

Magnesium Sulfate

Properties and Characteristics

Magnesium Sulfate is an odorless white crystalline solid or white powder, with the density of 1.68 g/cm³ (heptahydrate), often encountered as the heptahydrate sulfate mineral epsomite (MgSO₄·7H₂O). The pH values range from 5 to 8, with no significant odor and slight bitterness. It is highly soluble in water and slightly soluble in ethanol and glycerin. It is easily efflorescent when in contact with air. If heated to approximately 200°C, the product's crystal water molecules will evaporate, resulting in Magnesium Sulphate Anhydrous, which is used as a drying agent. We supply all forms of Magnesium Sulphate, including anhydrous, monohydrate, dihydrate, trihydrate, pentahydrate, heptahydrate, agriculture-grade, industry-grade, medicine and food-grade, feed-grade, etc.

Specifications

Property	Value
CAS Number	10034-99-8
EINECS Number	231-398-2
Molecular Formula	MgSO ₄ · 7H ₂ O
Molecular Weight	246.48
Other Names	Epsomite; Epsom salt
Appearance	White granular/crystal
Purity	98.0% min (Industrial Grade); 30.0% min (Agricultural Grade)
Loss on drying	0.30% max (Industrial Grade); 0.40% max (Agricultural Grade)
Iron (Fe)	0.005% max
Chloride (Cl)	0.30% max
Insoluble in water	0.10% max

Magnesium Sulfate Heptahydrate COA

Item	Typical Value	Analysis Results
Main content	99.5% min	99.5%
MgSO ₄	48.6% min	48.6%
S	12% min	12%
MgO	16.2% min	16.2%
Mg	9.8% min	9.8%

Item	Typical Value	Analysis Results
pH (5W/V% Sol)	5-8	5-8
Chloride (Cl)	0.014% max	0.012%
Iron (Fe)	0.0015% max	0.0014%
Heavy Metal (Pb)	0.0006% max	0.0006%
Arsenic (As)	0.0005% max	0.0002%
Size	0.1-1 mm	0.1-1 mm

Magnesium Sulfate Monohydrate COA

Item	Typical Value	Analysis Results
Main content	99% min	99.37%
MgSO ₄	86% min	86.35%
MgO	28% min	28.6%
Mg	17% min	17.23%
Insoluble	0.1% max	0.01%
Chloride (Cl)	0.014% max	0.012%
Iron (Fe)	0.0015% max	0.001%
Heavy Metal (Pb)	0.0015% max	0.0008%
Arsenic (As)	0.0002% max	0.0001%

Magnesium Sulfate Anhydrate COA

Item	Typical Value	Analysis Results
MgSO ₄	98% min	98.4%
MgO	32.66% min	33.23%
Mg	19.6% min	19.6%
Insoluble	0.1% max	0.1%
Chloride (Cl)	0.014% max	0.014%
Iron (Fe)	0.0015% max	0.0014%
Heavy Metal (Pb)	0.0008% max	0.0007%
Arsenic (As)	0.0002% max	0.0002%
Cadmium	0.0001% max	0.0001%
Mercury	0.0001% max	0.0001%

Magnesium Sulfate Kieserite COA

Item	Typical Value	Analysis Results
MgO	26% min	26%
W.MgO	21% min	21%
Insoluble	3.1% max	3.1%
Size	1-4 mm	1-4 mm

Applications

Magnesium Sulfate is composed of magnesium and sulfur, both of which are necessary for healthy plant growth. In plants, magnesium is an essential mineral nutrient for effective crop development. Magnesium acts as a catalyst for many enzymes and plays a significant role in photosynthesis, metabolic pathways, nucleic acid formation, phosphate transformation, chlorophyll and protein synthesis. Sulfur also assists in chlorophyll production and makes nitrogen, phosphorus and potassium found in the soil more effective. Magnesium Sulphate Fertilizer makes for a good enhancer in agriculture, improving plant nutrition and overall crop yield. We supply two forms of Magnesium Sulphate Fertilizers: flour and granular. Poor nutrient intake in animals may be corrected with Feed Grade Magnesium Sulphate, which provides a well-balanced diet rich in magnesium and sulfur. Magnesium is vital for animals feeding on lush green pastures with high potassium levels, because potassium can interfere with magnesium uptake. Likewise, sulfur is important for healthy metabolic and nerve development in animals. Other applications include industrial wastewater treatment, fireproofing, and textile printing.

Packaging

Packaged in 25kg or 50kg polypropylene woven bags lined with polyethylene film bags.

Storage

Store in a dry and cool place, away from excessive sunshine, rain or moisture; shelf life: 2 years.