NIGERIAN INDUSTRIAL STANDARD NIS 463: 2018

Standard for Tobacco and Tobacco Products - Specifications for Cigarette

ICS 65.165

CAMPAIGN FOR TOBACCO FREE KIDS REFERENCE ONLY

Price group C
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Approved by SON Governing Council

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Foreword

The Nigerian Industrial Standard for Tobacco and Tobacco Products – Specification for Cigarette – NIS 463: 2014 has been reviewed by the Technical Committee on Standards for Tobacco and Tobacco Products. Now 2018 edition, replaces the previous one.

The wide consumption of Cigarette in Nigeria and the rising threat of illicit trade on tobacco products as well as the need to provide adequate information to the public on the risk associated with consumption of tobacco products, necessitated the elaboration of this standard. The standard will promote fairness amongst manufacturers, importers, distributors and marketers of the products and to safe guard the health of the consumer.

This edition incorporates relevant provisions of the Nigerian Tobacco Control Act, 2015 and some of the relevant decisions reached at the WHO Framework Convention on Tobacco Control (FCTC).

In elaborating this standard, references made to relevant National and International Standards and information obtained from the Nigerian Tobacco Control Act, 2015, WHO FCTC, manufacturers and other stakeholders are hereby acknowledged.

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1. Scope

This Nigerian Industrial Standard covers quality and safety requirements, reference sampling and test methods for cigarettes imported, distributed, manufactured for local sale or marketed in Nigeria. It does not include other combustible tobacco and noncombustible tobacco products.

2. Normative References

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NIS ISO 6565 - *Tobacco and Tobacco Product - Draw Resistance of Cigarettes and Pressure Drop of Filter Rods- Standard Conditions and Measurement*

NIS ISO 3550-1 - *Cigarettes- Determination of Loss of Tobacco from Ends –Method using a Rotating Cylindrical Cage*

NIS ISO 10315 – *Cigarettes - Determination of Nicotine in Smoke Condensates – Gas Chromatographic Method.*

NIS ISO 2971 - *Cigarettes and Filter Rods-Determination of Nominal Diameter-Method Using a Laser Beam Measuring Apparatus*

NIS ISO 2965 - *Materials used as Cigarette Papers, Filter Plug Wrap and Filter Joining Paper, including Materials having a Discrete or Oriented Permeable Zone and Materials with Bands of Differing Permeability –Determination of Air permeability*

NIS ISO 4387 - *Cigarettes- Determination of Total and Nicotine-Free Dry Particulate Matter using a Routine Analytical Smoking Machine*

NIS ISO 10362-1 - *Cigarettes- Determination of Water in Smoke Condensates - Part 1: Gas Chromatographic Method*

NIS ISO 10362-2 – *Cigarettes- Determination of Water in Smoke Condensate- Part 2: Karl Fischer Method*

NIS ISO 9512 - *Cigarette – Determination of Ventilation – Definitions and Measurements Principles*

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NIS ISO 15152 – Tobacco - Determination of the Content of Total Alkaloids as Nicotine-Continuous - Flow Analysis Method

NIS ISO 17025 - *General Requirements for the of Testing and Calibration Laboratories*

NIS ISO 6488 - *Tobacco and Tobacco Products - Determination of Water Content - Karl Fischer Method*

NIS ISO 4388 - *Cigarettes- determination of the smoke condensate retention index by filter by direct spectrometer method*

NIS ISO 8454- *Cigarette- Determination of Carbon monoxide*

NIS ISO 15517 – *Tobacco - Determination of Nitrate Content – Continuous - Flow Analysis Method*

CAC/RCP 1 – 1969, Rev. 4-2003- *Recommended International Code of Practice – General Principles of Food Hygiene*

NIS ISO 8243 - *Cigarettes – Sampling*

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3. Terms and Definition

For the purpose of this Nigerian Industrial Standard, the following shall apply:

3.1
Brand
A name, term, design, symbol or any feature that identifies any product of one manufacturer/distributor of good or service as distinct from those of other manufacturers/distributors.

