

SCHEDULE 2

METHODS OF ANALYSIS

4b.

DETERMINATION OF TOTAL NITROGEN IN CALCIUM CYANAMIDE — IN THE PRESENCE OF NITRATE

Solution of stannous chloride:

4.11 dissolve 120 g of stannous chloride ($\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$), in 400 ml concentrated hydrochloric acid ($d = 1.18 \text{ g/ml}$) and make up to 1 litre with water. The solution must be completely clear and prepared immediately before use. It is essential to check the reducing power of the stannous chloride. Dissolve 0.5 g of stannous chloride in 2 ml concentrated hydrochloric acid ($d = 1.18 \text{ g/ml}$) and make up to 50 ml with water. Then add 5 g of Rochelle salt (potassium sodium tartrate) and a sufficient quantity of sodium bicarbonate for the solution to show an alkaline reaction to a litmus paper test.

Titrate with 0.1 N iodine solution in the presence of a starch solution as an indicator.

1 ml of iodine solution 0.1 N corresponds to 0.01128 g $\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$.

At least 80% of the total tin present in the solution thus prepared must be in a bivalent form. For the titration at least 35 ml of 0.1 N iodine solution should be used.