

## **Method Abstract**

Scope	This method is used for determining sulfide in drinking water, surface water, saline water, and domestic and industrial wastes according to Standard Methods 4500–S <sup>2-</sup> D.			
Summary	Sulfide reacts with p-aminodimethylaniline ( <i>p</i> -AMA) and ferric chloride to form methylene blue. The absorbance is measured at 660 nm. This method does not detect acid insoluble sulfides.			
Interferences	Strong reducing agents such as thiosulfate at concentrations above 10 mg/L inhibit color formation. Samples with background absorbance at the analytical wavelength may interfere. Turbidity in the sample may interfere; filter or centrifuge turbid samples prior to preservation with zinc acetate. Aeration can result in loss of sulfide due to volatization or reaction with oxygen. Consult the Removing Interferences section of the methodology for treatment procedures for the removal of major interferences.			
Performance Specifications				
	Range (200- $\mu$ L sample loop):2-2Range (100- $\mu$ L sample loop):50-Throughput:60 sMethod Detection Limit (MDL):0.3	50 μg/L 5,000 μg/L samples/hour μg/L	Precision (at $5.00 \ \mu g/L$ ):<2% RSD	
Chemicals				
	p-Aminodimethylaniline (N,N-Dimethyl-1,3-HydrochPhenylenediamine Dihydrochloride), $C_8H_{12}N_2^{\bullet}$ 2HClSodiumBrij <sup>®</sup> -35, 21% solution (part number A21- 0110-33)SodiumDeionized (DI) Water (ASTM Type I or II)Sulfuric		Hydrochloric Acid, concentrated, HCl Sodium Hydroxide, NaOH Sodium Sulfide Nonahydrate, Na <sub>2</sub> S•9H <sub>2</sub> O	
			um Thiosulfate Pentahydrate, $a_2S_2O_3 \bullet 5H_2O$	
			Sulfuric Acid, concentrated, $H_2SO_4$	
	Ferric Chloride Hexahydrate, FeCl <sub>3</sub> •6	H <sub>2</sub> O Zinc	Acetate Dihydrate, $Zn(CH_3CO_2)_2 \bullet 2H_2O$	
Basic Flow Diagram	Carrier p-AMA Ferric Chloride		660 nm To Waste	
Note	This method complies with USEPA Method 376.2.			
Selected References	Methods for Chemical Analysis of Water and Wastes; EPA–600/4–79–020; U.S. Environmental Protection Agency, Office of Research and Development, Environmental Monitoring and Support Laboratory: Cincinnati, OH, 1984; Method 376.2. Standard Methods for the Examination of Water and Wastewater, 20th ed.; American Public Health Association: Washington D.C., 1998.			

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