

## **BIOCHEM show case**

# **Find a safe and effective solution to stickies**

## **Problem**

Paper recycling is plagued by contamination adhesives on the used paper. These stickies cause major problems. They degrade the recycled paper leaving spots and holes, and block machinery that must be regularly stopped and cleaned using VOC generating solvents. Some grades of waste paper are so contaminated that they cannot be economically recycled, adding to waste disposal costs.

## **Technical solution**

The main adhesive causing the problem is poly(vinyl acetate) (PVA). Buckman Laboratories have developed an enzyme treatment called Optimize using an esterase to hydrolyse the polymer to poly(vinyl alcohol). This is water soluble, not sticky and easy to remove.

## **Benefits**

- Enzyme is produced by a safe and sustainable microbial fermentation
- Reduces use of chemicals
- Eliminates stickies
- Increases range of waste paper that can be recycled
- Improves quality of recycled paper

In one paper mill the new treatment was responsible for:

- Solvent use reduced by about 750 litres per day
- Chemical use reduced by about 270 tonnes per annum

Partnerships for better  
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- Increasing production by about 6% through reduced downtime
- Generating about \$1 million financial benefits in the first year of use

## Additional information

Buckman website

<http://www.buckman.com/>

EPA 200 Greener Reaction Conditions Award

<http://www.epa.gov/greenchemistry/pubs/pgcc/winners/grca04.html>