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**Non-woven skin care wet wipes—
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 439 was prepared by Technical Committee RSB/TC 029, *Textile and leather technology*.

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

- 1) SANS 1245, *Non-woven cleaning wipes*
- 2) KS 2720, *Non-woven disposable wet wipes — Specification*

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

Committee membership

The following organizations were represented on the Technical Committee on *Textile and leather technology* (RSB/TC 029) in the preparation of this standard.

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Introduction

Non-woven wet wipes are disposable sanitary products subjected to light rubbing or friction in order to remove dirt and germs on the surface. Wet wipes are used for baby hygiene, facial cleansing, and intimate personal hygiene (feminine wipes and moist toilet tissue) as well as household, industrial, medical and institutional cleaning. They can be classified into general purpose wet wipes, hygiene wet wipes and disinfecting wet wipes based on intended use. General purpose wet wipes are used for the general cleaning without bactericidal effects and can be applied on human body, kitchen utensils and toilet utensils; hygiene wet wipes refer to cleaning and bactericidal wipes applied on hand, skin, mucous membrane or surface of ordinary objects; disinfecting wet wipes refer to disinfectant wipes treated as carrier disinfectants applied on hand, skin, mucous membrane or surface of ordinary object and medical device.

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Non-woven skin care wet wipes –Specification

1 Scope

This Draft Rwanda Standard specifies the requirements, methods of sampling and test for non-woven skin care wet wipes.

This draft covers both adults and baby wet wipes.

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 1833-1, *Textiles — Quantitative chemical analysis — Part 1: General principles of testing*

RS ISO 139, *Textiles — Standard atmospheres for conditioning and testing*

ISO 9073-1, *Test methods for nonwovens — Part 1: Determination of mass per unit area*

ISO 9073-18, *Test methods for nonwovens — Part 18: Determination of breaking strength and elongation of nonwoven materials using the grab tensile test.*

RS ISO 3071, *Textile materials; Method for determination of pH value of aqueous extracts*

ISO 20743, *Textiles — Determination of antibacterial activity of textile products*

ISO 21149, *Cosmetics — Microbiology — Enumeration and detection of aerobic mesophilic bacteria*

RS ISO 22717, *Cosmetics — Microbiology — Detection of Pseudomonas aeruginosa*

RS ISO 22718, *Cosmetics — Microbiology — Detection of Staphylococcus aureus*

RS ISO 18416, *Cosmetics — Microbiology — Detection of Candida albicans*

RS ISO 21150, *Cosmetics — Microbiology — Detection of Escherichia coli*

RS EAS 96-1, *Sanitary towels — Specification*

RS EAS 377-1, *Cosmetics and cosmetic products — Part 1: List of substances prohibited in cosmetic products*

RS EAS 377-2, *Cosmetic and cosmetic products — Part 2: List of substances which cosmetic products must not contain except subject to the restrictions laid down*

RS EAS 377-4, *Cosmetics and cosmetics products — Part 4: List of preservatives allowed in cosmetic products*

3 Terms and definitions

For the purposes of this standard, the following terms and definitions apply.

3.1

non-woven

sheet of fibres, continuous filaments, or chopped yarns made from short staple fibres and continuous long fibres, that have been formed into a web and bonded together chemically mechanically, by heat or solvent treatment, excluding the interlacing of yarns as in woven fabric, knitted fabric, laces, braided fabric or tufted fabric

3.2

wipe

disposable cloth treated with a cleansing agent, rubbed on the surface to remove dirt or germ

3.3

wet wipe or wet towel or moist towelette

small pre-moistened piece cloth used for cleaning purposes

4 Requirements

4.1 General requirements

Non-woven skin care wet wipes shall:

- a) be made from cotton, cellulose, polyester or a blend of cellulose and polyester when tested in accordance with ISO 1833-11;
- b) be uniformly formed;
- c) be free from defects that might impair their appearance or serviceability (or both);
- d) leave no lint on the wiped surface;
- e) be pre-moistened with a non-toxic, hypoallergenic and alcohol free cleansing solution that is completely air dried when applied onto the skin;
- f) be made from ingredients complying with RS EAS 377 part 1, 2 and 4;

- g) have no objectionable odour; and
- h) vapours from the wipes shall not cause adverse side effects such as rashes and irritation of skin, eyes or mucous membranes.

