

SCHEDULE 2

Regulation 4(1)

SPECIFICATION FOR IRON POWDER

Definition

Iron powder shall consist essentially of finely-divided metallic iron containing not less than 90 per cent by weight of iron and conform to the following requirements.

<i>Chemical name</i>	Iron
<i>Symbol</i>	Fe

Description

Fine greyish-black powder of such granularity that not more than 0.1 per cent by weight shall remain on a British Standard 410:1969 wire sieve nominal aperture size 150 µm and not more than 5 per cent by weight on a British Standard 410:1969 wire sieve nominal aperture size 53 µm.

Assay

Accurately weigh 0.25 g of sample into a stoppered flask. Add a hot solution of 1.25 g of copper sulphate pentahydrate in 20 ml of water and shake for ten minutes. Filter rapidly and wash the filter with water; acidify the mixed filtrate and washings with sulphuric acid, and titrate with N/10 potassium permanganate. Each ml of N/10 potassium permanganate is equivalent to 0.005585 g of iron.

Solubility

Not less than 95 per cent of the iron content when determined by the following method.

Accurately weigh 0.1 g of sample into a 750 ml conical flask. Add 450 ml 0.2 per cent weight in weight hydrochloric acid previously warmed to 37°C. Stir continuously for three hours, maintaining the temperature at 37°C. Cool to room temperature and dilute to 500 ml with distilled water. Filter; determine the iron content of the filtrate by a suitable method. Calculate the total iron in solution as a percentage of the metallic iron content of the sample taken.