CD/U/22:2010

UGANDA STANDARD

Specification

for

LIQUID HOUSEHOLD HAND DISHWASHING AND LIGHT DUTY DETERGENT

First Edition: December 2000

UGANDA NATIONAL BUREAU OF STANDARDS

Price group: C

Descriptors: Liquid, detergent

ICS 71.100.40

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In order to keep abreast of technological development Uganda Standards are subject to periodic review.

The following table will assist the user to update the standard

AMENDMENTS

Clause	Amendment No.	Date of Issue	Text affected

In order to keep abreast of technological development Uganda Standards are subject to periodic review.

NOTE:

1. **Compliance with this Standard does not, of itself confer immunity from legal obligations.**
2. **A Uganda standard does not purport to include all necessary provisions of a contract. Users are responsible for its correct application.**

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0.0 FOREWORD

Uganda National Bureau of Standards (UNBS) is a parastatal under the Ministry of Tourism, Trade and Industry established by the Act of Parliament of 1983, of the Laws of Uganda. UNBS is

(i) a member of International Organisation for Standardisation (ISO) and

(ii) a contact point for the WHO/FAO Codex Alimentarius Commission on Food Standards, and

(iii) the National Enquiry Point on TBT/SPS Agreements of the World Trade Organisation (WTO).

The work of preparing Uganda standards is carried out through Technical Committees. A Technical Committee is established to deliberate on standards in a given field or area and consists of representatives of consumers, traders, academicians, manufacturers, Government and other stakeholders.

Draft Uganda standards adopted by the Technical Committee are widely circulated to stakeholders and the general public for comments, which are reviewed before recommending them to the National Standards Council for declaration as national standards.

This Uganda Standard was prepared by the Technical Committee on Chemicals and environment in order to guide the manufacturers, importers and the consumers on the quality of liquid detergents with the aim of protecting the consumers.

0.1 Committee membership

- Chemistry department – Makerere University Kampala
- Government Chemist laboratories
- National Environment Management Authority (NEMA)
- Chemist Section - Uganda Revenue Authority (URA)
- Uganda Baati
- Nakasero Soap Works Ltd
- Mukwano Industry
- Kakira Sugar works (1985) Limited - Soap Division
- Uganda Consumer Protection Association
- Unilever (U) Limited

UGANDA SPECIFICATION FOR LIQUID HOUSEHOLD HAND DISHWASHING AND LIGHT DUTY DETERGENT

1.0 SCOPE

This Uganda Standard specifies requirements for liquid detergent for household dish-washing and for cleaning of hard surfaces such as painted surfaces, floors, ceilings, ceramic and plastic tiles, and the surfaces of equipment for machine dishwashing. It does not cover detergent for machine dish-washing.

2.0 NORMATIVE REFERENCES

The following standards contain provisions which, through reference in this text, may constitute provisions of this Uganda Standard. All standards are subject to revision and since any reference to the standard is deemed to be reference to the latest edition of that standard, parties to agreements based on this standard are encouraged to take steps to ensure the use of the most recent editions of standards indicated below. Information on currently valid national and international standards can be obtained from the Uganda National Bureau of Standards (UNBS).

1. ISO 2268 - Surface active agents (non-ionic) - Determination of polyethylene glycols and non-ionic active matter (adducts) - Weibull method.
2. ISO 2271 - Surface active agents-Detergents-Determination of anionic-active matter (direct two-phase titration procedure)

3.0 DEFINITIONS

For the purpose of this standard the following definitions apply.

3.1 Liquid detergent*:* A liquid preparation consisting of surface active agents as base and primarily used for cleaning household kitchen utensils.

3.2 Surface active agent: A chemical compound which, when dissolved or dispersed in a liquid, is preferentially adsorbed at an interface, thereby giving rise to a number of physico-chemical properties of practical interest. The compound includes at least one group having an affinity for markedly polar surfaces, ensuring in most cases solubilisation in water, and another group which has little or no affinity for water.

3.3 Product unit: A unit of the final product, packed in a suitable container.

3.4 Lot: A number of containers consisting of product units of the same size type and style, which have been manufactured under essentially the same conditions.

