

Certificate of Analysis

(Representative Sample Certificate)

Product Name: Titanium Dioxide
INCI Name: Titanium Dioxide
CAS Number: 13463-67-7
Lot Number: Not available (data may vary slightly with different lots or batches)
Expiration Date: 60 months from production date

Characteristics	Specifications	Test Value
Appearance	Smooth white powder	Pass
Odor	Odorless	Pass
Identification	Conforms to specifications	Pass
Loss on Dry	0.5% MAX	0.2%
Loss on Ignition	0.5% MAX	0.1%
Water Solubles	0.25% MAX	0.2%
Acid Solubles	0.5% MAX	0.2%
Aluminum Oxide/Silicon Dioxide	2.0% MAX (singly or combined)	---
Aluminum Oxide	<0.03%	Pass
Silicon Dioxide	<0.03%	Pass
Arsenic (leachable)	1.0 ppm MAX	<0.2 ppm
Mercury (total)	1.0 ppm MAX	<0.2 ppm
Antimony (leachable)	2.0 ppm MAX	<0.2 ppm
Assay	99.0-100.5	99.2%
Lead (total)	10.0 ppm MAX	2 ppm
pH	6.5-8.0	7.4
Brightness	96 MIN	97.5
Microbial Count	<100 CFU/g	Pass
Yeasts & Molds	<50 CFU/g	Pass
E. Coli, Salmonella, Staph aureus, Pseudomonas aeruginosa	Absent	Pass

Disclaimer: This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. Such information is to be the best of the company's knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee of any kind, express or implied, is made as to its accuracy, reliability or completeness and we assume no responsibility for any loss, damage or expense, direct or consequential, arising out of use. It is the user's responsibility to satisfy himself as to the suitability & completeness of such information for his own particular use.

Water Absorption	information only	25
Dispersability	Forms milky suspension in water	Pass
Retained 325 Mesh	Information only	<0.02%
Soluble Barium	Solution opalescence	Nil
Copper, ppm (total)	Information only	<0.5 ppm
Arsenic, ppm (total)	5.0 ppm MAX (BP/EP)	<0.5 ppm
Antimony, ppm (total)	100.0 ppm MAX (BP/EP)	<1 ppm
Zinc, ppm (total)	50.0 ppm MAX	<3 ppm
Iron, ppm (total)	200.0 ppm MAX (BP/EP)	5 ppm
Chromium, ppm (total)	Information only	1.3 ppm
Cadmium, ppm (total)	1.0 ppm MAX	<0.2 ppm
Lead, ppm (leachable)	10.0 ppm MAX	<1 ppm
Characteristics	Conforms to EP	Pass
Identification A	Conforms to BP/EP	Pass
Identification B	Conforms to BP/EP	Pass
Identification C	Conforms to BP/EP	Pass
Appearance of Solution	Conforms to EP requirements	Pass
Barium	5.0 ppm MAX (BP)	<5.0 ppm
Barium	Conforms to EP	Pass
Heavy Metals	20.0 ppm MAX (BP/EP)	<20.0 ppm
Iron	200.0 ppm MAX (BP/EP)	<200.0 ppm
Antimony	100.0 ppm MAX (BP/EP)	<100.0 ppm
Acidity/Alkalinity	Conforms to EP	Pass

The above data were obtained using the test indicated and is subject to the deviation inherent in the test method. Results may vary under other test methods or conditions.

This report is not to be signed.

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