4.2 Specific requirements

4.2.1 Physical and mechanical requirements

Non-woven skin care wet wipes for babies and adults shall comply with the physical and mechanical requirements given in Table 1 when tested in accordance with the test methods specified therein.

Table 1 — Physical and mechanical requirements for baby and adult skin care wet wipes

S/N	Parameters			Requirements	Test method
i.	Size, mm	Length	200		Annex A
		Width	150		
ii.	Mass per unit area, g/m ² , min.			36	ISO 9073-1
iii.	Breaking strength, N, min.	Machine direction	6.0	6.0	ISO 9073-18
			3.0	3.0	
		Cross section	3.5	3.5	
			2.5	2.5	
iv.	Flushability			Pass the test	RS EAS 96-1
NOTE Sizes not specified in this standard should be agreed between the purchaser and the manufacturer					

4.2.2 Chemical requirements

Non-woven skin care wet wipes shall comply with the chemical requirements given in Table 2 when tested in accordance with the test methods therein specified.

Table 2 — Chemical requirements

S/N	Parameter	Requirements		Test method
		Baby wipes	Adult wipes	
I.	pH of extracted cleansing solution	5.5 – 8.5	4.5 - 8.5	RS ISO 3071
II.	Lead, mg/kg, max.	10	10	RS EAS 786
III.	Arsenic, mg/kg, max.djdja	2	2	
IV.	Mercury, mg/kg, max.	2	2	
V.	Cadmium, mg/kg, max.	5	5	
VI.	Chlorinated organic compounds, mg/kg, max.	150	150	ISO 11480
VII.	Moisture content, %, min.	50	50	Annex C

4.2.3 Microbiological requirements

Non-woven skin care wet wipes shall comply with the microbiological limits given in Table-3 when tested in accordance with the test methods indicated therein.

Table 3 — Microbiological requirements

S/N	Parameters	Requirements		Test method
		Baby wipes	Adult wipes	
i.	Anti-Bacterial activity (A), min.	2	2	ISO 20743
ii.	Total viable count, cfu/ 1g or 1 mL, max.	100	1 000	ISO 21149
iii.	<i>Pseudomonas aeruginosa</i> , cfu/g	Absent	Absent	RS ISO 22717
iv.	<i>Staphylococcus aureus</i>	Absent	Absent	RS ISO 22718
v.	<i>Candida albicans</i>	Absent	Absent	RS ISO 18416
vi.	<i>Escherichia coli</i>	Absent	Absent	RS ISO 21150

5 Packing and labelling

5.1 Packaging

5.1.1 Non-woven skin care wet wipes shall be packaged in a suitable resealable material presenting no defects that can affect its serviceability.

5.1.2 The primary packaging shall be designed to easily dispense a single towelette at a time keeping the remaining towelettes unexposed to contamination and prevent loss of the moisture or other active ingredients.

5.1.3 Only wipes of the same size shall be packed together in both primary and secondary packages.

5.2 Labelling

5.2.1 Primary packaging

The primary packaging shall be marked with legible and indelible pre-printed marking bearing the following information:

- a) product name as "Non-woven skin care wet wipes";
- b) manufacturer's name, address and/or trade mark;
- c) date of manufacture and expiry;
- d) batch number;
- e) fibre composition;
- f) list of ingredients used;
- g) number of wipes in a package;
- h) size of wipe in the package;
- i) instructions for use, storage and disposal; and
- j) country of origin

5.2.2 Secondary packaging or bulk packaging

The bulk packaging shall bear the following information in legible and indelible marking:

- a) manufacturer's name, address and/or registered trade mark;
- b) product name as "Non-woven skin care wet wipes";
- c) number of packages;
- d) country of origin;
- e) date of manufacture and expiry; and
- f) batch number

6 Sampling

Random samples of the product shall be drawn for test in accordance with RS ISO 2859-1.

