

Summary: Prior to analysis, cyanide is released from cyanide complexes by off-line manual distillation and collected in a sodium hydroxide receiver solution. Sodium cyanide is converted to cyanogen chloride by a reaction with chloramine-T at a pH of less than eight. The cyanogen chloride then reacts with pyridene-barbituric acid to form a red-colored complex, and the absorbance is measured at 570 nm.

Interferences: Interferences are eliminated or reduced by distillation prior to the analysis. Treat samples containing sulfide by adding powdered lead carbonate. Treat samples containing residual chlorine by adding ascorbic acid.

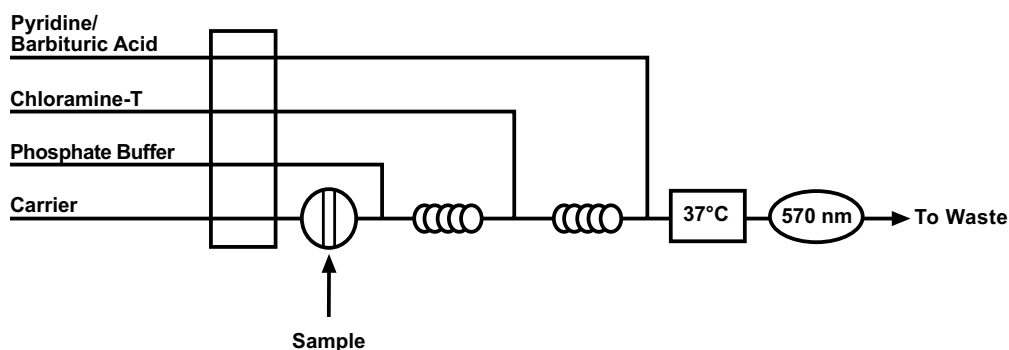
Performance Specifications:

Range:	2.0–500 µg/L
Throughput:	50 samples/hour
Precision:	
100 µg/L	<0.5% RSD
400 µg/L	<0.5% RSD
Method Detection Limit (MDL):	0.11 µg/L

Chemicals:

Barbituric Acid, $C_4H_4N_2O_3$	Pyridine, C_5H_5N
Chloramine-T, $C_7H_7ClNO_2SNa \cdot 3H_2O$	Sodium Hydroxide, NaOH
Hydrochloric Acid, concentrated, HCl	Sodium Phosphate Monobasic Monohydrate, $NaH_2PO_4 \cdot H_2O$
Potassium Cyanide, KCN	

Basic Flow Diagram:



Selected References: *Methods for the Chemical Analysis of Water and Wastewater*; EPA-600/4-79-020; U.S. Environmental Protection Agency, Office of Research and Development, Environmental Monitoring and Support Laboratory: Cincinnati, OH, 1993; Method 355.3.

Standard Methods for the Examination of Water and Wastewater, 20th ed.; American Public Health Association: Washington, D.C., 1998.