



中国认可
国际互认
检测
TESTING
CNAS L4549

Test Report

Report No.: JC-CPC240031-1

**For Tobacco Product Directive (2014/40/EU) Article 19
(Harmful Constituents Test in Aerosol for TPD Notification)**

Applicant: LONO International Co., Limited

Manufacturer: /

Name of Sample: HNB tobacco

Flavor: Amber

Brand: /

Model: /

Date of Issuance: Jan. 29, 2024

Skyte Testing Services Guangdong Co., Ltd.



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Report Date: Jan. 29, 2024

Applicant Name: LONO International Co., Limited

Applicant Add.: FLAT 1512, 15/F, LUCKY CENTRE, NO.165-171 WAN CHAI ROAD, WAN CHAI, HONG KONG

Test sample was submitted by the applicant, report on the submitted sample said to be:

Sample Name: HNB tobacco

Flavor: Amber

Sample Received Date: Jan. 10, 2024

Testing Period: Jan. 10, 2024 to Jan. 23, 2024

Tests Conducted: As requested by the applicant. See the following pages for details.

Test Requirement:

| Test Items | Test Requirement |
|--|--|
| Nicotine and Nicotine Consistence, Alcohols, Ketones, Carbonyls, Volatile Organic Compounds (VOC), Metal and Nonmetal Elements, Carbon Monoxide, Tobacco Specific Nitrosamine, Total Particulate Matter, Tar (NFDPM), Moisture | <i>Tobacco Product Directive (2014/40/EU) Article 19</i> |

Signed for and on behalf of
Skyte Testing Services Guangdong Co., Ltd



Vanessa Huang / Technical Director
CNAS Approved Signatory

Remark: Please note that every statement made in this report is only valid for the samples tested and reported herein. This report shall not be reproduced except in full, without the written approval of SKYTE. The sample's information was provided by the applicant, SKYTE has no responsibility for the truth of such information.

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Smoking Condition

Smoking Machine Condition 1:

Number of series: 1

Number of stick per series: 1

Number of puffs per stick: 12 puffs

Total number of puffs: 12 puffs

Puffing duration: (2.0±0.02) s

Time between 2 puffs: (30.0±0.5) s

Time between 2 series: (300±120) s

Puff volume: (55.0±0.3) mL

Maximum flow rate: (40-50) mL/s

Inhalation profile: Sine wave

Device power setting: Fixed

Smoking basis: Health Canada (1999)

The above settings are tested for Carbon Monoxide.

Smoking Machine Condition 2:

Number of series: 2

Number of stick per series: 1

Number of puffs per stick: 12 puffs

Total number of puffs: 24 puffs

Puffing duration: (2.0±0.02) s

Time between 2 puffs: (30.0±0.5) s

Time between 2 series: (300±120) s

Puff volume: (55.0±0.3) mL

Maximum flow rate: (40-50) mL/s

Inhalation profile: Sine wave

Device power setting: Fixed

Smoking basis: Health Canada (1999)

The above settings are tested for items other than Carbon Monoxide.

Test Results

1. Nicotine Consistence

| Test Item | Test Results (mg/stick) | | | AVG (mg/stick) | Target Value* |
|----------------------|-------------------------|-----------------------|------------------------|-------------------|---------------|
| | Serie1 (1~2 stick) | Serie3 (5~6 stick) | Serie5 (9~10 stick) | | |
| Nicotine Consistence | 0.79 | 0.75 | 0.72 | 0.75 | — |
| Deviation | 5.33% | 0.00% | -4.00% | — | 30% |

2. Alcohols

| Test Items | CAS No. | Test Results (µg/stick) | MDL (µg/stick) |
|-------------------|----------|-------------------------|----------------|
| Ethylene Glycol | 107-21-1 | N.D. | 0.2 |
| Diethylene Glycol | 111-46-6 | N.D. | 0.2 |

3. Ketones

| Test Items | CAS No. | Test Results (µg/stick) | MDL (µg/stick) |
|------------------|----------|-------------------------|----------------|
| Diacetyl | 431-03-8 | 27.6 | 0.06 |
| 2,3-Pentanedione | 600-14-6 | N.D. | 0.80 |

4. Carbonyls

| Test Items | CAS No. | Test Results (µg/stick) | MDL (µg/stick) |
|----------------|----------|-------------------------|----------------|
| Formaldehyde | 50-00-0 | 17.0 | 0.04 |
| Acetaldehyde | 75-07-0 | 48.3 | 0.08 |
| Acrolein | 107-02-8 | 4.90 | 0.06 |
| Crotonaldehyde | 123-73-9 | 0.74 | 0.40 |

5. Volatile Organic Compounds (VOC)

| Test Items | CAS No. | Test Results (µg/stick) | MDL (µg/stick) |
|---------------|----------|-------------------------|----------------|
| Benzene | 71-43-2 | N.D. | 0.4 |
| Toluene | 108-88-3 | 0.62 | 0.4 |
| 1,3-Butadiene | 106-99-0 | N.D. | 4.0 |
| Isoprene | 78-79-5 | 2.16 | 0.4 |

