O·I·Analytical

Method Abstract

Summary: Cyanogen chloride is generated on-line by combining potassium cyanide and chloramine-T trihydrate. Nicotine reacts with cyanogen chloride and buffered aniline to form a polymethine dye. The absorbance is measured at 460 nm.

Interferences: No chemical interferences are known for this method.

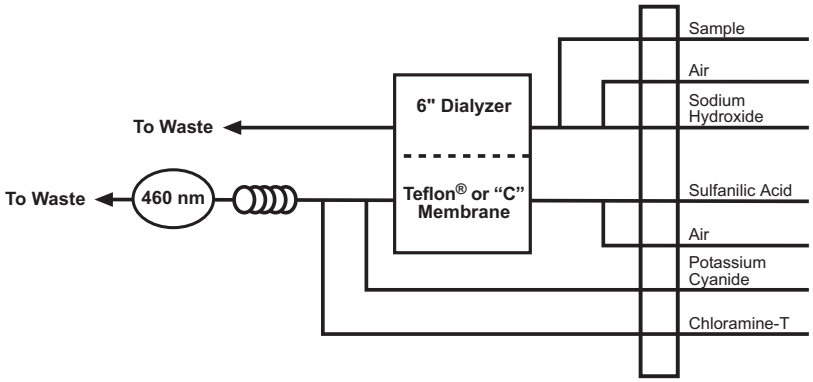
Performance Specifications:

Range:	4.0–200 mg/L
Throughput:	40 samples/hour
Precision:	
4.0 mg/L	<10% RSD
100 mg/L	<2% RSD
200 mg/L	<1% RSD
Method Detection Limit (MDL):	1.0 mg/L

Chemicals:

Acetic Acid, glacial, CH_3COOH
Brij®-35, 30% w/v
(OI Analytical Part #A21-0110-33)
Chloramine-T Trihydrate,
$CH_3C_6H_4SO_2NNaCl•3H_2O$
Citric Acid, $H_3C_6H_5O_7$
Nicotine, $C_{10}H_{14}N_2$
Potassium Cyanide, KCN
Sodium Hydroxide, NaOH
Sodium Phosphate Dibasic, Na_2HPO_4
Sulfanilic Acid, $H_2NC_6H_4SO_3H$

Basic Flow Diagram:



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

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