



TKB TRADING, LLC
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Certificate of Analysis (Representative Sample Certificate)

COSMETIC PIGMENT

| | | | |
|---------------------|---|------------------|-----|
| Product Name | VERDIGRIS GOLD | Issue Date: | N/A |
| Lot Number | Not available (data may vary slightly with different lots or batches) | | |
| Date of Manufacture | N/A | Expiration Date: | N/A |

| ANALYTICAL DATA | SOP's | SPECS | RESULTS |
|---|-------------------|------------|----------|
| Color and Appearance | Merck KGaA | Conforms | Conforms |
| Content of Mica * | Merck KGaA | 38.0 -57.0 | 49.8 % |
| Content of TiO2 | Merck KGaA | 20.0 -30.0 | 23.8 % |
| Content of Fe3O4 | Merck KGaA | 23.0 -32.0 | 26.4 % |
| Particle size distribution (80% within 10 - 60 µm) | Laser diffraction | Conforms | Conforms |
| Median particle size (D50) | Laser diffraction | 18.0 -25.0 | 21.8 µ |
| pH (10% aqueous suspension) | ISO 787-9 | 8.0 -11.0 | 9.8 |
| Loss on Drying (2 hrs, 105 degrees C) | Merck KGaA | </=0.5 | 0.5 % |

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

| | | |
|--------------------|-----------------|------------------|
| Arsenic < 2 ppm | Barium < 50 ppm | Cadmium < 3 ppm |
| Chromium < 100 ppm | Copper < 50 ppm | Mercury < 1 ppm |
| Nickel < 10 ppm | Lead < 10 ppm | Antimony < 1 ppm |
| Zinc < 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

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* Calculated by Difference

QC Specialist, Methods Development