

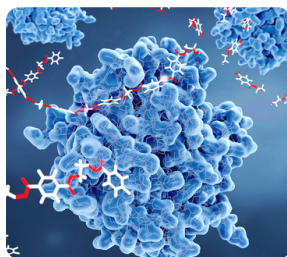


# ENZYMES IN BAKERY: SAFE ENHANCERS OF TEXTURE, FRESHNESS, AND SUSTAINABILITY

For any further information please contact

AMFEP represents the manufacturers and formulators of enzyme products  
[www.amfep.org](http://www.amfep.org)

Fedima represents the bakery, patisserie and confectionery ingredients' manufacturers  
[www.fedima.org](http://www.fedima.org)



## Enzymes are ubiquitous and used in everyday applications

Enzymes are proteins, vital components of any living organism: microorganisms, plants, animals and us, humans. We all produce enzymes in our body, for example to enable the digestion of the food we consume.

Enzymes are versatile and used in the production of various foods, including dairy products, baked goods, and beverages. Within the baking industry, enzymes play a crucial role in bread manufacturing. They convert starch into sugars, which can then be fermented by bakers' yeast. Additionally, enzymes enhance dough handling, improve structure during baking, ensure a better machinability during the production process, and can contribute to the freshness of bakery products.



## Bakery products produced with enzymes are safe

Food enzymes have been safely used in food and drink production for centuries. All food enzymes used are thoroughly studied, tested and approved by food safety authorities around the world. Food enzymes can be manufactured by extraction from plant or animal sources, or by fermentation from microbiological sources. Food enzymes producers must demonstrate the safety and the technological need of an enzyme for its intended use, prior to placing it on the market. Enzymes can be safely used in food production without any adverse health risks for the final consumer.



## Enzymes are safely handled by professionals and workers

The main safety concern associated with enzymes is the dustiness of the powder. It is known since the late 1960s that enzymes may induce respiratory sensitisation through occupational exposure. To ensure high safety for people handling the enzymes, the industry has developed low dust formulations enzymes and made sector-specific guidelines on safe handling of enzymes. Specific measures avoiding dust or aerosols, and the use of respiratory protective equipment are key in managing the enzyme exposure of professionals and workers. Enzyme exposure can further be controlled by applying the sector-specific guidelines thereby ensuring a safe working environment.



## Sustainability

Due to their positive effects on processing, enzymes may help in reducing dough mixing time and thus lead to reduced energy consumption. Enzymes ease the handling of the dough for the craft bakers, but also in industrial production, thus making it more convenient for the users. Enzymes may also help mitigating some specific climate change impact challenges. A good quality bread, with volume and a soft crumb, requires flour with sugars that can be fermented by bakers' yeast during the bread-making process. With climate change, the properties of flour from field crops are changing. Enzymes are indispensable as flour and milling correctors to get a fermentable flour and improve dough handling.