

# Reference Material Data Sheet

## *1C4 Large Machine Made Cigar With Natural Wrapper*

**Data Sheet Number: 2022-1C4CTRP**

Reference values generated on: 08/01/2022

Reference values are valid until: 08/01/2027

Superseded data sheet code: NA

Description of Material Large machine made cigar with natural wrapper

Lot/Batch Number

***1C4 Large Machine Made Cigar with Natural Wrapper***

Matrix

Tobacco blend

### Notes

- Reference values listed below reflect analysis results submitted during CORESTA studies (References below) satisfying Clause 5.15 of ISO Guide 34:2009 and statistically evaluated using Approach A in Clause 10.5 of ISO Guide 35:2017.
- The "Reference Uncertainty" listed herein are expanded uncertainties obtained by multiplying the combined standard uncertainty by a constant coverage factor of 3, i.e.  $k = 3$ .
- The reference values listed herein are reflective of chemical analysis done on a "as is" basis, i.e. the samples were not dried prior to analysis.
- Cigars were smoked using the CORESTA Recommended Method No. 64.
- The values will be updated by the valid until date or as needed.
- Due to the possibility of self-extinguishing, relighting the cigar may be necessary.

### ***1C4 - Large Machine Made Cigar with Natural Wrapper Values and Uncertainties***

Mainstream Smoke					
Parameter	Reference Value	Certified Uncertainty	Unit	Number of Accepted Data Points	Constant Coverage Factor
Total Particulate Matter (TPM)	57.99	17.27	mg/cigar	45	3
Tar (Nicotine-free dry particulate Matter (NFDPM))	51.12	15.01	mg/cigar	45	3
Carbon Monoxide (CO)	87.24	66.20	mg/cigar	45	3
Nicotine	2.68	1.66	mg/cigar	45	3
Puff Count	43.35	6.21	puffs/cigar	45	3
Water	4.21	5.29	mg/cigar	45	3
Weight	3139.1	240.2	mg/cigar	45	3

Homogenized Cigar					
Parameter	Reference Value	Certified Uncertainty	Unit	Number of Accepted Data Points	Constant Coverage Factor
Ammonia	4639	2045	µg/g	36	3
Arsenic	173	78	ng/g	24	3
Cadmium	1628	657	ng/g	24	3
Nicotine	12.44	2.69	mg/g	33	3
NNK	6780	1832	ng/g	36	3
NNN	16907	5394	ng/g	36	3
NAT	7281	1756	ng/g	36	3
NAB	912	360	ng/g	36	3
Moisture Content	14.78	9.82	%	33	3
pH	6.70	0.28	pH units	39	3
Water Activity	0.64	0.29	a <sub>w</sub>	30	3

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**CERTIFIED VALUES AND UNCERTAINTIES:**

The Certified Values and Uncertainties for the mainstream smoke parameters contained herein are reflective only of data obtained from a Linear Smoking machine.

**DATA AQUISITION:**

Data used in calculations for constituents were reported in multiple studies listed below.

Mainstream smoke – CORESTA Technical Report Cigar Smoke Analysis 14<sup>th</sup> Collaborative Study 2019-2020 (April 2021)

Homogenized cigar – CORESTA Technical Report University of Kentucky Cigar Reference Products 2021 Analysis (September 2021)

**INTENDED USE:** This product may be used for analytical method development, assigning values to materials (when applicable), and, equipment calibration to any applicable extent.

**INSTRUCTIONS FOR CORRECT USE:** This reference material may be stored in sealed containers or bags at -20°C until testing. Prior to analysis, the reference material should be unopened and transferred to a refrigerator for a minimum of 24 hours or until they are completely thawed, and then moved to room temperature for at least 2 hours until it reached temperature equilibrium. Once the reference materials are equilibrated to room temperature, the reference materials may be stored at 4°C for up to one week, if they will not be analyzed immediately. Any reference materials found to have damaged package should be discarded.

**HAZARD INFORMATION:** N/A

**HOMOGENEITY:** Homogeneity of this material is reflected in the “Certified Uncertainties” disclosed herein.

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**APPROVING PERSONNEL:** This material is approved by **Huihua Ji, C. Ruth McNees** and **Ling Yuan** on behalf of CTRP