally stimulates the performance of the fermentation process. However, there are microbial production processes that become less productive in such a nutrient-rich environment.

Nutrients present within whole, inactive yeast cells are released in a slow and sustained manner during the fermentation process. Consequently, any inhibition of key metabolic pathways due to over accumulation of certain metabolites can be avoided to ensure a smooth fermentation.

Furthermore, yeast cell walls form an excellent source of lipids. Providing these lipids in your fermentation medium can further boost biomass formation.

	Form	Product
Encapsulated Nutrients Stimulate secondary metabolism	 Powder	X-SEED® Cell FX Inactive yeast produced from primary cultivated baker's yeast. Contains complex nutrients (amino acids, vitamins, organically-bound trace elements and micro-nutrients) inside the whole cell, which are released over time during the fermentation process.
		X-SEED® Cell FX Plus Inactive baker's yeast enriched with vitamins alongside complex nutrients (amino acids, vitamins, organically-bound trace elements and micro-nutrients) inside the whole cell.
Cell Wall Specialties Lipids source	 Powder	X-SEED® Lipid FX Dried powder form of baker's yeast cell walls providing lipids to your microorganism.



Visit our website
to find out more
information and
request samples!



X-SEED®
by Ohly

Ohly®
An ABF Ingredients Company

For more information & samples reach out to: info@ohly.com

Europe - Africa - Middle East – Asia

Ohly GmbH, Wandsbeker Zollstraße 59, D-22041 Hamburg, Germany

Tel: +49 40 68 293 0 Fax: +49 40 68 293 1

Email: info@ohly.com

Americas

Ohly Americas, 1258 Nelson Dr, 54725, Boyceville, WI, USA

Tel: +1 800 321 2689 Fax: +1 320 587 8617

Email: info@ohly.us

Web: www.ohly.com

Twitter: [@OhlyGmbH](https://twitter.com/OhlyGmbH)

LinkedIn: www.linkedin.com/company/ohly



ABbiotek
Health
An ABF Ingredients Company

AB Enzymes
An ABF Ingredients Company

ABITEC
An ABF Ingredients Company

Fytexia
An ABF Ingredients Company

Ohly
An ABF Ingredients Company

PGP
INTERNATIONAL
An ABF Ingredients Company

SPI Pharma
An ABF Ingredients Company

All information and statements given in this brochure are believed to be accurate at the time of publication. However, neither Ohly GmbH nor any of their affiliates make any representations or warranty with respect thereto, including, but not limit to, any results obtained in the processing of the products by customers or any third party. All information and statements are intended for persons having the required skill and know-how and do not relieve the customer or user from verifying the suitability of information and statements given for a specific purpose prior to use of products. It is entirely the obligation of the customer or user to comply with applicable laws and regulations, and also with all patent or other intellectual property rights of third parties.

Ohly GmbH EXPRESSLY DISCLAIMS ANY REPRESENTATIONS OR WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, AS TO THE ACCURACY, CURRENCY, COMPLETENESS AND/OR THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF ANY INFORMATION CONTAINED IN THIS BROCHURE AND/OR ANY PRODUCT DESCRIBED OR PROMOTED IN THIS BROCHURE, INCLUDING WARRANTIES WITH RESPECT TO INFRINGEMENT OF ANY PATENT, COPYRIGHT, OR OTHER RIGHTS OF A THIRD PARTY. We reserve the right to change product specification and not specified properties of the products without prior notice.