

TEST METHOD T1008

QUALITATIVE DETERMINATION OF THE PRESENCE OF PHOSPHATES IN WATER

1. SCOPE

This test method sets out the procedure for the qualitative determination of the presence of phosphates in water by the precipitation of ammonium phosphomolybdate. This precipitate is formed when a large excess of ammonium molybdate reagent is added to a small volume of phosphate solution.

2. Apparatus

- (a) Laboratory glassware including beakers, 10 mL measuring cylinder etc.
- (b) A balance of 200 g capacity, accurate and readable to 0.0001 g.

3. Reagents

- (a) Concentrated Nitric Acid
- (b) Ammonium Molybdate Reagent

Dissolve 11 g of pure commercial molybdate in a mixture of 10 mL of concentrated ammonia solution and 15 mL of distilled water. Add 30 g of ammonium nitrate and dilute to 250 mL with distilled water.

4. Procedure

- (a) Place 1 mL of the sample in a beaker.
- (b) Add 1 mL of concentrated nitric acid and slowly bring the mixture to the boil.

CAUTION: Nitric acid is corrosive, handle with care. Safety glasses must be worn when diluting.

- (c) Cool and add 5 mL of ammonium molybdate solution.
- (d) Heat to 40°C (but no higher) and observe whether a yellow crystalline precipitate is formed. Such a precipitate indicates the presence of phosphate in the sample.

5. Reporting

Report the results as either positive or negative depending upon whether or not a yellow precipitate was observed.