⟨241⟩ IRON

This limit test is provided to demonstrate that the content of iron, in either the ferric or the ferrous form, does not exceed the limit for iron specified in the individual monograph. The determination is made by concomitant visual comparison with a control prepared from a standard iron solution.

SPECIAL REAGENTS

Standard Iron Solution

Dissolve 863.4 mg of ferric ammonium sulfate [$FeNH_4(SO_4)_2 \cdot 12H_2O$] in water, add 10 mL of 2 N sulfuric acid, and dilute with water to 100.0 mL. Pipet 10 mL of this solution into a 1000-mL volumetric flask, add 10 mL of 2 N sulfuric acid, dilute with water to volume, and mix. This solution contains the equivalent of 0.01 mg (10 µg) of iron per mL.

Ammonium Thiocyanate Solution

Dissolve 30 g of ammonium thiocyanate in water to make 100 mL.

STANDARD PREPARATION

Into a 50-mL color-comparison tube pipet 1 mL of *Standard Iron Solution* (10 µg of Fe), dilute with water to 45 mL, add 2 mL of hydrochloric acid, and mix.

TEST PREPARATION

Into a 50-mL color comparison tube place the solution prepared for the test as directed in the individual monograph and if necessary dilute with water to 45 mL; or, dissolve in water, and dilute with water to 45 mL the quantity, in g, of the substance to be tested, as calculated by the formula:

$$1.0/(1000L)$$

in which L is the *Iron* limit in percentage. Add 2 mL of hydrochloric acid, and mix.

PROCEDURE

To each of the tubes containing the *Standard Preparation* and the *Test Preparation* add 50 mg of ammonium peroxydisulfate crystals and 3 mL of *Ammonium Thiocyanate Solution*, and mix: the color of the solution from the *Test Preparation* is not darker than that of the solution from the *Standard Preparation.*