

STANDARDS AUSTRALIA

RECONFIRMATION

OF

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Test methods for limes and limestones

Method 6.1: Lime index—Available lime

RECONFIRMATION NOTICE

Major stakeholders of this publication have been consulted and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 03 June 2016.

NOTES

Australian Standard[®]

Test methods for limes and limestones

Method 6.1: Lime index—Available lime

1 SCOPE The available lime index of quicklime and hydrated lime designates those constituents that enter into the reaction under the conditions of this specified test method, otherwise known as the 'rapid sugar test method'. The interpretation of results obtained by this test method is restricted by this definition. This test method is based on ASTM C 25, *Test Methods for Chemical Analysis of Limestone, Quicklime and Hydrated Lime*.

2 PRINCIPLE The sample is slaked and dispersed with water. The lime is solubilized by reaction with sugar to form calcium sucrate, which is then determined by titration against standard acid and using phenolphthalein as the indicator.

3 APPARATUS

3.1 Balance—analytical type accurate to 0.0003 g.

4 REAGENTS

4.1 Hydrochloric acid, standard (1.000 mol/L) A solution should be prepared by diluting 98 mL of HCl (32% w/w) or 83 mL of HCl (36% w/w) to 1 L with distilled water. Standardization of the stock solution should be performed on a regular basis, at a minimum of once per month.

Concentrations different from 1 mol/L may be used.

4.2 Standardization of HCl with Na₂CO₃

4.2.1 Procedure The procedure is as follows:

- (a) Transfer approximately 20 g of primary standard anhydrous sodium carbonate (Na₂CO₃) to a platinum dish or crucible, and dry at 250°C for 4 h. Cool in a desiccator.
- (b) Weigh accurately 4.4 g to the nearest 0.1 mg of the dried Na₂CO₃ and transfer to 500 mL Erlenmeyer flask. Add 50 mL of distilled water, swirl to dissolve the carbonate, and add two drops of 0.1% solution of methyl red in alcohol. Titrate with the HCl solution until the first appearance of red colour, and boil the solution carefully until the colour is discharged (see Note to Clause 4.2.2). Cool to room temperature, and continue the titration, alternating the addition of HCl solution and the boiling and cooling to the first appearance of a faint red colour that is not discharged on further heating.