4.0 REQUIREMENTS

4.1 General requirements

4.1.1 Materials

The liquid detergent shall consist essentially of anionic, cationic, non-ionic or surface active agents or their mixture. It may contain added materials such as buffers, preservatives, emollients, opacifiers, stain removers, perfumes, viscosity controlling agents, foam control agents or approved colouring agents and these shall not have any irritant or undesirable effect on the skin and hands under normal condition of usage.

4.1 2 Appearance

4.1.2.1 The liquid detergent shall be a uniform aqueous solution, which, if so required, may be coloured. When examined visually shall be homogenous and free from any sediment or foreign matter.

4.1.2.2 It shall be free from abrasives and organic solvents, and solids shall not precipitate from it during storage at ambient temperature.

4.1.2.3 It shall not be irritating to the skin and it shall not contain any ingredients in quantity that is toxic to human beings under normal conditions of use.

4.1.3 Consistency

On being cooled to 4.5 ^{o}C ± 0.5 for 24 hours, the detergent shall show no separation and shall remain liquid.

4.1.4 Odour

When so required, the detergent shall be perfumed. The detergent and solution of the detergent in water at 60 ^{o}C ± 2 shall have an acceptable odour. During storage at ambient temperature, the odour of the detergent shall remain such as to be acceptable, and when perfumed, the fragrance shall not change.

4.1.5 Residual taste

The detergent shall not leave residual taste on washed articles.

4.1.6 Rinsing properties

When tested according to annex c the detergent shall be free-rinsing

4.1.6 Storage stability

The detergent shall, after storage period of 12 months in the original container under normal storage conditions specified by the manufacturer, still comply with all the requirements of this standard.

4.2 Chemical and physical requirements

4.2.1 The liquid detergent shall also comply with the requirements of the table 1.

Table 1 - Chemical and physical characteristics

S.No.	Parameter	Requirement	Method of test
1	Matter insoluble max % (m/m)	0.5	Annex A
2	pH value range	6.0 – 9.0	Annex B
3	Total surface active matter content (min)	12	ISO 2268 ISO 2271
4	Inorganic salts content % (m/m) max	5	Annex E

5.0 SAMPLING AND COMPLIANCE WITH THE STANDARD

5.1 Sampling

The following sampling procedure shall be applied in determining whether a lot complies with the relevant requirements of the standard. The samples so drawn shall be deemed to represent the lot.

5.1.1 From the lot draw at random five containers,

a) if the lot is packed in containers of a net volume not exceeding 5 litres or
b) three containers, if the lot is packed in containers of net volume exceeding 5 litres

Inspect the containers for compliance with the requirements of 4.1.

5.1.2 From each of the containers drawn take specimen of approximately equal volume so as to provide a composite sample of total volume at least one litre. Use this sample for testing.

NOTE Before drawing a specimen, thoroughly mix the contents of the relevant container.

5.2 Compliance with the standard

The lot shall be deemed to comply with the requirements of this standard if, after inspection and testing, the samples taken in accordance with 5.1 are found to comply with the relevant requirements of the standard.

6.0 PACKING AND MARKING

6.1 Packing

Liquid detergent shall be filled in suitable containers and shall be properly sealed with a tamper proof seal. The containers shall be strong enough to withstand normal handling and transportation and that will prevent leakage and contamination of the product.

6.2 Marking

6.2.1 The container and carton boxes where used, shall be clearly marked with the following information:

(a) the words " liquid detergent for hand dishwashing ";
(b) the name of the liquid detergent or the registered trade mark;
(c) the volume of contents ;
(d) the code number or batch number; and
(e) the name and address of the manufacturer
(f) instructions for use that are suitable for the purposes specified
(g) Date of manufacture .

6.2.2 Each container may also be marked with Uganda National Bureau of Standards Certification Mark.

ANNEX A
(Normative)
Determination of insoluble matter

A.1 Principle

A known mass of sample is diluted and filtered. The residues are then dried to constant mass.

A.2 Procedure

A.2.1 Weigh, to the nearest (to ±0.001 g) approximately 5 g of the test sample , into a 400 ml beaker and add 200 ml of distilled water. Heat on a steam bath, with frequent stirring, until the sample is completely dispersed.

A.2.2 Filter the solution immediately, under suction, through a previously dried and tared sintered glass crucible of porosity 2. Ensure that the insoluble matter is quantitatively transferred to the filter.

