

Phenol as Waste Water Constituent in Petroleum Refining

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Abstract - Phenol appears ubiquitous in the refining of petroleum and constitutes a hazardous component of refinery effluents. The level of this chemical in refinery waste water requires constant monitoring in order to avert environmental contamination and possible litigation. The available method for estimation of the amount of phenol in refinery wastes at the Port Harcourt Refinery is a calorimetric procedure that employs an ultra violet spectrophotometer. In the event of a breakdown of the ultra violet spectrophotometer, an alternative procedure for phenol estimation becomes essential. To meet this demand, a novel method was recently developed for the estimation of phenol in refinery waste water by a gravimetric procedure. The procedure as an analytical tool is not known to have been previously reported in the literature. The reaction is here also being proposed as a possible method for the removal of phenol from refinery effluents.

Keywords: Phenol, petroleum refining, gravimetric analysis, colorimetric analysis.