

Summary: The aqueous extract of tobacco reacts with buffered sulfanilic acid and cyanogen chloride to form a polymethine dye. The cyanogen chloride is generated on-line by combining potassium cyanide and chloramine-T. Measure the resulting color at 460 nm.

Interferences: No chemical interferences known.

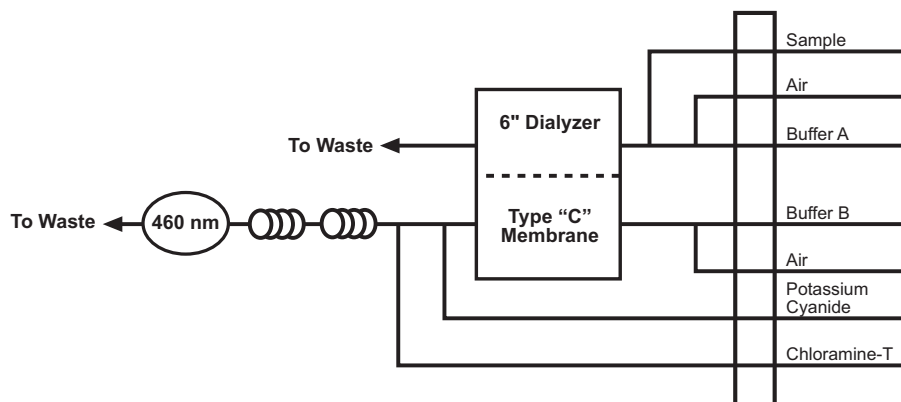
Performance Specifications:

Range:	5.0–200 mg/L
Throughput:	40 samples/hr
Precision:	
5.0 mg/L	<4% RSD
50 mg/L	<2% RSD
200 mg/L	<2% RSD
Method Detection Limit:	0.5 mg/L

Chemicals:

Acetic Acid, glacial, CH_3COOH	Nicotine, $\text{C}_{10}\text{H}_{14}\text{N}_2$
Brij®-35, 30% w/v (OI Analytical Part #A21-0110-33)	Potassium Cyanide, KCN
Chloramine-T Trihydrate, $\text{CH}_3\text{C}_6\text{H}_4\text{SO}_2\text{NNaCl}\cdot 3\text{H}_2\text{O}$	Sodium Chloride, NaCl
Citric Acid Monohydrate, $\text{H}_3\text{C}_6\text{H}_5\text{O}_7\cdot\text{H}_2\text{O}$	Sodium Phosphate Dibasic, Na_2HPO_4
Iron(II) Sulfate Heptahydrate, $\text{FeSO}_4\cdot 7\text{H}_2\text{O}$	Sodium Tetraborate Decahydrate, $\text{Na}_2\text{B}_4\text{O}_7\cdot 10\text{H}_2\text{O}$
	Sulfanilic Acid, $\text{H}_2\text{NC}_6\text{H}_4\text{SO}_3\text{H}$

Basic Flow Diagram:



Selected Reference: Davis, R.E. *Tobacco Science*, **1976**, 146–151.

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