ROYAL SPIRULINA

BEYOND SUPER FOOD

CERTIFICATE OF ANALYSIS

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PRODUCT	PROCESS
Freeze-Dried Spirulina Powder	Freeze-Dried (never spray-dried)

Characteristic	Test Method	Specification	Results
COMPOSITION & NUTRITION			
Appearance	Visual	Fine dark green powder	**Fine dark green powder**
Protein	AOAC (2016) 981.10	53 – 64 %	**54.4 %**
Carbohydrates	Compendium of Methods for Food Analysis, Thailand, 1st Ed., (2003)	18 – 30 %	**29.51 %**
Chlorophyll A	Vis Spectrophotometry	4 – 10 g/kg	**5.2 g/kg**
Carotenoids	AOAC 938.04 / Paper chromatography	≥ 2.0 g/kg	**2.09 g/kg**
Moisture	AOAC (2016) 925.45 A	≤ 5.5 %	**3.1 %**
Ash	AOAC (2016) 920.153	≤ 8.0 % on a dry basis	**7.38 %**
Fiber	AOAC (2016) 985.29	≥ 1 % on a dry basis	**11.70 %**
Crude Phycocyanin	SDS-PAGE Electrophoresis / UV-Vis Spectrophotometry	19 – 25 %	**24.32 %**
Iron	AOAC (2016) 999.10 ICP-OES	≥ 28.5 mg/100g	**34.5 mg/100g**
Vitamin A (beta-Carotene)	Food Chem. (2003). 83(2):105-212	≥ 990 mg/100g	**1,083 mg/100g**
MICROBIOLOGY			
Aerobic Plate Count	BAM-FDA, 2001, Chapter 3	< 100,000 cfu/g	**44,000 cfu/g**
Total Coliforms	AOAC (2016) 991.14	< 100 cfu/g	**Complies**
Fecal Coliforms	BAM-FDA Ed. 8, Revision A/1998, Chapter 4	< 3 MPN/g	**Complies**
Bacillus cereus	ISO 7932:2004 (E)	≤ 300 cfu/g	**30 cfu/g**
***Salmonella* spp.**	ISO 6579:2002 / Cor.1:2004 (E)	Not Detectable in 25 g	**Complies**
E. coli	AOAC (2016) 991.14	< 100 cfu/g	**Complies**
Yeast & Mold	AOAC (2016) 997.02	≤ 300 cfu/g	**10 cfu/g**
HEAVY METALS			
Lead (Pb)	ICP/MS AOAC (2016) 999.10	< 0.2 ppm	**Not Detectable**
Cadmium	ICP/MS AOAC (2016) 999.10	< 0.1 ppm	**Not Detectable**
Chromium	ICP/MS AOAC (2016) 999.10	< 0.3 ppm	**0.160 ppm**
Arsenic	ICP/MS AOAC (2016) 986.15	< 0.5 ppm	**Not Detectable**
Mercury	ICP/MS AOAC (2016) 974.14	< 0.035 ppm	**Not Detectable**

STORAGE: Store in a cool, dry area. Do not freeze. Keep away from strong direct light.

The results shown above apply to the product identified on this certificate and conform to Royal Spirulina product specifications.

Authorized Signature | Quality Assurance