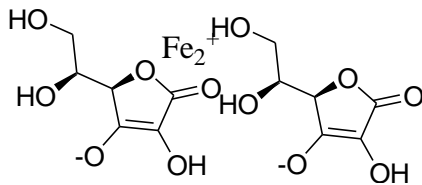


## Ferrous Ascorbate



$C_{12}H_{14}FeO_{12}$

Mol. Wt. 406.1

Ferrous Ascorbate is (2R)-2-[(1S)-1,2-dihydroxyethyl]-4,5-dihydroxyfuran-3-one;iron (2+).

Ferrous Ascorbate contains not less than 13.5 per cent and not more than 15.5 per cent of ferrous iron and not less than 78.0 per cent and not more than 87.0 per cent of ascorbic acid, calculated on the dried basis.

**Category.** Haematinic.

**Dose.** 100 mg daily.

**Description.** A fine, dark violet coloured dried powder.

### Identification

A. Dissolve 100 mg of the substance under examination in 10 ml of *water*, add 1 ml of 0.05 M *sulphuric acid*, 1 ml of 2,6-dichlorophenolindophenol solution and 1 ml of dinitrophenyl hydrazine solution. Mix the solutions and keep in boiling water-bath for 10 minutes. The solution gives orange-red colour.

B. It gives reaction (A) of ferrous salts (2.3.1).

### Tests

**Appearance of solution.** A 1.0 per cent w/v solution in 1M *hydrochloric acid* is clear (2.4.1) and not more intensely coloured than reference solution BYS5 (2.4.1).

**pH**(2.4.24). 5.5 to 7.0, determined in a 1.0 per cent w/v solution.

**Sulphates** (2.3.17). 1.5 g complies with the limit test for sulphates (100 ppm).

**Sulphated ash** (2.3.18). 19.0 per cent to 25.0 per cent.

**Loss on drying** (2.4.19). Not more than 10.0 per cent, determined on 1.0 g by drying in an oven at 105°.

### Assay.

#### Ferrous Iron

**Test solution.** Dissolve 0.2 g of the substance under examination in 40 ml of *water*, add 8 ml of *glacial acetic acid* and dilute to 100.0 ml with *water*. Dilute 10.0 ml of the solution to 100.0 ml with *water*.

**Reference solution.** Dissolve 0.2 g of *ferrous ammonium sulphate* in 40 ml of *water*, add 8 ml of *glacial acetic acid* and dilute to 100.0 ml with *water*. Dilute 10.0 ml of the solution to 100.0 ml with *water*.

Transfer 5.0 ml of the reference solution and the test solution separately into 100.0 ml volumetric flask, add 20 ml of *water* and 3.0 ml of 1,10-phenanthroline solution. Mix well and dilute to volume with *water*. Measure the absorbance after 1 hour at 515 nm (2.4.7). Calculate the content of ferrous iron.

#### Ascorbic acid

Weigh 0.15 g of the substance under examination, disperse in 25.0 ml of 0.2 M *disodium edetate solution*, 1.0 ml of 20% *citric acid solution*, and add 0.5 ml *starch solution* as indicator. Titrate immediately with 0.05M *iodine* until a wine-red colour is obtained.

1 ml of 0.05 M *iodine* is equivalent to 0.008806 g of  $C_6H_8O_6$ .

**Storage:** Store protected from light and moisture.

**Solubility:** Freely soluble in *water* and insoluble in organic solvents.