

SCHEDULE 2

METHODS OF ANALYSIS

PART II

15.

DETERMINATION OF THE NEUTRALISING VALUE IN LIMING MATERIALS

1 SCOPE AND FIELD OF APPLICATION

1. This method is applicable to products in Groups 5(a) and 5(b) of Section A of the Table in Schedule 1 of the Fertilisers Regulations (Northern Ireland) 1990⁽¹⁾.

2 PRINCIPLE

2. The sample is dissolved in a measured quantity of standard hydrochloric acid, the excess of which is titrated with a standard solution of sodium hydroxide.

3 REAGENTS

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3.1 Hydrochloric acid, 0.5 N solution.

3.2 Sodium hydroxide, 0.5 N solution of carbonate free).

3.3 Phenolphthalein indicator solution: dissolve 0.25 g phenolphthalein in 150 ml 95% ethanol and dilute with water to 250 ml.

4 PREPARATION OF SAMPLE

4. Rapidly grind 50 g of the representative lime sample to pass through a 1 mm sieve.

5 PROCEDURE

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Determination

5.1 Weigh to the nearest 0.001 g, 0.5 g of the prepared sample and transfer to a 300 ml conical flask. Add 50 ml of 0.5 N hydrochloric acid (3.1), cover the flask with a watch glass and boil the contents gently for five minutes. Cool the mixture to room temperature, add two or three drops of the phenolphthalein indicator (3.3) and titrate with 0.5 N sodium hydroxide solution (3.2) to the end point of the indicator.

6 EXPRESSION OF THE RESULTS

6. Determine the amount of hydrochloric acid consumed by the sample. 1 ml 0.5 N hydrochloric acid = 0.01402 g calcium oxide (CaO).

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The neutralising value is expressed as a percentage by weight of calcium oxide (CaO), and refers to undried sample as received.