6. Metal and Nonmetal Elements

| Test Items | CAS No. | Test Results (ng/stick) | MDL (ng/stick) |
|---------------|-----------|-------------------------|----------------|
| Chromium (Cr) | 7440-47-3 | N.D. | 3 |
| Nickel (Ni) | 7440-02-0 | N.D. | 3 |
| Cadmium (Cd) | 7440-43-9 | N.D. | 3 |
| Lead (Pb) | 7439-92-1 | N.D. | 3 |
| Arsenic (As) | 7440-38-2 | N.D. | 3 |
| Antimony (Sb) | 7440-36-0 | N.D. | 3 |
| Tin (Sn) | 7440-31-5 | N.D. | 3 |
| Mercury (Hg) | 7439-97-6 | N.D. | 3 |
| Copper (Cu) | 7440-50-8 | N.D. | 3 |
| Aluminum (Al) | 7429-90-5 | N.D. | 3 |
| Iron (Fe) | 7439-89-6 | N.D. | 3 |

7. Tobacco Specific Nitrosamine

| Test Items | CAS No. | Test Results (ng/stick) | MDL (ng/stick) |
|------------|-------------|-------------------------|----------------|
| NNN | 16543-55-8 | 27.6 | 2.5 |
| NNK | 64091-91-4 | 11.9 | 2.5 |
| NAB | 1133-64-8 | N.D. | 2.5 |
| NAT | 887407-16-1 | N.D. | 2.5 |

8. Nicotine and the Main Constituents

| Test Items | CAS No. | Test Results (mg/stick) | MDL (mg/stick) |
|--------------------------|-----------|-------------------------|----------------|
| Nicotine | 54-11-5 | 0.75 | 0.005 |
| Carbon Monoxide | 630-08-0 | 0.19 | 0.01 |
| Total Particulate Matter | — | 39.40 | — |
| Tar (NFDPM) | — | 13.35 | — |
| Moisture | 7732-18-5 | 12.45 | — |

Tested by: Qin Caiyue, Yin Yuanyue, Chen Junlong, Zhang Mengting, Wei Wenlong, Ruan Jie, Han Xu

Checked by: Huang Xiangwei, Xu Guichun, Zhang Pingping

Remarks:

- (1) mg/stick = milligrams per stick
- (2) µg/stick = microgram per stick
- (3) ng/stick = nanogram per stick
- (4) MDL = method detection limit
- (5) N.D. = not detected, less than MDL
- (6) Tar (NFDPM) = Nicotine Free Dry Particulate Matter
- (7) * = The target value is quoted from AFNOR XP D90-300-3:2021 Annex B.
- (8) The test items of Antimony (Sb), Tin (Sn), Mercury (Hg), Copper (Cu), Aluminum (Al), Iron (Fe), Tobacco Specific Nitrosamine, Total Particulate Matter, Carbon monoxide and Tar (NFDPM) were not accredited by CNAS.

Test Methods

| Test Items | Test Methods | Test Instruments |
|-----------------------------------|---|------------------|
| Nicotine and Nicotine Consistence | Health Canada T-115 (1999) | GC-FID |
| Ethylene glycol | C-QT-1800-TP (In-house test method) | GC-FID |
| Diethylene glycol | | |
| Diacetyl | AFNOR XP D90-300-3:2021 Annex A.4 | GC-MS |
| 2,3-Pentanedione | | |
| Formaldehyde | CORESTA RECOMMENDED METHOD No.74 (2019) | UPLC-PDA |
| Acetaldehyde | | |
| Acrolein | | |
| Crotonaldehyde | | |
| Benzene | Health Canada T-116 (1999) | GC-MS |
| Toluene | | |
| 1,3-Butadiene | | |
| Isoprene | | |
| Chromium (Cr) | Health Canada T-109 (1999) | ICP-MS |
| Nickel (Ni) | | |
| Cadmium (Cd) | | |
| Lead (Pb) | | |
| Arsenic (As) | | |
| Antimony (Sb) | | |
| Tin (Sn) | | |
| Copper (Cu) | | |
| Aluminum (Al) | | |
| Iron (Fe) | | |

| Test Items | Test Methods | Test Instruments |
|--------------------------|---|------------------------------|
| Mercury (Hg) | Health Canada T-108 (1999) | ICP-MS |
| NNN | CORESTA RECOMMENDED METHOD No.75 (2022) | LC-MS/MS |
| NNK | | |
| NAB | | |
| NAT | | |
| Carbon Monoxide | C-QT-1930-TP (In-house test method) | Smoke and dusts analyzer |
| Total Particulate Matter | Health Canada T-115 (1999) | Electronic Balance |
| Tar (NFDPM) | | — |
| Moisture | CORESTA RECOMMENDED METHOD No.56 (2018) | Karl Fisher - Moisture meter |

Sample Photo



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(End of report)