

## Super Phos® Lowers Papermill Operating Costs in China

Case Study

Location: China Papermill Wastewater Facility  
Huma® Environmental Product: Super Phos®

### Problem

The existing wastewater treatment system uses 600 kg/day of diammonium phosphate (DAP) to provide the needed phosphorus concentration to maintain a healthy microbial population to treat wastewater. These microorganisms break down the organic matter being discharged from the paper processing facility. Without the correct concentration of available phosphorus, the microorganisms are unable to grow and reproduce. The facility's effluent has a COD of 200mg/L. The plant is striving to reduce costs while maintaining the wastewater treatment plant's efficiency.

### Solution

The facility agreed to use **Super Phos®** to replace the DAP fertilizer. The daily dose of **Super Phos®** was 75 kg versus 600 kg per day of DAP. This large reduction in chemicals "reduced storage space required as well as labor costs in moving and dosing the product." In addition, by using **Super Phos®**, the chemical costs were reduced by over 17%. Treatment efficiency was maintained even with the significant reduction in the dosing of phosphorous into the wastewater treatment plant. The effluent COD was maintained at 200 mg/L. Furthermore, after the addition of **Super Phos®** a microscopic analysis of the sludge showed the microbiology to be more active and regrowth was more vigorous.

### Conclusion

Replacing DAP with **Super Phos®** lowered chemical costs by over 17%, reduced labor hours and necessary storage facilities, and improved the microbiology in the wastewater while maintaining the treatment efficiency. In addition, by reducing the quantity of phosphorus being added to the system the facility has reduced corrosion and deposits in pipelines, further reducing operation and maintenance costs.

### Product Information

In response to the reactivity of phosphorous in wastewater, Huma® Environmental developed a phosphorous product scientifically complexed with Micro Carbon Technology® called **Super Phos®**. Over the years this product has proven to save money and improve plant performance by maximizing phosphorous bioavailability with minimum phosphorous input. **Super Phos®** is an essential component of energy-carrying phosphate compounds (ATP & ADP), nucleic acids, several essential coenzymes, and phospholipids. **Super Phos®** starts out as white phosphoric acid that is pre-complexed with organic acids to ensure maximum availability to microorganisms. **Super Phos®** has proven itself in wastewater applications where maximum performance is required and minimum effluent phosphorous concentrations are demanded. For more information, go to [www.huma.us](http://www.huma.us).



Photo 1. Papermill Wastewater Treatment System

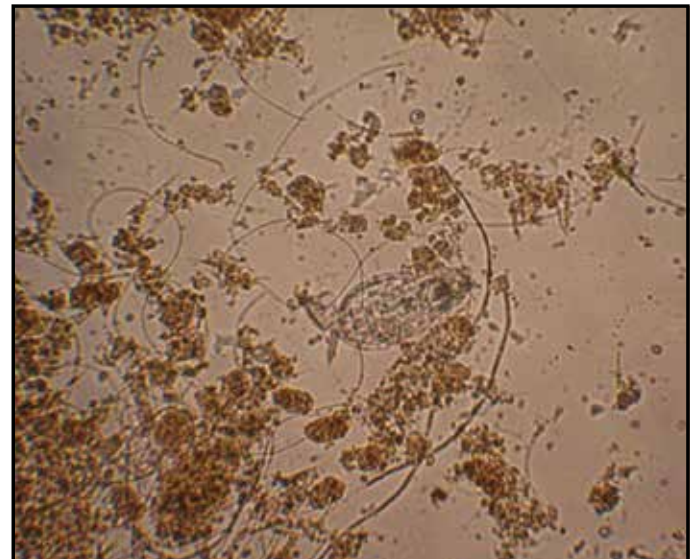


Photo 2. Microscopic Examination of Wastewater Microbes