



DRAFT TANZANIA STANDARD

Methods of sampling and test for crude and refined glycerine
Part 18: Detection of sugars

TANZANIA BUREAU OF STANDARDS

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Foreword

This Draft Tanzania Standard was prepared under the direction of Cosmetics and Cremeries Technical Committee, which is under the supervision of Chemicals Divisional Standards Committee.

For the purpose of deciding whether a particular requirement of this Tanzania Standard is complied with, the final value, observed or calculated, expressing the result of a test or an analysis, shall be rounded off in accordance with TZS 4 (see clause 2).

This second edition cancels and replaces the first edition (TZS 1199-18:2015), which has been technically revised.

Methods of sampling and test for crude and refined glycerine

Part 18: Detection of sugars

1 Scope

This Draft Tanzania Standard describes a colorimetric method for detecting the presence of sugars in crude and refined glycerine.

2 Normative references

The following referenced documents are indispensable for the application of this Tanzania Standard:

TZS 1199 – 2: *Crude and refined glycerine — Methods of sampling and test Part 2: Methods of sampling*

TZS 59:2010/ISO 3696, *Water for analytical laboratory use — Specification and test methods*

3 Principle

Heat a test portion with a diluted sulphuric acid solution of urea and tin (II) chloride for 15 min on a water bath. Development of a marked colour (usually brown) indicates the presence of sugar.

4 Reagents

The reagents used shall be of a recognized analytical grade.

4.1 Distilled water, complying with the requirements of TZS 59:2010/ISO 3696 (see clause 2) or water of at least equal purity shall be used.

4.2 Urea,

4.3 Tin (ii) chloride

4.4 Aqueous Sulphuric acid 400 g/L: Take 217 mL of concentrated sulphuric acid to 1 L of distilled water

WARNING: Sulphuric acid is corrosive. It should be handled with care. Never add water to acid.

4.5 Reagent solution, dissolve 4 g of urea and 0.2 g of tin (II) chloride by heating with 10 mL of approximately 400 g/L aqueous sulphuric acid.

NOTE – It is usually convenient to make at least 30 mL of solution.

5 Sampling

Prepare the laboratory samples as described in TZS 1199 – 2

6 Procedure

Introduce 4 drops of the sample into each of two test tubes. To one tube add 1 mL of the reagent solution and to the other tube add 1 mL of distilled water, as a control (Note 2). Immerse both tubes in a water bath and examine after 15 min (Note 3). If a marked colour develops in the tube containing the reagent, sugars are present.

NOTE 1 – A marked colour shows the presence of 0.25 % or more of sugars.

NOTE – 2 If preferred, a reference mixture can be made of several crude glycerols known to be sugar-free. The control is prepared by using 4 drops of the reference mixture in the second tube and following the procedure described in clause 6.

NOTE 3 – The time chosen is sufficient to give a significant colour change even with low concentration of sugar, though in many cases 5 min would suffice to develop a colour.

7 Test report

7.1 Report the result as either 'sugars detected' or no sugars detected',

7.2 The test report shall include the following particulars:

- a) a reference to this Tanzania Standard;
- b) the result and the method of expression used;
- c) any unusual features noticed during the test;
- d) any operations not included in this Tanzania Standard or regarded as optional.

Bibliography

TZS 1199-18:2015 *Methods of sampling and test for crude and refined glycerine Part 18: Detection of sugars*