



The Enzymes based Formulations for Paper and Pulp

The Pulp and Paper industry processes huge quantities of lignocellulosic biomass every year. The technology for pulp manufacturing is highly diverse, and numerous opportunities exist for the application of microbial enzymes.

Paper and Pulp is a high-volume industry where application of enzymes have helped in reduction in use of harmful chemicals, which are toxic and harmful to the environment. Enzymes are specific in function thus accurately do their job in various aspects of paper production such as: Fibre modification, old print paper de - inking, bleaching of the pulp and modification of starch application on finished paper.

Application of enzymes leads to:

1. Increased Productivity
2. Reduced need for drying and refining energy
3. Reduced need for drainage and bleaching chemicals
4. Increased Paper strength
5. Increased brightness level
6. Reduced dirt count
7. Reduced kappa number
8. Improved final product physical and mechanical properties
9. Improved Paper machine runnability
10. Fewer spots and holes
11. Fewer paper breaks
12. Increased felt life
13. Increase viscosity control and flexibility of starch slurry
14. Obtaining high-quality starch sizes
15. Replacing aggressive Oxidizing agents

Major Enzymes used:

- Cellulases and Hemicellulases: Enhance Swelling and Fibrillation of Fibres
- Hemicellulase: De – inking
- Xylanase: Bleaching
- Alpha Amylase: Liquefaction of Starch