

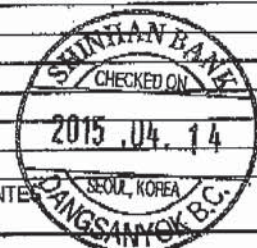
### Certificate of Analysis

No.: 039/15

Issue Date:  
03/16/15

Product	CARNAUBA WAX	Cas No.	[8015-86-9]
Product Description	CARNAUBA WAX, TYPE 1, POWDER, FOOD GRADE (STARLIGHT BRAND) 2,000KG ORIGIN BRAZIL		
Customer's Reference	K5021185		

	TESTS	METHODS	SPECIFICATIONS	REFERENCES
01	Moisture	AMERWAX	0.50 % max	PONTES
02	Saponification Value	ASTM D 1387-89	78 – 95 mg KOH/g	USP 34 p. 1709-1710
03	Acid Value	ASTM D 1386-88	2 – 7 mg KOH/g	USP 34 p. 1709-1710
04	Melting Range	USP 34 <741> Class II p. 309-311	80 – 85 °C	USP 34 p. 1709-1710
05	Insoluble Impurities	AMERWAX	0.20 % max	PONTES
06	Volatile Matter at 175°C (Including Moisture)	PONTES	0.60 % max	PONTES
07	Ester Value	USP 34 p. 152	71 – 88 mg KOH/g	Food Chemicals Codex 7 <sup>th</sup> ED. p. 178-179
08	Ash Content	EUR. PH. 7 <sup>th</sup> Ed. 01/2008:20416 (2.4.16) p. 118	0.25 % max	EUR. PH. 7 <sup>th</sup> Ed. 01/2008:0597 (2.4.16) p. 1592
09	Heavy Metals	USP 34 Method II <231> p. 135-136	20 µg/g max	USP 34 p. 1709-1710
10	Color	ASTM D 1544-04 (2010) Adapted	2 - 4 Gardner Scale	PONTES
11	Arsenic	USP 34 <211> Method II p.130-131	≤ 3 ppm	PONTES
12	Lead	USP 34 <251> p. 136-137	≤ 2 ppm	CODEX ALIMENTARIUS
13	Mercury	USP 34 <281> p.137-138	≤ 1 ppm	PONTES
14	Peroxide Value	EUR PH. 7 <sup>th</sup> ED. 01/2008:20505 (2.5.5; Method A) p. 138	-----	-----
15	Unsatifiable Matter	PONTES	50 – 55 %	Food Chemicals Codex 7 <sup>th</sup> ED. p. 178-179
16	Solubility	EUR. PH. 7 <sup>th</sup> Ed 01/2008:0597 p. 1592	Conform prescribed	EUR. PH. 7 <sup>th</sup> Ed 01/2008:0597 p. 1592
17	Appearance of Solution	EUR. PH. 7 <sup>th</sup> Ed 01/2008:20201 (2.2.1) p.21; 20202 (2.2.2) p. 22-24	Conform prescribed	EUR. PH. 7 <sup>th</sup> Ed 01/2008:0597 (2.2.1 and 2.2.2 Method II) p.1592
	Microbial Limit Tests	USP 34 <61> p. 52-56		USP 34 <61> p. 52-56
18	Mold		NMT200org/g	
19	Escherichia Coli		None Detected	
20	Pseudomonas Aeruginosa		None Detected	
21	Salmonela		None Detected	
22	Staphylococcus Aureus		None Detected	
	Total Microbial			
23	Count		NMT 1000org/g	
24	Yeast		200 org/g	
25	Particle Size	USP 34 <796 > p. 323-325	95.0 % pass through 100 mesh	PONTES



## Table of Results

LOT NO.		010T1P15CE
QUANTITY OF BAGS		80
MANUFACTURING DATE		2015.02.13
EXPIRY DATE		2022.02.11
01	Moisture	0.18
02	Saponification Value	79.42
03	Acid Value	3.07
04	Melting Range	80.0 - 83.0
05	Insoluble Impurities	0.02
06	Volatile Matter at 175°C (Including Moisture)	0.41
07	Ester Value	76.35
08	Ash Content	0.01
09	Heavy Metals	< 20
10	Color	4
11	Arsenic	< 3
12	Lead	< 2
13	Mercury	< 1
14	Peroxide value	1.00
15	Unseparatable Matter	52.13
16	Solubility	It complies
17	Appearance of Solution	It complies
Microbial Limit Tests		
18	Mold	< 200
19	Escherichia Coli	None Detected
20	Pseudomonas Aeruginosa	None Detected
21	Salmonela	None Detected
22	Staphylococcus Aureus	None Detected
Total Microbial		
23	Count	< 1000
24	Yeast	< 200
25	Particle Size	99.56 % pass through 100 mesh
		98.37 % pass through 140 mesh
		95.54 % pass through 200 mesh

*Nayra Façanha Maciel*  
Responsible Chemist

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