



**RWANDA
STANDARD**

**DRS
452**

Second edition

2026-m-d

**Beeswax, bleached for cosmetic use —
Specification**

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Reference number

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In order to match with technological development and to keep continuous progress in industries, standards are subject to periodic review. Users shall ascertain that they are in possession of the latest edition

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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 452 was prepared by Technical Committee RSB/TC 011, *Cosmetics and related products*.

In the preparation of this standard, reference was made to the following standard:

IS 4018:1999 Beeswax, bleached for cosmetic industry — Specification

The assistance derived from the above source is hereby acknowledged with thanks.

This second edition cancels and replaces the first edition (RS 452: 2021), of which has been technically revised.

Committee membership

The following organizations were represented on the Technical Committee on *Cosmetics and related products* (RSB/TC 011) in the preparation of this standard.

KAN-HAN Company Ltd

Rwanda Food and Drugs Authority (Rwanda FDA)

Rwanda Forensic Institute (RFI)

Rwanda Inspectorate, Competition and Consumer Protection Authority (RICA)

SULFO Rwanda Industries Ltd

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

Rwanda Standards Board (RSB) – Secretariat

Introduction

Beeswax is a natural wax produced by honeybees of the genus *Apis*. The wax is formed into scales by eight wax-producing glands in the abdominal segments of worker bees, which discard it in or at the hive. The hive workers collect and use it to form cells for honey storage and larval and pupal protection within the beehive. Chemically, beeswax consists mainly of esters of fatty acids and various long-chain alcohols.

Beeswax is used as the first plastic, as a lubricant and waterproofing agent, in lost wax casting of metals and glass, as a polish for wood and leather and for making candles, as an ingredient in cosmetics and as artistic medium in encaustic painting.

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Beeswax, bleached for cosmetic use — Specification

1 Scope

This Draft Rwanda Standard specifies the requirements, sampling and test methods for beeswax, bleached for cosmetic use.

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 278, *Cosmetics — methods of sampling*

RS EAS 346, *Labelling of cosmetics — General requirements*

RS EAS 846, *Glossary of terms relating to the cosmetic industry*

RS ISO 660, *Animal and vegetable fats and oils — Determination of Acid value and acidity*

RS ISO 3961, *Animal and vegetable fats and oils — Determination of iodine value*

RS ISO 3657, *Animal and vegetable fats and oils — Determination of saponification value*

RS EAS 847-6, *Cosmetics — Analytical method — Part 6: Determination of melting point*

RS EAS 847-15, *Cosmetics — Analytical method — Part 15: Determination of ash content*

3 Terms and definitions

For the purposes of this standard, the terms and definitions given in RS EAS 846 and the following apply.

3.1

beeswax

product made from the honeycomb of the honeybee and other bees.

4 Requirements

4.1 General requirements

4.1.1 The product shall be white to light yellow in colour and shall have a faint and characteristic odour.

4.1.2 The product shall be in a form as agreed to between the purchaser and the supplier. In the absence of such an agreement, it shall be in the form of slabs.

4.2 Specific requirements

The product shall also comply with the requirements given in table when tested in accordance with the methods indicated therein.

Table 1— Specific requirements for beeswax, bleached for cosmetic use

S/N	Characteristics	Requirements	Test method
i.	Melting point, °C	61.0-65.0	RS EAS 847-6
ii.	Acid value, mg KOH/g, max	10	RS ISO 660
iii.	Saponification value, mg KOH/g	85 to 95	RS ISO 3657
iv.	Fats, fatty acids	To pass test	Annex A.1
v.	Ceresin, paraffin and other waxes	To pass test	Annex A.2
vi.	Iodine value, g I ₂ /100 g, max	10	RS ISO 3961
vii.	Ash, % by mass, max	0.1	RS EAS 847- 15
viii.	Total volatile matter at 105°C, percent by mass, max	1.0	Annex B

5 Sampling

The method of preparing representative test samples of the material and the criteria for conformity shall be as described in RS 278.

6 Packaging

Unless otherwise agreed to between the purchase and the supplier, each slab shall be wrapped in grease-proof paper or a suitable plastic material, like polyethylene film. A number of such slabs shall be packed together in a suitable container.

7 Labelling

The labelling shall be done as described in RS EAS 346 and each container shall be suitably labelled to give the following information:

- a) name of the product
- b) name of the manufacturer or his registered trademark;
- c) batch number in code or otherwise;
- d) net mass; and
- e) storage conditions

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Annex A (normative)

Determination of fats, fatty acids, ceresin, paraffin and other waxes

A.1 Test for fats, fatty acids and resin

A.1.1 Reagents

A.1.1.1 *Sodium hydroxide solution* — ten percent (m/v)

A.1.1.2 *Dilute hydrochloric acid*— approximately 4 N.

A.1.2 Procedure

Boil 5.0g of the material for about 10 minutes with 80 ml of sodium hydroxide solution. Replace the water lost by evaporation. Cool and filter the solution through glass wool or asbestos pad. Make the filtrate acidic with dilute hydrochloric acid.

A.1.2.1 The material shall be taken to have passed the test even if the solution may show some opalescence but no precipitate is produced.

A.2 Test for ceresin, paraffin and other waxes

A.2.1 Reagents

A.2.1.1 *Alcohol potassium hydroxide solution*— approximately 0.5 N, prepared by dissolving potassium hydroxide in rectified spirit.

A.2.1.2 *Rectified spirit aldehyde free*—

Procedure for preparing aldehyde free spirit in laboratory.

To 125ml alcohol contained in 1000 ml flask, add 375ml of dinitrophenylhydrazine solution, heat on a water bath under a reflux condenser for twenty-four hours, remove the alcohol by distillation, dilute to 1000ml with a 2 percent v/v solution of sulphuric acid, and set aside for 24 hours, no crystals shall produce.

A.2.2 Procedure

Place 3.0g of the material in a round- bottom, 100 ml boiling flask fitted with a ground glass joint. Add 30ml of a solution prepared by dissolving 40g of potassium hydroxide in about 900ml of aldehyde-free alcohol maintained at a temperature not exceeding 15°C and then when solution is complete, warming to room temperature and adding aldehyde-free alcohol to make 1000ml. Reflux the mixture gently for 2 hours. At the end of this period,

open the flask, insert a thermometer into the solution, and place the flask in a container of water at a room temperature of 80°C. Rotate the flask in the bath so that solution gets cool.

A.2.2.1 The material shall be taken to have passed the test if the solution shows no cloudiness or globule formation before the temperature reaches 65°C

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Annex B (normative)

Determination of total volatile matter at 105°C

B.1 Procedure

Weigh accurately about 10g of the material in a suitable dish, previously dried and weighed, and place it in an oven maintained at $105 \pm 2^\circ\text{C}$ for six hours. Cool the dish in a desiccator and weigh with the lid on. Heat the dish again in the oven for 30 minutes. Repeat the process until the loss in mass between two successive weighings is less than one milligram. Record the constant mass obtained.

B.1.1 Calculation

$$\text{Total volatile matter at } 105^\circ\text{C, \% by mass} = \frac{100 (M_1 - M_2)}{M_1 - M_3}$$

Where

M_1 is mass in grams of the dish with the material before heating;

M_2 is mass in grams of the dish after heating; and

M_3 is mass in grams of the empty dish

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