# DRAFT TANZANIA STANDARD

## TBS/CDC-2(5414) P2 Glass cleaner, liquid –Specification



**TANZANIA BUREAU OF STANDARDS**

## Foreword

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

In the preparation of this Draft Tanzania Standard assistance was drawn from IS 8540:2016 Glass cleaner, liquid; published by the Indian Standards Institutes

In reporting the results of analysis of a test if the final value is to be rounded off, it shall be done in accordance with TZS 4 *Rounding off numerical values*

# Glass cleaner, liquid –Specification

## 1 Scope

**1.1** This Draft Tanzania Standard prescribes the requirements, methods of sampling and test for glass cleaner, liquid.

**1.2** This Draft Tanzania Standard is applicable for the liquid glass cleaner intended primarily for use on wind shields, windows, doors, globes, shells, tableware, glass mirrors, and the surfaces of other glassware/products. It is not intended for use on transparent plastic surfaces and laboratory glassware.

## 2. Normative references

The following referenced documents are indispensable for the application of this document. The latest edition of the referenced document (including any amendments) applies.

ASTM D-56 *Standard Test Method for Flash Point by Tag Closed Cup Tester*

TZS 646/ISO 4316 *Surface active agents - Determination of pH of aqueous solutions - Potentiometric method*

TZS 649/ISO 4317 *Surface-active agents and detergents — Determination of water content — Karl Fischer method*

TZS 59/ISO 3696 *Water for analytical laboratory use – Specification and test method*

## 3. Requirements

### 3.1 General requirements

**3.1.1** The cleaner shall be a clear and homogenous liquid or a suitable suspension of solid matter in the medium and shall acquire homogeneity on shaking.
**3.1.2** The cleaner shall not have any no objectionable odour.
**3.1.3** The cleaner may be tinted in suitable stable colour.
**3.1.4** The cleaner shall not impart stain to glass surfaces.

**3.1.5** The cleaner shall have no injurious effect on human skin and shall be free from toxic ingredients.
**3.1.6** The cleaner shall be stable in normal conditions of storage and handling.
**3.1.7** The cleaner shall be capable of smooth, uniform and easy application.

### 3.2 Specific requirements

**3.2.1** The applied film shall be easily removable within 3 to 4 minutes of application and shall leave the surface clean when tested as described in Annex B

**3.2.2** The cleaner shall not produce visible corrosion or discolouration on an aluminium panel, when tested as described in Annex C

**3.2.3** The material shall also comply with the requirements given in Table 1 when tested by the appropriate methods as indicated in column 3 of the Table.

**Table 1: Requirements for glass cleaner, liquid**

| S/No | Characteristic | Requirement | Method of test |
|---|---|---|---|
| i. | Water content, percentage by mass, max | 88.0 | TZS 649/ISO 4317 |
| ii. | Flash point, ºC, min | 27 | ASTM D56 |
| iii. | Non-volatile matters content, percentage by mass, max | 1.0 | Annex D |

**3.3 Shelf life**
It shall retain the properties as specified from 3.1 and Table 1 for 2 years from the month and year of manufacture when stored at room temperature.

**4. Packaging and labelling**

**4.1 Packing**

**4.1.1** The glass cleaner shall be packed in a suitable container that will maintain the quality of the product. It may have an in-built spray device.

**4.1.2** The container shall be leak-proof and the spray device, if used, shall be protected against any damage during transit.

**4.2 Labelling**

Each container shall be legibly and indelibly labelled in Kiswahili and English, and any other language as agreed between the manufacturer and supplier with the following information:

a) the name of the product;
b) registered trade mark if any;
c) the net content;
d) the name and address of the manufacturer;
e) the country of origin;
f) dates of manufacture and expiry/best before use;
g) the code number or batch number;
h) directions for use and safety precaution;
i) Indication of acidity and alkalinity and
j) Storage condition

**5. Sampling**
The method of drawing representative samples of the material and the criteria for conformity shall be as prescribed in Annex A

**6. Quality of reagents**

Unless specified otherwise, Analytical reagents and distilled water (see TZS 59) shall be used in tests.

