



Method Summary

Determination of Ferrous Iron in water and Associated matrices.

Scope and Range

This method is applicable to the measurement of iron in the +2 oxidation state. This method is applicable to ground water, wastewater, leachates, process control samples and other environmental waters.

The working range of the method is 0.1-6 mg/l FeII.

The accepted LOD for the method has been calculated at 0.1 mg/l FeII.

Principle

Preparation and Extraction

Samples should be received already preserved in Hydrochloric acid with a pH<2. Samples are filtered through a 0.45µm membrane filter before analysis in the preparation department.

Analysis

The method is based upon the spectrophotometer measurement of the coloured complex formed between the ferrous iron and the complexing agent 1,10 phenanthroline. The method utilises the reaction of iron present in the +2 oxidation state, which is preserved in the sample by maintaining a pH≤ 2. This is reacted with the complex agent and the absorbance measured at the absorbance maximum at 510nm using a spectrophotometer.

Interferences

There may be interferences apparent in some Samples containing high level of complex phosphates, copper and zinc.

Oily and coloured samples are unsuitable for this test.