3.2
Cigarette
A small roll of finely cut tobacco blended for smoking and enclosed in a wrapper of thin paper

3.3
Cigarette Density
The weight of tobacco per unit volume

3.4
Content
Comprises of ingredients and constituents

3.5

Constituents
Substances that occur naturally in tobacco leaf

3.6
Country of Origin
Name of the country where Cigarette subject to this Standard are manufactured

3.7
Destination
Name of the country where Cigarette subject to this Standard is marketed

3.8
Draw Resistance for Cigarette
Determination of the draw resistance of cigarettes and pressure drop of filter rods in accordance with NIS ISO 6565"

3.9
Flavouring
An additive that imparts smell and or taste

3.10
Characterising Flavour
A clearly noticeable smell or taste other than one of tobacco, resulting from an additive or a combination of additives, including, but not limited to fruit, spice, herbs, alcohol, candy, menthol or vanilla which is noticeable before or during the consumption of the tobacco

3.11
Ingredients
Include tobacco, components (e.g. paper, filter), including materials used to manufacture those components, additives, processing aids, residual substances found in tobacco (following storage and processing), and substances that are known to migrate from packaging materials into the product (contaminants are not part of ingredients)

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3.12
Ingredient Function
The function of tobacco ingredients and non-tobacco ingredients used in the Cigarette.

3.13
Loss of Tobacco from the End
The losses undergone by the rolled Tobacco products during manufacturing and packaging processes, as determined in accordance with NIS ISO 3550-1.

3.14
Nicotine in Smoke

Determination of nicotine in cigarette smoke condensate in accordance with ISO 10315

3.15
Nominal Diameter
The arithmetic mean value of a minimum of n reading (n>100) performed on a test piece of rolled Cigarette following the method specified in NIS ISO 2971.

3.16
Paper Permeability
The flow of air, measured in cubic centimeters per minute through $1cm^2$ surface of the test piece (paper) at a measuring pressure of 1.00 kPa as determined in accordance with NIS ISO 2965.

3.17
Population
Aggregated batch of sale units of the Cigarettes covered by this standard to be sampled, intended for sale to consumers in a given geographical area in a given time period.

Note*: The definition includes different sub-populations as follows:*

3.17.1
Population Available to Consumers
Aggregated batch of sale units in retail outlets in a given geographical area, at any time in a given time period.

3.17.2
Population Manufactured for Sale
Aggregated batch of sale units at a manufacturer's premises available for commercial distribution in a given geographical area, at any time in a given time period.

3.18
Tar
Determination of total and nicotine-free dry particulate matter in accordance with NIS ISO 4387.

3.19
Tobacco
Leaves from the tobacco plant and other natural processed or unprocessed parts of the tobacco plant, including expanded and reconstituted tobacco

3.20
Tobacco Blend
A mixture of leaves from different types of tobacco and other tobacco-based components

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3.21
Total Ventilation
The total amount of lateral air entering the rolled Cigarette (other than through the front area), when encapsulated in a measurement device having an insertion depth as defined in NIS ISO 3308 and as determined in accordance with NIS ISO 9512.

3.22
Total Alkaloids
Naturally occurring 'family' of organic substances containing basic nitrogen atoms. Nicotine belongs to this 'family'. The total alkaloid as nicotine is determined in accordance with NIS ISO 15152.

3.23
Water in Smoke
The water content retained by the Cambridge Filter Smoke trap as determined by NIS ISO 10362-1 or NIS ISO 10362-2

4. General Requirements

4.1 Every manufacturer, distributor or importer operating in Nigeria shall submit to Standards Organisation of Nigeria (SON) by 31st of December of each year under reference, the information required by this Standard as print or in electronic form.

