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Detection and identification of organics and trace metals by FTIR, GC/MS and ICP-AES and their organic-metallic statistics

P. M. Yeole[*] and V. S. Shrivastava[1]

* R. L. College, Parola - 425111 (M.S.)
1. Centre for P. G. Research in Chemistry,G. T. P. College, Nandurbar-425 412 (India)

Email: pmy_chem@rocketmail.com

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ABSTRACT

The organic compounds were identified in pulp and paper mill effluent samples which were taken from Ukai, Songhad and Padamji, Pune paper mills. These effluent samples were extracted with CH_2Cl_2 (Dichloromethane), liquid-liquid extract. These samples were then identified and by gas chromatography mass spectrometry (GC/MS). The obtained mass has also been recorded for different functional groups by FTIR. They found organic compounds are saturated and unsaturated hydrocarbons, aromatic alcohols, phenols and dicarboxylic acids which affect adversely to the soil and ground water quality of the area. The concentrations of the metals in HNO_3-HCL extract were detected by ICP-AES. Beside the above spectroscopic the organic and metallic statistics analyses have also been evaluated.

Keywords: Pulp and paper mills effluents, organic compounds, FTIR, GC-MS, ICP-AES, statistical evaluations.
