

DETERMINATION OF CYANIDE IN COKING PLANTS WASTE WATERS USING FLOW INJECTION WITH SPECTROPHOTOMETRIC DETECTION

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Summary

Cyanides are extremely hazardous substances and their monitoring in industrial waste waters is mandatory. During the determination hydrogen cyanide was liberated from the sample by distillation and collection by passing through a strongly-alkaline NaOH solution. Then cyanides were determined by flow injection analysis using spectrophotometric method with Chloramine T, KH_2PO_4 , Na_2HPO_4 , isonicotinic acid, and 3-methyl-1-phenyl-2-pyrazolin-5-one, which formed with cyanides red product with maximum absorbance at 560 nm. The method optimization was carried out and then the method was applied to the determination of cyanide in coking plants waste waters in a wide range from 0.32 mg dm^{-3} to 281.4 mg dm^{-3} . Method performances including: standard deviation, precision, limit of detection, limit of quantification and analyte recovery were carried out.