4.2 The submission shall contain, in addition to the information required by this Standard, the following information:

(a) The name, registered street address and telephone number of the manufacturer, distributor or importer or marketer on whose behalf the submission is made;
(b) The street address of the manufacturer's principal place of business in Nigeria;
(c) The street address of the place of business where the cigarette that is the subject of the report was manufactured;
(d) The date of the report;
(e) The period covered by the report;
(f) The Product Information Form described in the Appendix A for each marketed Cigarette brand, as per the quality requirements, test procedures and analytical methods established by this standard.
(g) Residual Agrochemical level in the tobacco leaf used in the production of the Cigarette. See format in Appendix C

4.3 The submission as described above shall be accompanied by a certificate issued by a laboratory accredited under NIS ISO 17025 responsible for the testing.

4.3.1 The certificate shall be dated and signed by the appropriate authority responsible for the laboratory analysis.

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4.4 Without prejudice to the requirements of this standard all Cigarette released for sale in Nigeria shall comply with specific requirements in clause 6.1.

4.5 Cigarettes which do not comply with the provisions of this Standard shall be seized and destroyed.

4.6 The tobacco used in the manufacture of Cigarette shall be clean, free from insect infestation, mould, and foreign materials.

4.7 Characterizing flavors shall not be used in the manufacture of Cigarette.

Note: *These do not include use of additives which are essential to the manufacture of tobacco products e.g. sugar to replace sugar that is lost during the curing process if they do not result in a product with a characterizing flavor.*

4.8 Tobacco companies, manufacturer, distributor or importer or marketer shall take all reasonable precaution to ensure that the premises and cigarettes themselves are free from infestation during various stages of storage, processing, manufacturing and distribution of the finished product.

4.9 All the parameters described in the Product Information Form (Appendix A) shall be submitted to SON by the 31st of December of each year.

5.0 Ingredients

5.1 Cigarette producers shall not use tobacco ingredients at levels which, based on available scientific evidence, render the cigarettes more harmful to health than the cigarette would be without such tobacco ingredients.

5.2 Any person engaged in the production of cigarettes using tobacco ingredients at levels which, based on available scientific evidence, render the cigarettes more harmful to health than the cigarette would be without such tobacco ingredients as referred to in sub clause 5.1 shall be liable to administrative actions in accordance with applicable provisions of law.

5.3 Every manufacturer and importer of cigarettes in Nigeria shall submit to the SON by 31st of December of each year under reference all the relevant information regarding the types of ingredients used during manufacturing process by brand, divided into burnt and unburnt subcategories with exact levels of non-commercial sensitive ingredients by weight in milligrams and percentage of weight of the Cigarettes as specified on sub clauses 5.3.1 to 5.3.4

5.3.1 A Brand Specific List **(List 1)** shall be completed for all Cigarettes, by brand and type, and shall provide a list of all ingredients used in the given Cigarettes divided into burnt and un-burnt subcategories. Within said burnt and unburnt categories the

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ingredients shall be listed with exact levels of non-commercial sensitive ingredients by weight in milligrams and percentage of weight of the product.

5.3.2 A reporting threshold shall be set for individual flavourings used at quantities below 0.1% of the total Cigarettes unit weight, such that the said ingredients may be grouped and identified as "flavourings" on this list.

5.3.3 A Composite Flavour Ingredients List **(List 2)** shall be completed for all flavouring ingredients in use in the market during the reporting period. The said composite list shall set forth:

(a) The common name of the ingredient;
(b) The chemical abstract services (CAS) registry number of the substance; Flavour and Extracts Manufacturers Assessment number (FEMA) and The Council of Europe (CoE) number;
(c) The function of the ingredient;
(d) The Maximum Use Level (MUL) by weight (mg) and by percentage (%) in any brand sold in the market during the reporting period.