## Annex A

(Normative)

## Sampling of glass cleaner, liquid

### A.1 General requirement of sampling

**A.1.1** In drawing, preparing, storing and handling of test samples, the following precautions and directions shall be observed.
**A.1.2** Samples shall be taken in a place not exposed to dust or soot.
**A.1.3** The sampling instrument shall be clean and dry when used.
**A.1.4** Precautions shall be taken to protect the samples, the material being sampled, the sampling instrument and the containers for samples from adventitious contamination.
**A.1.5** Samples shall be placed in clean, dry and air-tight glass containers or other suitable containers on which the material has no action.
**A.1.6** The sample containers shall be of such size that they are almost completely filled up by the sample.
**A.1.7** Each sample container shall be sealed air-tight after filling and marked with full details of sampling, the date of sampling and the month and year of manufacture of the material.
**A.1.8** Samples shall be stored in such a manner that the temperature of the material does not vary unduly from the normal temperature.

### A.2 Scale of sampling

**A.2.1** For determining conformity of a consignment to this specification, sample shall be selected so as to be representative of the consignment. Samples drawn in compliance with an agreement between the purchaser and the manufacturer shall be held to be representative of the consignment. In case of dispute, the following scheme is recommended to serve as guide.

**A.2.2** *Lot* - All the containers in a single consignment of the material drawn from the same batch of manufacture and of the same size shall constitute a lot. If a consignment is declared or known to consist of different batches of manufacture or different sizes of containers, the containers belonging to the same batch and size shall be grouped together and each group shall constitute a separate lot. Samples shall be tested for each lot for ascertaining conformity of the material to the requirements of this specification.

**A.3** The number of containers (*n*) to be chosen from a lot shall depend upon the size of the lot (*N*) and shall be in accordance with Table 2.

**Table 2: Number of containers to be selected**

| Lot size | Number of containers to be selected |
|---|---|
| *N* | *n* |
| Up to 500 | 10 |
| 501 to 1 000 | 15 |
| 1 001 and above | 20 |

**A.4** These containers shall be chosen at random from the lot and in order to ensure the randomness of selection, a random number table shall be used. In case such tables are not available, the following procedure shall be adopted:

Arrange all the containers in the lot in a systematic manner and starting from any container, count them as 1, 2, 3, . . . _., up to r and so on, where r is the integral part of *N/n*. Every $r^{th}$ container thus counted shall be withdrawn to give sample for test.

**A.5 Preparation of composite sample**

**A.5.1** Shake well each of the containers selected according to B-2.3 and pour out quantity of liquid such that the total quantity obtained from all the containers provides material sufficient for all the tests (about 500 g). Thoroughly mix the material drawn from the selected containers so as to form composite sample.

**A.6 Number of tests and criteria for conformity**

**A.6.1** Tests for all the characteristics shall be done on the composite sample.

**A.6.2** The lot shall be declared as conforming to this specification if the test results satisfy the corresponding requirements laid down in this specification.

## Annex B

(Normative)

## Test for cleaning efficiency

**Procedure**

**B.1** To test the cleaning and polishing property of the glass cleaner, it is recommended that both sides of the glass panel should be suitably prepared for application of the cleaner.

**B.2** Take two panels of clear, plate glass 150 mm x 75 mm x 1.5 mm. Dust them with pulverized clay until a thin uniform coating is obtained. Spray a mist coat of water -on each panel to wet the clay and allow to dry for 6 hours. Apply a similar coat of clay on the other side of the glass panels. Further apply a mist coat of carbon tetrachloride containing 10 percent mineral oil on both sides of the panels.

B.**3** Allow the panels to air dry for 24 h. To one panel, apply the sample by spreading over the surface with a rag and immediately wipe off and polish with a clean cloth. Similarly treat the other side of the panel.

## Annex C

(Normative)

## Test for corrosion or discolouration

**Procedure**

Place approximately 3 mL of the sample/cleaner on a cleaned, grease free surface of 75 mm x 50 mm x 1 mm aluminium panel and cover with a watch glass.

At the end of 6 hours, remove the watch glass, rinse panel with distilled water and air dry at room temperature. Inspect the panel for any attack or discolouration.

## Annex D

(Normative)

## Determination of non-volatile matter

### D.1 Procedure

Weigh accurately a 50 g sample of the cleaner into a tared glass beaker and heat on a steam bath to dryness. Place the beaker in an oven at 100°C to 105°C and dry to constant mass. (If decomposition or discolouration of the solids occurs, carry out the drying in a vacuum oven at 45°C to 50°C.) Report the mass of the residue as a percentage by mass of the cleaner.

### D.2 Calculation

Non-volatile matter, percent by mass = $\frac{B-C}{A-C}$ x 100

where

*A* = mass in g of the sample taken for test and beaker,
*B* = mass in g of the beaker and solids after drying, and
*C* = mass in g of the beaker.