

ABSTRACT

CTMP is very fast pulping process, which produces pulp in least time of processing even in one hour from feeding of pulp. Most of the CTMP plants are working for wood based raw materials and all of the past research work relates to these specific raw materials. Though most of the workers have worked and determined methods for the treatment of these black liquors. But a little work has been done on the straw based liquors from CTMP pulping processes.

Chemical composition of the CTMP black liquor was determined by fractional and composite sample basis. Chemical composition of the CTMP black liquor shows many variations from black liquors of sulfite or kraft pulping. Firstly a big difference lies in the dry solids contents. CTMP liquor has extensively low dry solids, which are not suitable to be concentrate by commonly used concentrators. High energy will be required to concentrate it to 60 to 70% which is normal requirement of the recovery boiler. Organic to inorganic ratio also determines noticeable variation of chemical properties. Rate of change of chemical properties with rise in dry solid contents will be considerably determined by organics to inorganic ratio.

There is considerable decrease in pH of the black liquor with thermal aging in the storage tanks. Active, effective and total alkali contents are decreased with time. This changes poses various problems in further treatment of this aged black liquor. In fact black liquor is stored at high temperatures normally at 80-90°C. At this temperature degradation of the organic components of the black liquor occurs. Normally carboxylic acids are formed and consequently acidic gases like carbon dioxide and sulfur dioxide are released. These gases neutralize available alkali contents within the black liquor and express their effect by the reduction in pH. This black liquor is unfit for the set-parameters of the evaporators and hence causes problems in its treatment and recovery.