5.3.4 A Composite Non Tobacco Ingredients List **(List 3)** shall be completed for all non-tobacco ingredients used in the manufacture of Cigarettes during the reporting period. The said composite list shall contain:

(a) The common name of the ingredient;
(b) The chemical abstract services (CAS) registry number of the substance;
(c) The Maximum Use Level (MUL) values by weight (mg) and by percentage (%) in any brand sold in the market during the reporting period.
(d) The above specified data shall be divided into the following categories:

- Cigarette paper
- Side seam adhesive
- Die print ink
- Plug wrap paper
- Tipping paper and ink
- Filter material
- Tipping adhesive

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6. Quality Requirements

6.1 Specific Requirements

Cigarettes apart from the requirements specified in subclauses 4.1 to 4.8 shall comply with the specification given in Table 1.

Table 1
Specific Requirements for Cigarettes

Parameter	Specification	Test Method
Circumference (mm)	14-30	NIS ISO 2971
Length (mm) (min)	65	By Physical Measurement
Filter Length (Butt) (mm) (min)	15	By Physical Measurement
Density of cigarette, at 13.5% moisture content (g/cm^3) (min)	0.15	By Calculation
Draw Resistance mm WG (min)	40	NIS ISO 6565
Moisture content, (%) by mass (max)	14.5	NIS ISO 6488
Filter Filtration Efficiency (%) (min)	27	NIS ISO 4388
Total alkaloids contents (%) by mass on dry weight basis (max)	3.5	NIS ISO 15152
Nicotine content, (mg/cigarette)	1 ±15%	NIS ISO 10315
Carbon monoxide (mg/cigarette)	10 ± 20%	NIS ISO 8454
*Tar content (mg/cigarette)	10 ± 15%	NIS ISO 4387
Nitrate Content (%) (dry mass) (max)	2.50	NIS ISO 15517
Loss of Tobacco from the End percentage by mass (max) (a) Plain cigarettes (b) Filter tipped cigarettes	 0.8 0.4	NIS ISO 3550-1
End Stability mg per end of cigarette max	20	Appendix B

**Tar content of cigarette is calculated by the following formula;*

Tar content = T – W – H

Fliteration

Where,

T = Total particulate matter determined in accordance with NIS ISO 4387

W = Water content of total particulate matter (T) determined in accordance with NIS ISO 10362-1 or NIS ISO 10362-2

H = Nicotine content of total particulate matter (T) determined in accordance with NIS ISO 10315

Note: *When applying ISO 10362-2, an appropriate note should be added to the results.*

6.2 Contaminants

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6.2.1 Chemical Contaminants
6.2.1.1 Pesticide Residue

The product shall comply with the maximum residue limits (MRLS) for pesticide established by appropriate authority.

6.2.2 Metallic Contaminants

Cigarettes shall comply with limits for metallic contaminants stated below:

Metallic Contaminants	Limit	Test Method
Lead (Pb) (mg/cig) (max)	0.5	Electrothermal AAS / ICP-MS
Cadmium (Cd) (mg/cig) (max)	0.8	ICP-MS
Arsenic (As) (mg/cig) (max)	0.5	ICP-MS
Mercury (Hg) (mg/cig) (max)	0.1	AAS / ICP-MS

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7. Hygiene

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate clauses of the Recommended International Code of Practice – General Principles of Food Hygiene (CAC/RCP 1 – 1969, Rev. 4-2003).

