TECHNICAL DATA SHEET

Magnesium Chloride Hexahydrate FCC, USP GRADE

Revised: 04/27/2026

PRODUCT IDENTIFICATION

Product Name: Magnesium Chloride Hexahydrate FCC, USP GRADE
CAS Number: 7791-18-6
Molecular Formula: $Cl_2H_{12}MgO_6$
Molecular Weight: 203.30 g/mol
Grade: USP Grade
Purity / Concentration: Not Available
Synonyms: Magnesium Chloride Hexahydrate, Magnesium Chloride 6-Hydrate

PRODUCT OVERVIEW

Magnesium Chloride Hexahydrate FCC, USP Grade is a high-purity, white crystalline powder characterized by its exceptional consistency and low impurity profile. With a 99.8% assay and iron levels as low as 0.1 ppm, this product is engineered for demanding laboratory and industrial applications requiring stringent quality control.

Grade Significance: USP Grade signifies that the product meets the rigorous standards of the United States Pharmacopeia, ensuring it is manufactured and tested to be safe for regulated pharmaceutical and food-grade applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	99.8	98	102.0	USP <341>
pH	—	6.8	5	8.2	USP <791>
Calcium	—	Passes Test	—	—	USP
Heavy Metals (as Pb)	ppm	ND	—	10	USP <231>
Iron (Fe)	ppm	0.1	—	5	USP <241>
Limit Of Potassium	—	Passes Test	—	—	USP
Chloride (Cl^-)	ppm	ND	—	10	USP <221>
Sulfate (SO_4^{2-})	ppm	15	—	20	USP <221>
Appearance	—	Conforms	—	—	Visual
Identification	—	Passes Test	—	—	USP <191>
Loss On Drying	%	51.5	—	53	USP <731>

ND = Not Detected. Values are typical and may vary by lot.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	White crystalline hygroscopic powder	**Form**	Solid
Boiling Point	1412°C (2573.6°F)	**Melting / Freezing Point**	117°C (242.6°F)
Solubility	High water solubility, moderate alcohol solubility	**Molecular Formula**	$Cl_2H_{12}MgO_6$
Molecular Weight	203.30 g/mol		

APPLICATIONS

1. **Pharmaceuticals** — Used as a critical raw material in the formulation of mineral supplements and pharmaceutical-grade chemical solutions.
2. **Food and Beverage** — Serves as a high-quality firming agent and color stabilizer in food processing, meeting strict FCC safety standards.
3. **Laboratory Research** — Utilized as a reagent for analytical testing and biochemical experiments where high purity and low heavy metal content are essential.
4. **Cosmetics** — Incorporated into skincare and personal care products for its ability to stabilize formulations and act as a hydrating agent.

STORAGE & HANDLING

Due to its highly hygroscopic nature, this material must be stored in a tightly sealed container in a cool, dry environment to prevent clumping and moisture absorption. Proper storage ensures the integrity of the hexahydrate form and prevents chemical degradation over time.

- Store in a cool, dry place away from moisture.
- Use containers made of HDPE or glass to prevent contamination.
- Avoid exposure to incompatible materials such as strong acids.
- Ensure proper ventilation when handling to avoid inhalation of dust.
- Use appropriate personal protective equipment (PPE) such as gloves and goggles.

AVAILABLE PACKAGING

- 2 lbs.
- 5 Lbs.
- 44.24 Lbs. (One Bag)
- 442.40 lbs (10 Bags)
- 884.80 lbs (20 Bags)
- 1769.60 lbs (40 Bags)

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: Warning

No GHS pictograms assigned.

Hazard Statements:

- Not Classified
- Reported as not meeting GHS hazard criteria by 204 of 210 companies (only 2.9% companies provided GHS information). For more detailed information, please visit ECHA C&L website.

Emergency Contact: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

For complete safety information, refer to the Safety Data Sheet (SDS) for this product.

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