

DRAFT TANZANIA STANDARD

TBS/CDC7 (5416) P3 Lime (Quick and Hydrated) for Chemical industries – Specification (Revision of TZS 586: 2001)

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TANZANIA BUREAU OF STANDARD

Foreword

This Draft Tanzania Standard is being developed by the Industrial and Laboratory Chemicals Technical Committee under supervision of the Chemicals Divisional Standards Committee and it is in accordance with the procedures of the Bureau.

This Draft Tanzania Standard is the first revision of TZS 586: 2001 Lime (Quick and Hydrated lime) for Chemical industries – Specification. In this second edition the following technical changes are proposed;
- *Clause 4.2 Table 2 and 3; the maximum level for acid insoluble matter (as SiO₂) increased depending on intended application.*

In the preparation of this standard assistance has been obtained from the following standards:

IS 1540(Part 1 and 2): 2015 - Specification for quicklime and hydrated lime for chemical industries published by Bureau of Indian Standards; and

ASTM C911:2006 (Reapproved 2011) Standard Specification for Quicklime, Hydrated Lime, and Limestone for Selected Chemical and Industrial Uses published by ASTM International.

In reporting the result of a test or analysis made in accordance with this standard if the final value, calculated or observed is to be rounded off, it shall be done in accordance with TZS 4 *Rounding off numerical values.*

Lime (Quick and Hydrated lime) for Chemical industries –Specification

1. Scope

1.1 This Draft Standard prescribes the requirements for quicklime and hydrated lime suitable for the following chemical and Industrial uses; bleaching powder, paper, textiles, varnishes, sugar, calcium carbide, soda ash, caustic soda, water treatment, tanning and grease manufacturing.

1.2 This standard does not cover lime for building, agricultural, metallurgical, glass and ceramic industries.

2. Normative references

The following referenced documents are indispensable for the application of this standard; the latest edition of the referenced documents (including any amendments) apply;

TZS 2190 *Methods of sampling of lime and limestone products*

TZS 2191 *Methods of test for chemical analysis of limestone, quicklime and hydrated lime.*

TZS 648 *Specification for limestone for chemical industries.*

TZS 2192 *Standard terminology relating to Lime and Limestone (as used by the industry)*

3. Terminologies

For the purpose of this standard, terminologies from TZS 2192 shall apply:

4. Requirements

4.1 Physical requirements

4.1.1 Appearance

Quicklime and hydrated lime shall be in the form of lumps or fine white powder free from dirt and other foreign matter

4.1.2 Particle size

Quicklime and hydrated lime shall satisfy requirements in Table 1.

Table 1: Particle size requirements

Intended application	100% passing through	Nature of the product
Pulp and paper, textile, varnish and Sugar	89 microns	Powder
Calcium carbide, Grease, Soda ash, Water treatment and tanning	-	lumps

4.2 Chemical requirements

Quicklime and hydrated lime shall comply with the chemical characteristics specified in Table 2 and Table 3 when tested according to the method prescribed in TZS 2190.

Table 2. Requirements for Quicklime for Chemical Industries

S/N	Characteristic	Requirement on intended application (on non-volatile basis)			Methods of test according to TZS 2191
		Bleaching powder, paper, textiles and varnish	Sugar and Calcium carbide	Soda ash, caustic soda, water treatment and tanning	
1.	Available lime (as CaO percent by mass, min.	92	90	85	7
2.	Acid insoluble matter (as SiO ₂), percent by mass, max	3.0	1.0	2.0	10
3.	Carbon dioxide (as CO ₂) percent by mass, max	2.0	2.5	3.0	17
4.	Iron (as Fe ₂ O ₃) percent by mass, max	0.4	0.4	0.4	11
5.	Sulfur (as S) percent by mass, max	N/A	0.6	N/A	14
6.	Manganese (as Mn ₂ O ₃) per cent by mass, max	0.03	0.03	N/A	16
7.	Alumina (as Al ₂ O ₃) percent by mass, max	1.0	1.0	1.7	11
8.	Magnesium oxide (as MgO) percent by mass, max	1.5	2.0	3.0	13
9.	Dead burnt lime (as CaO) percent by mass, max	N/A	2.0	3.0	12

Note:

N/A – Not applicable as the parameter is not critical for respective application

Table 3. Requirements for Hydrated lime for Chemical Industries

S/N	Characteristic	Requirement on intended application (on non-volatile basis)			Methods of test according to TZS 2191
		Grease manufacturing	Stable bleaching powder,	Water treatment	
1.	Available lime [as Ca(OH) ₂] percent by mass, min.	90	88	86	7
2.	Acid insoluble matter (as SiO ₂), percent by mass, max	1.0	3.0	2.0	10
3.	Carbon dioxide (as CO ₂) percent by mass, max	1.0	2.0	2.5	17
4.	Iron (as Fe ₂ O ₃) percent by mass, max	N/A	0.2	0.3	11
5.	Manganese (as Mn ₂ O ₃) per cent by mass, max	N/A	0.03	0.03	16
6.	Alumina (as Al ₂ O ₃) percent by mass, max	N/A	0.3	0.3	11
7.	Magnesia (as MgO) percent by mass, max	1.5	1.0	1.0	13
8.	Dead burnt lime (as CaO) percent by mass, max	N/A	2.0	2.0	12

Note:

N/A – Not applicable as the parameter is not critical for respective application

Note: For samples which are in the form of hydrated lime determine the loss on ignition as given in TZS 2191 in order to correct the mass of the test portion in the sample.

5. Packaging and Labelling

5.1 Packaging

Quicklime and hydrated lime shall be packed in air-tight and moisture proof containers.

5.2 Labelling

5.2.1 When Quick lime and hydrated lime are supplied in packages, each package shall be legible and indelibly labelled in English and/or Swahili with the following information:

- a) Name and intended use of the material;
- b) Net content;
- c) Name and address of Manufacturer
- d) Trade mark if any and;
- e) Batch number

5.2.2 When supplied in bulk, label bearing the above information shall be conspicuously displayed on the carrier and also placed inside.

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6. Sampling and testing

6.1 The method for sampling of the Quicklime and hydrated lime shall be done as prescribed in TZS 2190.

6.2 The method of testing of the samples shall be done according to TZS 2191.

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