

Sr. No.	Characteristics	Results
1.	Purity as MgSO ₄ .7H ₂ O	99.50 to 100.00%
2.	Magnesium sulphate as MgSO ₄	48.53% min
3.	Magnesium Oxide as MgO	16.20% min
4.	Magnesium as Mg	9.73% min
5.	Sulphur as SO ₄	38.80% min
6.	Sulphur as S	12.90% min
7.	pH of 5% aq. Solution	7±0.5%
8.	Chloride as Cl % by mass	0.0009%
9.	Lead as Pb	Not detectable
10.	Arsenic as AS ₂ O ₃	< 1 ppm
11.	Iron as Fe	10 ppm max
12.	Manganese as Mn	15 ppm max
13.	Matter insoluble in water % by mass	Fully soluble

Note :At 10% solution (100 mg MgSO₄.7H₂O in one ltr water). The substance is completely dissolved leaving no residue (insoluble substance) in the solution.

USES:

Agricultural use

In gardening and other agriculture magnesium sulphate is used to correct a magnesium or sulphur deficiency in soil; magnesium is an essential element in chlorophyll molecule and sulphur is another important macronutrient. It is most commonly applied to potted plants or to magnesium hungry crops such as potatoes, roses, tomatoes, lemon trees and peppers. The advantage of magnesium sulphate over other magnesium soil amendments (such as dolomitic lime) is its high solubility, which also allows the option of foliar feeding. Solutions of magnesium sulphate are also nearly neutral, as compared to alkaline salts of magnesium, as found in limestone; therefore the use of magnesium sulphate as a magnesium source for soil does not significantly change soil pH.

Magnesium sulphate is used in bath salts, particularly in flotation therapy where high concentration raises bath water's specific gravity effectively making the body more buoyant. Traditionally it is also used to prepare foot baths intended to soothe sore feet. The reason for the inclusion of the salt is partially cosmetic: the increase in ionic strength prevents some of the temporary skin wrinkling (partial maceration) which is caused by prolonged immersion of extremities in pure water. However, magnesium sulphate can also be absorbed into the skin, reducing inflammation. It is naturally present in some mineral waters. It may also be used as a coagulant for making tofu.

Magnesium sulphate heptahydrate is also used to maintain the magnesium concentration in marine aquaria which contain large amounts of stony corals as it is slowly depleted in their calcification process. In a magnesium deficient marine aquarium, calcium alkalinity concentrations are very difficult to control because not enough magnesium is present to stabilize these ions in the saltwater and prevent their spontaneous precipitation into calcium carbonate.

