

# ZOCHEM INC.

A SUBSIDIARY OF HORSEHEAD HOLDING CORP.

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<b>ZOCO 112 USP/FCC – STANDARD</b>	<b>ZOCHEM ZINC OXIDE</b>
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<b>FRENCH PROCESS ZINC OXIDE - PRODUCED FROM PRIMARY GRADE ZINC</b>
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<b>DESCRIPTION</b>
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ZOCO 112 USP/NF is a zinc oxide extremely high in quality and purity to meet with all U.S. Pharmacopoeia standards as per USP34 NF29 as well as for FCC Seventh Edition (2010 – 2011).

<b>USES</b>
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All pharmaceutical applications; salves, creams, lotions, ointments ...

### TYPICAL TECHNICAL VALUES\*\*

<b>CHEMICAL PROPERTIES (%)</b>		<b>MAXIMUM</b>	<b>MINIMUM</b>	<b>TYPICAL</b>
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
Lead	The addition of 5 drops of potassium chromate TS produces no turbidity or precipitate	20 ppm	Passes	15 ppm
Cadmium		10 ppm	n/a	3 ppm
Assay – ZnO (ignited basis)		100.5	99.0	99.9

<b>PHYSICAL PROPERTIES</b>	<b>MAXIMUM</b>	<b>MINIMUM</b>	<b>TYPICAL</b>
Surface Area (m <sup>2</sup> /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 13:  
January 13, 2012