8. Packaging and Labeling

8.1 Packaging

8.1.1 A unit packet of Cigarettes shall contain minimum of 20 sticks.

8.1.2 Cigarette shall be packed in appropriate tamper proof packet.

8.2 Labeling

8.2.1 The following particulars shall be legibly marked on one side of each packet:

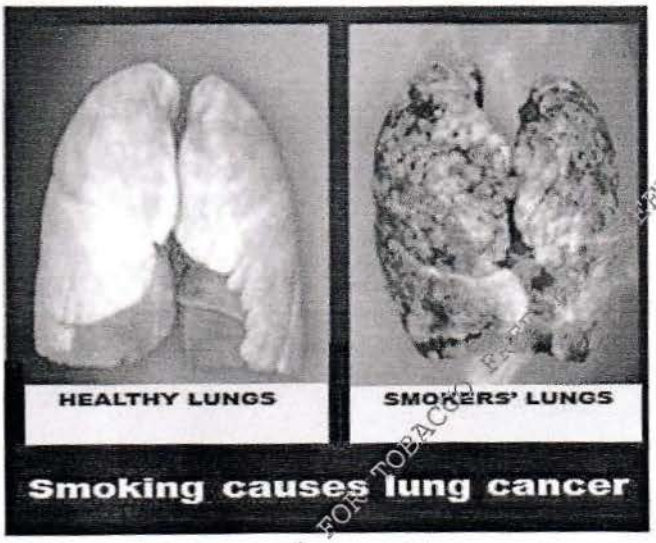
(i) Name of product/Brand
(ii) The number of rolled Cigarettes in the packet
(iii) Name and Location Address of Manufacturer and or Distributor
(iv) Country of origin
(v) 18+ Sign
(vi) "Do not litter sign"

(vii) Production & Expiry date
(viii) Batch number

8.2.2 Warning

8.2.2.1 The individual packet and roll of Cigarette shall be marked with the pictorial and text health warning in rotation which shall be no more than 24 months each, with no longer than 150 days from the date new warning and message take effect to replace the warning and message from a previous period as follows:

A: First rotation



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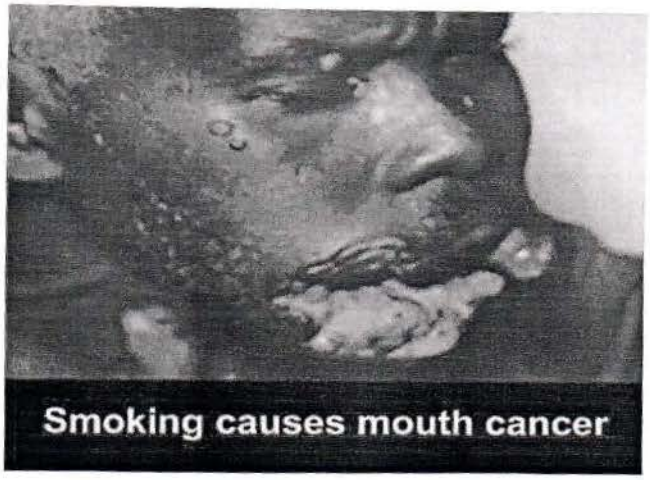
B: Second rotation



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C. Third rotation

8.2.2.2 The health warning for the first rotation period shall be Picture A with the text "Smoking causes lung cancer". The health warning for the second rotation period shall be Picture B with the text "Smoking causes mouth cancer". The third rotation period shall be Picture C with the text "Smoking causes throat cancer"

8.2.2.3 The health warning shall cover not less than 50% minimum of the total surface

area of the front and back panel of individual pack and roll of Cigarette.

8.2.2.4 Health warning for other level of packaging for Cigarettes (carton) shall be text only and shall be marked as follows:

"Smoking Causes Lung Cancer" - First rotation
"Smoking causes mouth cancer" - Second rotation
"Smoking causes throat cancer"- Third rotation

8.2.2.5 The text of the health warning on a carton shall be printed in black within a black border of 1mm thickness.

8.2.3.6 The health warning, including the borders shall cover not less than 50% of the total surface area of the front and back panel of the carton and shall be printed on the lower side of each panel.

8.2.3.7 The wording of the prescribed health warnings shall be printed using the HELVETICA fonts and in sizes reasonable to fit the warning into the prescribed.

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9. Sampling and Testing

9.1 Sampling

All products covered by the provisions of this standard shall be sampled in accordance with clause 4 of NIS ISO 8243 and tested in laboratories accredited under NIS ISO/IEC 17025, which describes general requirements for the competence of calibration and testing laboratories.

