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Car shampoo —Specification

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Foreword

Rwanda Standards are prepared by Technical Committees and approved by Rwanda Standards Board (RSB) Board of Directors in accordance with the procedures of RSB, in compliance with Annex 3 of the WTO/TBT agreement on the preparation, adoption and application of standards.

The main task of technical committees is to prepare national standards. Final Draft Rwanda Standards adopted by Technical committees are ratified by members of RSB Board of Directors for publication and gazettment as Rwanda Standards.

DRS 481 was prepared by Technical Committee RSB/TC 042, *Surface active agents.*

Committee membership

The following organizations were represented on the Technical Committee on *Surface active agents* (RSB/TC 042) in the preparation of this standard.

Paragraph of participants

University of Rwanda / College of Sciences and Technology (UR/CST)

University of Rwanda / College of Education (CE)

Rwanda Inspectorate, Competition and Consumer protection Authority (RICA)

Standards For Sustainability (SFS)

ORIBIT Company Ltd

Rwanda Standards Board (RSB) – Secretariat

Introduction

Car shampoo is used to remove dirt stains and marks from the vehicle and bring back the shine and lustre of the vehicle. It is also gentle enough to not dry out the trim or plastic components of the vehicle.

Car shampoo is more aggressive at removing contaminants from your vehicle than regular home detergents for general use, but won't damage the paintwork. Instead, most will leave a protective barrier so that contaminants don't stick on the paint

A car shampoo is primarily composed of surfactants. Surfactants (Surface Active Agent) are chains of carefully designed two-part molecules, one end of which loves water, and the other end dirt. When you apply shampoo to a surface the surfactants seek out all the dirt and try to surround it. Once surrounded they hold it in suspension in the water, thereby allowing it to be easily rinsed away. Surfactants try to get under the dirt, lifting it from surfaces, though there are other ways to further increase the power of the shampoo and help it to remove soiling from a surface, more on that later.

Car shampoo — Specification

1 Scope

This Draft Rwanda standard specifies the requirements, sampling and test methods for a car shampoo used for cleaning cars.

It does not apply to waterless car shampoo.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

RS ISO 862, *Surface active agents — Vocabulary*

ASTM D6616-17, *Standard Test Method for Measuring Viscosity at High-Shear Rate by Tapered bearing simulator viscometer at 100 ºC*

RS 278, *Cosmetics — Methods of sampling*

ISO 2271, *Surface active agents — Detergents — Determination of anionic active matter by manual or mechanical direct two-phase titration procedure*

3 Terms and definitions

For the purposes of this standard, the terms and definitions given in RS ISO 862 and the following apply.

3.1

car shampoo

cleaning liquid that is used in combination with a washmitt to clean a car in a safe way.

4 Requirements

4.1 General requirements

4.1.1 The car shampoo shall be an homogeneous liquid, free from any sediment or foreign matter and may be coloured**.**

4.1.2 The car shampoo shall be free from objectionable odour.

4.1.3 The car shampoo shall not attack nor have deleterious effect on cars

4.1.4 The car shampoo shall be completely soluble and effective in both hard and soft water.

4.1.5 The active ingredients used shall be biodegradable.

4.1.6 All the substances used in the car shampoo shall comply with the requirements of all parts of RS EAS 377.

4.2 Specific requirements

Car shampoo shall comply with the specific requirements given in table 1, when tested in accordance with the method described there in.

Table 1 —Specific requirements for car shampoo

S/N	Characteristics	Requirements	Temperature
i.	Solubility in water	Completely soluble	Annex A
ii.	Rinsing properties	To pass the test	Annex B
iii.	pH	5-9	Annex C
v.	Viscosity, max. mPas	2000	ASTM D6616-17
vi.	Anionic surfactant, % by mass	5.0-10.0	RS ISO 2271

Table 2 —Limits for heavy metal contaminants for car shampoo

S/N	Characteristics	Requirements	Temperature
i.	Lead, mg/kg, max	20	RS EAS 847-16
ii.	Arsenic, mg/kg, max	2	
iii.	Mercury, mg/kg, max	2	
NOTE 1 The total amount of heavy metals as lead, mercury and arsenic, in combination, in the finished product should not exceed 20 mg/kg. NOTE 2 The heavy metals including lead, mercury and arsenic may be as a result of contamination during processing and should not be deliberately added as ingredients.			

5 Packaging and labelling

5.1 Packaging

The car shampoo shall be packed in a suitable, well-closed container, to protect the integrity of the product.

5.2 Labelling

The container shall be marked legibly and indelibly with the following information:

a) name of the product as " Car shampoo";

b) manufacturers name and physical address;

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

c) batch or code number;

d) net weight;

e) country of origin;

f) instructions for use (which shall be in either Kinyarwanda, English, Kiswahili or French or in combination as agreed between the manufacturer and supplier″);

g) date of manufacture and best before date.

6 Sampling

Sampling shall be done in accordance with RS 278.

Annex A
(normative)

Test for solubility

A.1 Preparation of synthetic hard water

Weigh to the nearest 0.001 g, about 0.264 g of $CaCl_2.2H_2O$ and 0.295 g of $MgSO_4.2H_2O$. Transfer quantitatively to a 1-L volumetric flask; dissolve in a small portion of distilled water and make up to the mark with distilled water.

The resulting solution will have a concentration of 8.1 millimole per litre calcium hardness.

A.2 Procedure

Using pipette, transfer 5.0 mL of the shampoo into a test tube and add sufficient synthetic hard water prepared in A.1 to give a volume of 50 mL. Stir vigorously for 5 min, and observe for solubility.

Annex B
(normative)

Test for rinsing properties

Dissolve 2.0 mL of the car shampoo as completely as possible in 98 mL of synthetic hard water (see A.1) at ambient temperature, in a clean 250-mL Erlenmeyer flask. Stopper the flask and stir vigorously for 1 min. Pour out the solution. Rinse the flask by the same procedure, using three 75 mL portions of synthetic hard water alone. Invert the flask, allow to dry and examine for any residue not rinsed from the interior. The flask shall contain no more residues after being dried than a similar allowed drying after rinsing with synthetic hard water alone.

Annex C
(normative)

Determination of pH

C.1 General

pH determination should be made in an acid free atmosphere.

C.2 Apparatus

C.2.1 Any standard pH meter, equipped with a low sodium error glass electrode. The instrument calibrated and standardized with standard buffer solutions before use.

C.2.2 Volumetric flask, 1000mL capacity

C.2.3 Beakers, 1000mL

C.3 Reagents

C.3.1 Distilled water shall be boiled thoroughly or purged with carbon dioxide-free air to remove carbon dioxide and shall be protected with soda lime or soda asbestos while cooling and in storage. The pH of this water shall be protected with soda lime or soda asbestos while cooling and in storage. The pH of this water shall be between 6.2 and 7.2 at 27 °C. The residue on evaporation when heated at 105 °C for one hour shall not exceed 0.5 mL per litre.

C.3.2 Standard buffer solutions with the pH range of 9 to 11 at 27 °C for calibrating the pH meter**.**

C.4 Procedure

Weigh to the nearest milligram approximately 10 g of the material and transfer to a 1-L volumetric flask. Partially fill the flask with distilled water and agitate until the sample is completely dissolved. Adjust the temperature of the solution and the distilled water to 27 °C ± 2 °C and fill to the calibration mark with distilled water, stopper the flask mix thoroughly and allow the solution to stand at a temperature of 27 °C ± 2 °C for two hours prior to measuring the pH. Measure the pH of the solution at 27 °C ± 2 °C using a glass electrode.

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