A.2.3 Wash the beaker and the residue in the crucible five times with 40 ml of hot distilled water.

A.2.4 Allow the wash solution to drain completely and dry the crucible to constant mass at 105 ± 2 ^{o}C in an air oven.

A.2.5 Calculation

The insoluble matter content S is given, as a percentage by mass, by the formula

$$S = \frac{M_4 - M_2}{M_1} x 100$$

where,
m_1 is the mass, in grams, of the test sample;
m_2 is the mass in grams of the sintered glass crucible;
m_4 is the mass, in grams, of the sintered glass crucible and the residue after drying.

ANNEX B
(Normative)
Measurement of pH value

B.1 Dissolve 1.0 ml of the test sample in 100 ml of carbon-dioxide free distilled or de-ionised water and measure the pH, at room temperature, using a pH meter equipped with a glass electrode capable of measuring pH values to an accuracy of 0.1 or better.

ANNEX C
(Normative)
Determination of rinsing properties

C.2.1 Accurately weigh (to ±0.001g) approximately 0.4 g of the test sample into a thoroughly cleaned 500 ml conical flask and add 200 ml of the distilled water.

C.2.1.2 Stopper the flask and shake it vigorously for 1 minute

C.2.1.3 Pour out the solution and rinse the flask by adding 200 ml of the distilled water, shaking vigorously for 1 minute and pour off the water.

C.2.1.4 Invert the flask and allow to dry.

C.2.1.5 Carry out a blank repeating the above procedure but omitting the test sample.

C. 2.1.6 Compare the two flasks.

ANNEX D
(Normative)
Determination of moisture and volatile matter.

D.1 Principle

A known mass of sample is oven-dried to constant mass.

D.2 Procedure

Weigh, to the nearest 0.001g, 5 g of the sample in a tared evaporating dish, which has been previously dried and cooled. Heat the dish and its content on a steam bath until most of the volatile matter has escaped. Continue heating at 105 ± 20 ^{o}C in an oven for 2 hours. Cool in a desiccator and weigh. Repeat the operation of heating, cooling and weighing until the difference in mass between two successive weighing is less than 0.01g. Retain the residue in the dish for subsequent test as per **E.3**.

D.3 Calculation

The moisture and volatile matter content is given, as a percentage by mass, by the formula

$$\frac{(M_1 - M_2)}{(M_1 - Mo)} x\,100$$

M_O is the mass, in grams, of the dish
M_1 is the mass, in grams, of the dish and the sample before heating
M_2 is the mass, in grams, of the dish and the sample after heating

Annex E
(Normative)
Determination of inorganic salts

E.1 Procedure

Take the dish containing the material after evaporation as obtained in 6.2. Heat it at 450 ^{o}C in a muffle furnace to destroy organic matter. Cool the dish and its contents, add a few drops of concentrated sulphuric acid and heat again to dryness. Cool and weigh. Repeat the process of heating, cooling and weighing until constant mass is obtained.

E.2 Calculation

The inorganic salts content is given, as a percentage by mass, by the formula

$$\left(\frac{(M_1 - M_3)}{(M_1 - M_o)} x100 \right)$$

where,

M_o is the mass, in grams, of the dish as per D.

M_1 is the mass, in grams, of the dish and the sample before heating as per D.
M_3 is the mass, in grams, of the dish and the residue.

Annex F
(Informative)
Bibliography

SABS 825 - Hand dish washing and light duty detergent (liquid)

SABS 20825 – Environmentally acceptable hand dish washing and light duty detergent (liquid)

MS 80 – Specification for liquid detergent for household hand dish washing

CERTIFICATION MARKING

Products that conform to Uganda standards may be marked with Uganda National Bureau of Standards (UNBS) Certification Mark shown in the figure below.

The use of the UNBS Certification Mark is governed by the Standards Act, and the Regulations made thereunder. This mark can be used only by those licensed under the certification mark scheme operated by the Uganda National Bureau of Standards and in conjunction with the relevant Uganda Standard. The presence of this mark on a product or in relation to a product is an assurance that the goods comply with the requirements of that standard under a system of supervision, control and testing in accordance with the certification mark scheme of the Uganda National Bureau of Standards. UNBS marked products are continually checked by UNBS for conformity to that standard.

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