AuSaMicS™ Life Science

TDS
ASC-8021
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Zinc Sulfate Monohydrate

USP Grade | Essential Trace Mineral Compound | Catalogue No. ASC-8021

1. Product Overview

Zinc Sulfate Monohydrate ($ZnSO_4 \cdot H_2O$) is a high-purity, USP grade inorganic zinc salt widely used as a bioavailable source of zinc across nutraceutical, agricultural, animal feed, analytical, and industrial applications. Zinc is an essential trace element required for numerous enzymatic processes, immune function, and growth in humans, animals, and plants. Zinc Sulfate Monohydrate is valued for its high water solubility, consistent purity, and well-established regulatory acceptance under the USP monograph.

2. Chemical & Physical Information

Product Name	Zinc Sulfate Monohydrate
Catalogue Number	ASC-8021
CAS Number	**7446-19-7**
Chemical Formula	**$ZnSO_4 \cdot H_2O$**
Molecular Weight	179.47 g/mol
EC Number	231-793-3
Grade	USP
Appearance	White crystalline powder or granules
Solubility	Freely soluble in water
Storage	Store in a cool, dry place; keep container tightly sealed

3. Synonyms

Zinc sulphate monohydrate; Zinc monosulfate monohydrate; Sulfuric acid zinc salt monohydrate; ZnSO4 monohydrate.

4. Typical Applications

Category	Typical Use
Nutraceutical & dietary supplements	Bioavailable zinc source for oral supplementation; formulation raw material
Animal feed & veterinary	Zinc micronutrient premix component for livestock and companion animal nutrition

Category	Typical Use
Agriculture	Correction of zinc deficiency in soils; foliar and soil-applied micronutrient fertilizer
Analytical chemistry	Laboratory reagent for titrations, buffer systems, and reference standard preparation
Water treatment & industrial	Coagulant aid, wood preservation, textile and dyeing processes

5. Typical Specifications (USP Monograph)

Parameter	Typical Specification
Appearance	White crystalline powder or granules
Identification	Passes test for zinc and sulfate
Assay ($ZnSO_4 \cdot H_2O$)	99.0–104.5%
pH (5% aqueous solution)	4.4–5.6
Heavy metals (as Pb)	≤ 0.002%
Iron	≤ 0.003%
Loss on drying	Within USP monograph limits

Exact analytical values for a given shipment are provided in the batch-specific Certificate of Analysis.

6. Storage & Stability

- Store in a cool, dry place, tightly sealed.
- Protect from moisture — hygroscopic under humid conditions.
- Stable under recommended storage conditions.

7. Intended Use

Supplied as a USP grade raw material suitable for nutraceutical, agricultural, animal feed, and laboratory use where permitted by local regulation. This substance is classified as environmentally hazardous — refer to the Safety Data Sheet in full before use, storage, or transport.

8. Quality & Supply Assurance

- Supplied with Certificate of Analysis (COA) for every batch
- Consistent batch-to-batch quality against USP monograph specifications
- Technical support available from AuSaMicS Life Science

9. Literature & References

1. United States Pharmacopeia–National Formulary (USP-NF) monograph: Zinc Sulfate.
2. Wikipedia contributors. Zinc sulfate. Chemical and physical property reference data.