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Annex A (normative)

Determination of length and width

A.1 Apparatus

A.1.1 Steel scale that is of a length exceeding the width of the fabric to be measured, and is graduated in centimeters and millimeters.

A.1.2 Marking pen.

A.2 Procedure

A.2.1 Procedure for width

A.2.1.1 Lay the test sample flat and full width (without subjecting it to tension) on a plane surface and condition it in that state for at least 24 h in accordance with RS ISO 139.

A.2.1.2 Take, to the nearest 1 mm, five measurements across the overall width or between the inner most selvedge threads (as relevant) of the conditioned test sample at approximately equal intervals throughout its length.

A.2.1.3 Calculate the arithmetic mean of the five measurements and record it as the width of the sample.

A.2.2 Procedure for length

A.2.2.1 Take a laboratory sample as specified in the relevant product specification. Where no specification exists, take the laboratory sample as agreed upon between the test laboratory and the manufacturer to ensure a reasonable and acceptable reliability at a reasonable and acceptable confidence level.

A.2.2.2 Lay the laboratory sample flat and full width (without subjecting it to tension) on a plane surface and condition it in that state for at least 24 h in accordance with RS ISO 139.

A.2.2.3 From the conditioned laboratory sample cut a test specimen across the full width of the laboratory sample along a datum line drawn (see 3.1) at right angles to the selvages and as close as possible to the beginning and the end of the laboratory sample.

A.2.2.4 Take, to the nearest millimeter, five measurements (see B.1.2) of the length of the test specimen at approximately equal intervals across its width.

A.2.2.5 Calculate the arithmetic mean of the five measurements and record it as the length, in metres (accurate to the nearest centimeter), of the laboratory sample.

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Annex B (normative)

Determination of moisture content

B.1 Principle

A specimen of specified mass of filler material of the non-woven disposable wet wipe is dried in an oven at specified temperature and the moisture content is determined.

B.2 Apparatus

B.2.1 Balance, with an accuracy of 0.05 % of the weighed mass

B.2.2 Sample container, waterproof when sealed, will be used for transfer of analyzed material and during weighing

B.2.3 Oven, well ventilated with a temperature of 102 °C to 105 °C

B.3 Sample preparation

B.3.1 Take a sufficient number of dry sample containers, number them and take their masses after they are held open for a short period of time so that they will have the same air pressure as the surrounding atmosphere. Then leave them open until you take the test piece.

B.3.2 Take 5 random pieces of the wet wipe. The test piece shall weigh 5 g.

B.3.3 If the surrounding atmosphere is hot and humid, prevent water condensation on the internal and external surfaces of the container.

B.3.4 Handle the test pieces gently to prevent dirt or changes in water content. Don't touch the test pieces with your bare hands. Put the test pieces in a container just after taking them and close the container immediately.

B.4 Procedure

B.4.1 Dry the test pieces in an oven with a temperature of 102 °C to 105 °C. Open the containers lid and dry the specimen inside the container. Open the container for a moment, to balance the air pressure inside the container with the surrounding pressure, weigh the container that holds the specimen again and calculate the weight of the specimen.

B.4.2 First cycle of drying will last at least 30 minutes. Return the container with the test pieces to the oven, for at least half the first cycles drying time. Take the container out and take the mass with the test pieces inside. Repeat the drying and weighing cycles. When the drying time on every cycle is at least half of the total previous drying cycle times. Continue the process until the difference between two consecutive masses does not exceed 0.1 % of the original mass of the specimen.

B.5 Calculations

Calculate the moisture content using the following formula below and round the results up to the nearest 0.1 %.

$$V = 100 \frac{a - b}{c}$$

Where,

- a* is weight of the container with the specimen before drying (in grams);
- b* is weight of the container with the specimen after drying (in grams);
- c* is weight of the container (in grams); and
- V* is water content (in weight %).

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