

DKS 2502:2013

**KENYA STANDARD**

**Liquid oxygen based bleach for domestic use – Specification**

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**PUBLIC REVIEW DRAFT**

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**REVISION OF KENYA STANDARDS**

In order to keep abreast of progress in industry, Kenya Standards shall be regularly reviewed. Suggestions for improvements to published standards, addressed to the Managing Director, Kenya Bureau of Standards, are welcome.

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## DRAFT KENYA STANDARD

Liquid oxygen based bleach for domestic use — Specification

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This Kenya Standard was developed by the Technical Committee on Surface Active Agents under the guidance of the Standards Projects Committee and it is in accordance with the procedures of the Bureau.

Oxygen bleaches are materials that release oxygen for cleaning and bleaching of stains and dirt upon addition to water. There are three types of oxygen bleaches sold in the consumer market, hydrogen peroxide, sodium percarbonate and sodium perborate. Oxygen bleach can get rid of stubborn dirt and organic stains. Oxygen bleaches are also colour-safe.

They can be used on carpet, upholstery and even the most delicate linens (except for some types of wool and silk) without harming the fabric. Oxygen bleach is effective, safe, and non-toxic; it is also, biodegradable, and leaves no harmful residues to harm the environment, as in water it breaks down into sodium carbonate and hydrogen peroxide.

Hydrogen peroxide is the active oxidizing agent as it in turn breaks down to oxygen and water. The beauty of this system is that the starting material is a relatively stable powder (although it obviously must be kept dry) and the by-products (sodium carbonate and water) are harmless.

During the preparation of this standard, reference was made to data from the industry.

Acknowledgement is hereby made for assistance derived from these sources.

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## Liquid oxygen based bleach for domestic use — Specification

### 1 Scope

This Kenya Standard specifies requirements and test methods for liquid oxygen based bleach for domestic use. This standard does not apply to sodium hypochlorite solutions used as domestic bleaches and sanitizers.

### 2 Definitions

For the purpose of this standard the following definitions apply.

#### 2.1

##### nominal concentration

the minimum available oxygen content of the peroxide solution under test.

#### 2.2

##### product unit

a unit of the final product, packed in a plastic bottle or other suitable airtight and opaque container.

#### 2.3

##### lot

a number of containers consisting of product of the same type and style which have been manufactured and packed under essentially the same conditions.

### 3 Requirements

#### 3.1 General requirements

##### 3.1.1 Appearance

3.1.1.1 Liquid oxygen based bleach shall be a clear liquid, free from sediment and suspended matter.

3.1.1.2 The liquid oxygen based bleach may be perfumed or not.

3.1.1.3 The liquid oxygen based bleach shall be miscible with water in all proportions.

##### 3.2 Stability

The product shall be stable under normal household conditions of use. The product should not be heated up to temperatures greater than 50 °C.

##### 3.2.3 Specific quality requirements

The liquid oxygen based bleach shall also comply with the specific quality requirements given in Table 1, when tested in accordance with the methods described therein.

Table 1: Specific quality requirements for liquid oxygen based bleach

Sl. No	Characteristic	Requirement	Test Method
i)	Available Oxygen, (as H <sub>2</sub> O <sub>2</sub> ), % w/v, minimum	2.8	Annex A
ii)	pH, neat (at 20 °C), max.	4.1	

### 4 Packaging and marking

#### 4.1 Packaging

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**4.1.2.1** Liquid oxygen based bleach for domestic use shall be packed in plastic or other suitable opaque containers.

**4.1.2** The containers/packages (including the closures) shall not interact chemically with the bleach and shall be strong enough to protect the product adequately during normal handling, transportation and storage.

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**4.2 Marking**

The container shall be marked in prominent, legible and indelible markings with the following information:

- i) manufacturer's name and physical address

NOTE: The name, physical address of the distributor/supplier and trade mark may be added as required

- ii) percent w/v of available oxygen,;
- iii) the instructions for use and storage the words "Keep out of the reach of children" or words having similar meaning;
- iv) the net contents;
- v) date of manufacture
- vi) best before date
- vii) country of origin;
- viii) the code number or batch number;
- ix) the instruction "First aid instructions",
- x) the words "Keep away from heat or sunlight",

**5 Sampling and compliance with the standard**

**5.1 Sampling**

**5.1.1** For ascertaining the conformity of the lot to the requirements of this standard, tests shall be carried out on each lot separately.

**5.1.2** The number of packages and product units from each container respectively to be selected for drawing the sample shall be in accordance with table 2.

**5.1.3** The sample so drawn shall be deemed to represent the lot. From a given lot, for product units of 500 cm<sup>3</sup> or more a sample of one unit shall be chosen.

**5.1.4** After checking the lot for compliance with the relevant requirements of 4.1 and 4.2, take from it at random the number of containers shown in column 2 of Table 2, relative to the appropriate lot size given in column 1.

**5.1.5** Reserve half the containers for the determination of the characteristics other than stability and the other for the determination of stability.

**Table 2 — Scale of sampling**

1	2	8
Lot size, number of cartons (packages) in a lot	Number of cartons (containers) to be selected	Number of product units to be selected from each carton
25 – 50	4	4
51 – 100	6	6
101 – 500	8	2
501 – 1500	10	1
1501 – 5000	12	1

**5.1.6** The packages (cartons) shall be selected at random, using tables of random numbers. If these are not available, the following procedure shall be applied:

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Starting from any package, count all the packages in one order as 1, 2, 3... N, selecting every  $k^{\text{th}}$  package, where k is the integral part of  $N \div n$ .

From each package thus selected, draw at random an equal number of cakes so as to obtain a total mass of at least 2 kg.

#### **5.2 Compliance with the standard**

The lot shall be deemed to comply with the requirements of the standard if after inspection of the containers and testing of the sample taken in accordance with 5.1 no defective is found.

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**Annex A**  
**(Normative)**

**Determination of Available Oxygen**

**A.1** Place 20mL distilled water in a small beaker. Add 2.5 mL concentrated Sulphuric Acid (H<sub>2</sub>SO<sub>4</sub>) and mix. Allow to cool.

**A.2** Pipette 10ml sample into a 100 mL volumetric flask and make to volume with distilled water. Place in a refrigerator for 30 minutes to cool.

**A.3** Pipette 10.0 mL of this solution into a 250 mL conical flask. Add cool Sulphuric Acid mixture.

**A.4** Titrate with 0.2 N Potassium Permanganate (KMNO<sub>4</sub>) to a faint pink colour.

**A.5 Calculation**

Titre x 0.001701 x F x 100/10 = % available Oxygen

Where F = concentration factor of 0.2 N Potassium Permanganate

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**Annex B**  
(Informative)

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