

Summary: Ammonia reacts with alkaline phenol and hypochlorite to form indophenol blue in an amount that is proportional to the ammonia concentration. The blue color is intensified with sodium nitroferrocyanide. The absorbance is measured at 660 nm.

Interferences: Filter turbid samples prior to analysis. Eliminate precipitation of calcium and magnesium hydroxides by adding ethylenediaminetetraacetic acid (EDTA). Samples with background absorbance at the analytical wavelength may interfere. Color intensity is sensitive to pH. Standardize samples at pH 5–7 prior to analysis.

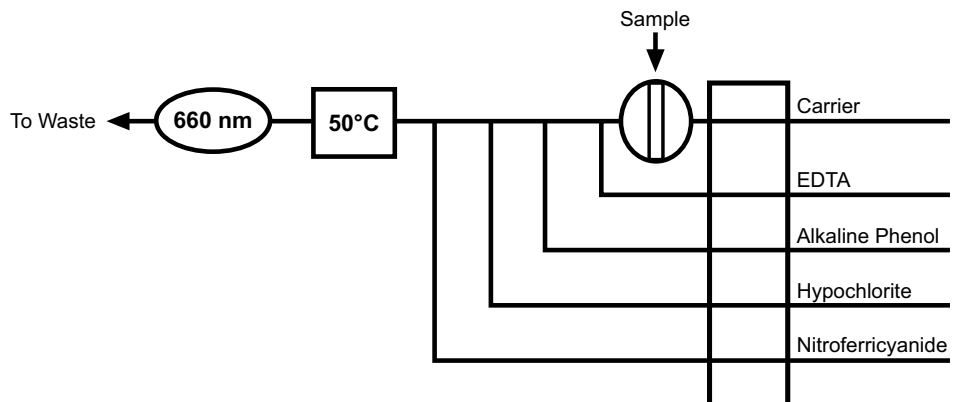
Performance Specifications:

Range:	0.01–25 mg/L ammonia (NH ₃) as nitrogen (N)
Throughput:	51 samples/hour
Precision:	<1% RSD
0.05 mg/L	
Method Detection Limit (MDL):	0.002 mg/L NH ₃ as N

Chemicals:

Ammonium Sulfate, (NH ₄) ₂ SO ₄	Kleenflow Basic (OI Analytical Part #A001252)
Brij®-35, 30% w/v (OI Analytical Part #A21-0110-33)	Phenol, solid or liquified, 88%, C ₆ H ₅ OH
Chloroform, CHCl ₃	Sodium Hydroxide, NaOH
Ethylenediaminetetraacetic Acid, Disodium Salt Dihydrate (EDTA), C ₁₀ H ₁₆ N ₂ Na ₂ O ₈ •2H ₂ O	Sodium Hypochlorite, 5.25% available chlorine (household bleach), NaOCl
Kleenflow™ Acidic (OI Analytical Part #A001251)	Sodium Nitroferrocyanide Dihydrate, Na ₂ Fe(CN) ₅ NO•2H ₂ O
	Sulfuric Acid, H ₂ SO ₄

Basic Flow Diagram:



Note: This method complies with USEPA Method 350.1.

Selected References: *Methods for 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, 1984; Method 350.1.

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

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