ENZYMES IN THE TEXTILE INDUSTRY

Enhancing efficiency and reducing environmental impact

For any further information contact us

AMFEP represents the manufacturers and formulators of enzyme products.

www.amfep.org

TEGEWA represents industrial users of performance and process chemicals.

www.tegewa.de/en

The function of enzymes in the textile industry

Enzymes are used in various manufacturing processes, such as:

- Scouring: degrading impurities in fibers, which are often organic materials such as pectin and proteins, so they are removed from fibers.
- Bleaching: enzymes can reduce the amount of chemical bleaching agents or some enzymes can even replace bleaching agents. When used, they can help to save process time, energy and water consumption.
- Desizing: degrading the sizing materials such as starch applied to the fabric during the weaving process.
- Finishing: making fabric/garments smooth, eliminating hairiness, reducing pilling and antifelting finishing, and increasing garment lifespan.

Enzymes contribute to sustainability

The use of enzymes in the textile industry is globally recognized for its environmental benefits at various stages of textile processing. Enzymes are highly specific, efficient, work under mild conditions, reduce process times, and improve product quality. Specifically, enzymes can reduce water use up to 30% and reduce up to 80% of hazardous chemicals used such as formaldehyde or hydrogen peroxide. Moreover, enzymes reduce CO2 emissions by functioning at room temperature, and reduce textile waste by extending garment life. These valuable process improvements help the textile industry to reduce its overall environmental impact.

Enzymes have contributed to the textile industry's transition towards becoming more aligned with EU policy objectives under the Green Deal, specifically the recent Sustainable and Circular Textiles Strategy, which aims to "reduce adverse impacts on climate & the environment".

Safety of enzymes

The enzyme sector has over 50 years of experience ensuring the safety of enzymes in both occupational and consumer conditions. In collaboration with the Association of Manufacturers of Process and Performance Chemicals (TEGEWA) and the European Apparel and Textile Confederation (EURATEX), AMFEP has created publicly available guidance documents for the safe handling of enzymes in textile manufacturing.