



ZOCHEM INC.

A SUBSIDIARY OF HUBBAY MINERALS INC.

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ZOCO 112USP/EP – ULTRA LOW LEAD

ZOCHEM ZINC OXIDE

FRENCH PROCESS ZINC OXIDE - PRODUCED FROM PRIMARY GRADE ZINC

DESCRIPTION

ZOCO 112USP is a zinc oxide extremely high in quality and purity to meet with all U.S. Pharmacopoeia and European Pharmacopoeia standards as per **USP33 NF28**.

USES

All pharmaceutical applications; salves, creams, lotions, ointments ...

TYPICAL TECHNICAL VALUES**

CHEMICAL PROPERTIES (%)		MAXIMUM	MINIMUM	TYPICAL
Description:	A very fine, amorphous, white or yellowish white powder free from gritty particles.	n/a	Passes	n/a
Identification:	a) When strongly heated it assumes a yellow color that disappears on cooling			
	b) Upon addition of saturated hydrogen sulfide a white precipitate forms; upon addition of 2 ml acetic acid to one portion the precipitate remains; upon addition of 3N hydrochloric acid to the other portion the precipitate dissolves.	n/a	Passes	n/a
Alkalinity:	If a red color is produced, no more than 0.30 ml of 0.10 N hydrochloric acid is required to discharge it.	n/a	Passes	n/a
Loss on Ignition @ 500° C:		1.0 %	n/a	0.15 %
Carbonate and Color Solution:	No effervescence occurs and the resulting solution is clear and colorless.	n/a	Passes	n/a
Arsenic:	Not more than 6 ppm	< 1ppm	n/a	< 1 ppm
Iron and other Heavy Metals:	Upon addition of potassium ferrocyanide TS to one tube a white precipitate forms; upon addition of sodium sulphide TS to the second tube a white precipitate forms.	n/a	Passes	n/a
Iron	Complies with EP test for Iron	< 3 ppm	n/a	< 3ppm
Lead	The addition of 5 drops of potassium chromate TS produces no turbidity or precipitate	5 ppm	Passes	3 ppm
Cadmium		5 ppm	n/a	3 ppm
Assay – ZnO (ignited basis)		100.5	99.0	99.9

PHYSICAL PROPERTIES	MAXIMUM	MINIMUM	TYPICAL
Surface Area (m ² /g)	6.00	3.00	4.50
Particle Size (microns)	0.36	0.18	0.24
Bulk Density (lb/cu. ft)			50
Apparent Density (lb/cu.ft)			18
Screen Test - Through 325 Mesh (%)		99.99	99.995
Specifications			ASTM D-79

**** The above specifications are typical for the noted grade. Zochem will produce material to meet specific customer specifications.**

REVISION 10:
May 19, 2010