9.2. Analysis

The samples taken in accordance with sub-clause 9.1 shall be analyzed for compliance with the requirements of this standard.

10. Criteria for Conformity

10.1 A population shall be deemed to comply with the specification if after inspection and analysis of all the samples taken in accordance with NIS ISO 8243, the number of non-conforming inspection samples did not exceed the acceptance number given in Table 2 relative to the appropriate inspection sample size.

***Note**: An inspection sample consists of 200 rolled Cigarettes.*

Table 2
Criteria for Conformity

Inspection Sample Size	Acceptance Number

1 - 5	0
6 - 8	1
9 - 13	2
14 - 20	3
21 - 32	5
33 - 50	7
51 - 80	10

Note: *Any failure beyond 10 is not acceptable*

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Appendix A

Product Information

A.1 General Product Information

(i) Brand Name
(ii) Type of Packaging
(iii) Country of Origin
(iv) Destination

A.2 Cigarette Design Features Reporting

Parameter	Value	Test Method
Type of Filter & Filtering Material		
Total ventilation (0-100%)		
Paper permeability		
Loss of tobacco from end		
Circumference		
Draw Resistance		

A.3 Tobacco Chemistry

Parameter	Value	Test Method
Total alkaloids		
Total reducing substances		
Nitrate		

A.4 Smoke Chemistry

Parameter	Value	Test Method
Tar		
Nicotine		
Carbon monoxide (CO)		

Appendix B

B.1 Ends Stability Determination

Moisture is an important factor in the fallout, so you may want a measure of that for each fallout determination.

B.2 Purpose

The purpose of this procedure is to determine the ends stability value of cigarette. Groups of cigarettes are tumbled under controlled conditions and the amount of tobacco loss is determined. This amount, in milligrams per exposed tobacco end, is the Ends Stability Value.

B.3 Method Outline

A group of 50 cigarettes are weighed, then placed in an oval chamber and tumbled. The chamber is made of 3m rods parallel to the cigarettes, with solid end

Pieces. The cages are rotated 268 turns in a 3-minute period. The cigarette weight is again determined. The difference in weight before and after testing is divided by the number of exposed tobacco ends (50 or 100), and the result expressed as milligram tobacco loss per end.

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B.4 Equipment

(i) Borgwaldt cigarette ends tester
(ii) Electrical source matched in voltage and frequency to the model of ends tester to be used.
(iii) Sealable, moisture tight containers to hold 50 cigarettes (optional, to preserve moisture between sampling and fallout measurement, and between fallout measurement and moisture measurement.
(iv) Scales accurate to 0.001 gram, tared with a weighing boat.
(v) Tared scoop or container to hold 50 cigarettes for weighing (optional, to enable selection of exactly 50 cigarettes with minimum atmospheric exposure)
(vi) Wood, metal or plastic blocks, one or more for each length of cigarette produced, of cigarette length plus 5mm, for setting the adjustable cage end-plate. Alternatively, size the blocks for fit in the cage on the other side of the adjustable plate from the cigarettes, leaving a length of cage of cigarette length plus 5mm. Mark the blocks with the cigarette size for which they are appropriate.

B.5 Procedure

B.5.1 Set-up, Preparation and Maintenance

(a) Place the tester on a firm, level surface and connect to electrical source.
(b) Set the counter to 268 so that when started the tester operates 270 revolutions and then stops.
(c) Operate the unit through three cycles, checking the operating time with a stopwatch. If the operating time is not 180 seconds ± 3 seconds, adjust the rotation speed by use of the potentiometer and re-check. Repeat this check monthly
(d) All bearings are sealed and normally don't require lubrication

B.5.2 Operation

(a) By use of the appropriate block, adjust each cage end to the length of cigarette to be tested, plus 5mm. Ensure the adjustable end plate is firm and at right angles to the axis of cage rotation.
(b) Load groups of 50 cigarettes into each cage, tobacco ends to the left.
(c) Close cage, close cover, set counter to 268 revolutions and start.
(d) When the cycle is completed, remove each pan and measure the weight in grams (W) of tobacco particles
(e) Remove cigarettes from the cage after weighing fallen particles
(f) Calculate the ends stability as follows:

B.6 Calculation

Filter Tip Cigarettes
Ends stability (mg/open cigarette end) = W x 1000/50

Non-Filter Tip Cigarettes
Ends stability (mg/open cigarette end) = W x 1000/100

B.7 Report results per current Quality Control Inspection Procedure.

