



Certificate of Analysis

Emerald COSMETIC PIGMENT

Expiration Date: February 28, 2019

ANALYTICAL DATA	SOP's	SPECS	RESULTS
Content of Mica *	EMD	26.0 -47.0	36.8 %
Content of TiO2	EMD	23.0 -31.0	26.6 %
Content of Fe3O4	EMD	26.0 -34.0	29.9 %
Content of Cr2O3	EMD	4.0 -9.0	6.7 %
ph (10 % Suspension)	ISO 787-9	3.0 -6.0	3.7
Particle size distribution (80% within 10-60 µm)	Laser diffraction	Conforms	Conforms
Median particle size (D50)	Laser diffraction	18.0 -25.0	19.7 µ
Chromium (soluble in 2% NaOH extract)	EMD	Conforms	< 750 ppm as Cr2O3
Loss on Drying (2 hrs, 105 degrees C)	ASTM 1208-96	</=0.5	0.1 %

Microbial Purity

USP or EP or JP

Total Viable Aerobic Count	< 100 CFU/g
E. coli	Absent in 1g
Pseudomonas aeruginosa	Absent in 1g
Staphylococcus aureus	Absent in 1g
Salmonella species	Absent in 10g
Gram negative bacteria	Absent in 1g
Candida albicans	Absent in 1g

Heavy Metals

Modified CTFA/Internal

< 2 ppm	Barium	< 50 ppm	Cadmium	< 3 ppm
< 100 ppm	Copper	< 50 ppm	Mercury	< 1 ppm
< 10 ppm	Lead	< 10 ppm	Antimony	< 1 ppm
< 50 ppm				

This material does not contain organic colorants

The color additives in this material meet all applicable purity requirements of the FDA(21 - CFR), the E C and Japan for cosmetic use

This document has been produced electronically and bears no signature