

# Additives for Increased Lignin Removal Efficiency in Oxygen Delignification

**Sahu S.K., Pradhan S.K., Panigrahi J.C. & Deb U.K.**

## **ABSTRACT**

Oxygen delignification has become very popular for extended pulping. However, it has a major limitation. The delignification is limited to about 50% because of poor selectivity and degradation of carbohydrates beyond this point. Higher removal of lignin, therefore, causes loss of viscosity and pulp strength. It is thus important to look for methods to improve selectivity. This study investigates the use of hydrogen peroxide as an additive in oxygen delignification together with some other chemicals (magnesium sulphate and an organophosphonate) to improve the kappa reduction as well as selectivity. Effects on bleaching chemicals consumption and pulp strength have also been covered. The organophosphonate used was found to be particularly useful as it provided the best selectivity together with removal of transition metals from the pulp.