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Appendix C

Information on Residual Agrochemical Level in the Tobacco Leaf

Substances	Common Name	Detected Level(μg/g)
aldrin	Aldrin	
Trans-chlordane	Chlordane	
p,p'-DDE	-	
o,p' & *p,p'*- DDT	DDT	

dieldrin	dieldrin	
α-endosulfin	endosulfin	
HCB	Hexachlorobenzene	
α-HCH or α-BHC	HCH or BHC	
β-HCH or β-BHC	HCH or BHC	
γ-HCH or γ-BHC	gamma-HCH (Lindane) or gamma-BHC	
δ-HCH or δ-BHC	HCH or BHC	
heptachlor	heptachlor	
Heptachlor epoxide	-	
o,p' –TDE or o,p' –DDD		
p,p'-TDE or *p,p'*-DDD	TDE	
o,p' –DDE	-	

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Appendix D

D.1 Recommended toxic substances prohibited for use in the Manufacture of Cigarettes in Nigeria or for Export to Nigeria

- Sweet birch tar oil (*Oleum betulae empyreumaticum*)
- Juniper tar oil (*Oleum juniper empyreumaticum*)
- Camphor
- Camphor Oil
- Coumarin
- Agaric acid (*Acidum agaricinium*)
- Bitter almond oil with free or bound cyanide/prussic acid
- Safrole
- Sassafras oil (*Oleum sassafras*)
- Thujone
- Camphor wood (*Lignum camphorae*)
- Yellow blossom sweet clover/Melilot (*Melilotus officinalis*)
- Quillaia bark (*Cortex quillaiae*)
- Sweet woodruff (*Asperula odorata*)

- Pennyyroyal leaves (*Herba pulegii*)
- Goat's rue leaves (*Herba rutae*)
- Tansy leaves (*Herba tanaceti*)
- Polpypod rhizomes (*Rhizoma polypodii, Rhizoma filicis dulcis*)
- Bittersweet stipules (*Stipites dulcamarae*)
- Sassafras bark (*Cortex sassafras*)
- Sassafras wood (*Lignum sassafras*)
- Sassafras leaves (*Folia sassafras*)
- Tonka beans (*Dipteryx odorata seeds*)
- Quassia wood Bitterwood, (*Lignum Quassiae*)
- Betel nut (*Areca catechu*)
- Vanilla root (*Liatris odoratissima*)
- Cloves (*Syzgiumaromaticum*)
- Lobelia (*Lobelia inflata*)
- Caumaru (*Dipteryx odorata*)

Note: *The above list shall be updated as necessary from time to time*

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Bibliography

[1] NIS ISO 15153 - Tobacco – Determination of the Content of Reducing Substances – Continuous-Flow Analysis Method

[2] NIS ISO 3402 - Tobacco and Tobacco Products- Atmosphere for Conditioning and Testing

[3] NIS ISO 16055 - Tobacco and Tobacco products – Monitor Test Piece- Requirements and use

[4] NIS ISO 13276 - Tobacco and Tobacco Products- Determination of Nicotine Purity - Gravimetric Method using Tungstosilicic Acid

[5] NIS ISO 3308 - Routine Analytical Cigarette - Smoking Machine - Definitions and Standard Conditions

[6] WHO FCTC Articles 9 and 10 and 11

[7] National Tobacco Control Act, 2017

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