

Status: Currently Official on 17-Feb-2025
 Official Date: Official as of 01-May-2020
 Document Type: USP Monographs
 DocId: GUID-70B4A837-8757-4D20-8E9F-D07B7D2411EB_4_en-US
 DOI: https://doi.org/10.31003/USPNF_M10175_04_01
 DOI Ref: g7eyo

© 2025 USPC
 Do not distribute

Zinc Oxide Powder

DEFINITION

Zinc Oxide Powder contains NLT 90.0% and NMT 110.0% of the labeled amount of zinc oxide (ZnO).

IDENTIFICATION

- **A.** The retention time of the zinc peak of the *Sample solution* corresponds to that of the *Standard solution*, as obtained in the Assay.

ASSAY

Change to read:

• PROCEDURE

Proceed as directed in [▲Zinc Determination \(591\), Ion Chromatographic Method▲](#) (CN 1-May-2020) .

Diluent: 0.2% (w/v) [hydrochloric acid](#)

Standard solution: 20 µg/mL of [USP Zinc Oxide RS](#) in *Diluent*, prepared as directed in the chapter

Sample stock solution: Nominally 500 µg/mL of zinc oxide prepared as follows. Transfer an appropriate amount of Powder to a suitable volumetric flask. Add [hydrochloric acid](#) to about 15% of the final volume of the flask. [NOTE—Sonication or shaking may be necessary.] Dilute with [water](#) to volume. Centrifuge or pass a portion of this solution through a suitable filter.

Sample solution: Nominally 20 µg/mL of zinc oxide in [water](#) from the *Sample stock solution*

System suitability

Sample: *Standard solution*

Suitability requirements

Tailing factor: NMT 2.0

Relative standard deviation: NMT 2.0%

Analysis

Samples: *Standard solution* and *Sample solution*

Calculate the percentage of the labeled amount of zinc oxide (ZnO) in the portion of Powder taken:

$$\text{Result} = (r_U/r_S) \times (C_S/C_U) \times 100$$

r_U = peak response of zinc from the *Sample solution*

r_S = peak response of zinc from the *Standard solution*

C_S = concentration of [USP Zinc Oxide RS](#) in the *Standard solution* (µg/mL)

C_U = nominal concentration of zinc oxide in the *Sample solution* (µg/mL)

Acceptance criteria: 90.0%–110.0%

ADDITIONAL REQUIREMENTS

- **PACKAGING AND STORAGE:** Preserve in tight containers, and store at room temperature.

Auxiliary Information - Please [check for your question in the FAQs](#) before contacting USP.

Topic/Question	Contact	Expert Committee
ZINC OXIDE POWDER	Documentary Standards Support	SM32020 Small Molecules 3

Topic/Question	Contact	Expert Committee
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	SM32020 Small Molecules 3

Chromatographic Database Information: [Chromatographic Database](#)

Most Recently Appeared In:

Pharmacopeial Forum: Volume No. PF 43(1)

Current DocID: GUID-70B4A837-8757-4D20-8E9F-D07B7D2411EB_4_en-US

DOI: https://doi.org/10.31003/USPNF_M10175_04_01

DOI ref: [g7eyo](#)

OFFICIAL