

Zochem LLC (Zochem South)  
 600 Printwood Drive  
 Dickson, TN 37055, USA  
[CustomerService@Zochem.com](mailto:CustomerService@Zochem.com)  
 PHONE (615) 446-8791  
 FAX (615) 446-8789



Zochem ULC (Zochem North)  
 1 Tilbury Court, Brampton  
 Ontario, L6T 3T4, Canada  
[CustomerCare@Zochem.com](mailto:CustomerCare@Zochem.com)  
 PHONE (800) 324-1806  
 FAX (905) 453-2920

**TECHNICAL DATA SHEET**

**ZINC OXIDE USP**

**GRADE 112 USP**

**Description**

Our Zinc Oxide USP product is produced by the French (Indirect) Process and meets the most stringent medicine safety laws and standards in the world including:

- API (Active Pharmaceutical Ingredient),
- GMP (Good Manufacturing Practices) ICH Q7,
- USP, EP, BP & other Compendium Monographs.

Grade 112 USP is our most popular USP prescription drug pharmaceutical ingredient product.

Grade 112 USP replaces Grades Zinc Oxide LLC USP10, ZOCO 112 USP, and KADOX USP-3.

**Product Selection**

Zochem offers several FDA approved grades:

- 103 USP (low 2-4 m<sup>2</sup>/g surface area "SA"),
- 112 USP (medium 4-6.5 SA),
- 101 USP (higher 6-8.5 SA),
- 102 USP (highest 8-10 SA),
- 112 EP-BP (European Union/British Pharmacopeias), the proper API GMP pharma grade for use outside the U.S.A.
- 104 USFDA approved as GRAS (Generally Recognized As Safe) at 21cfr73.8991 and used for OTC, excipient (inactive ingredient), and wherever an FDA approved grade is required.

USP Compendium Tests	Limit	Nominal	Test Method
Zinc Oxide (ZnO)	99.0% – 100.5%	99.9%	USP monograph
Arsenic (As)	6 ppm max	0 ppm	ICP or monograph
Loss at 500 <sup>o</sup> C	1.0% max	0.2%	USP monograph
Lead	No Turbidity	Pass	USP monograph
Iron & Other Heavy Metals	Precipitates formed	Pass	USP monograph
Alkalinity	Solution not red	Pass	USP monograph
Carbonate	No effervescence	Pass	USP monograph
Color of Solution	Clear & colorless	Pass	USP monograph
Identification B	Precipitates formed	Pass	USP monograph
Identification A:	Turns yellow when heated, dissipates when cooled	Pass	USP monograph
Additional Tests (not compendium)	Limit	Nominal	Test Method
Surface Area (m <sup>2</sup> /g)	3.0 – 6.5	5	ASTM D4315
Lead as Pb (%)	0.002 max	0.0015	ASTM D4315
Cadmium as Cd (%)	0.001 max	0.0002	ASTM D4315
Iron as Fe (%)	0.002 max	0.0003	ASTM D79
Fineness retained on 325 mesh (%)	0.01 max	0.003	ASTM D185
(Fineness passing through 325 mesh (%))	99.99 min	99.997	ASTM D185)

Product meets all USP monograph limits.

**Standard Packaging:** 50 lb. Kraft paper bags on 2,000 to 2,500 lb net wt. pallet unit, or 2,000 lb FIBC.

TDS 112 USP 28Mar2018 rev 18

DISTRIBUTED BY: R.E. CARROLL, INC. 1570 N. OLDEN AVE. EWING, N.J. 08638-3204 T: 609-695-6211/800-257-9365 orders@reccarroll.com