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## Product Information

### Magnesium sulfate heptahydrate

Product Number **M 7774**  
Store at Room Temperature

#### Product Description

Molecular Formula:  $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$   
Molecular Weight: 246.5  
CAS Number: 10034-99-8

This product is plant cell culture tested and is appropriate for plant cell culture applications.

Magnesium sulfate is used in chemistry and molecular biology as a source of magnesium ions. Magnesium has a variety of biological roles in enzymology, cell membrane and wall structural integrity, muscle cell physiology, and nucleic acid structure.<sup>1,2</sup> Magnesium is an essential co-factor in many enzymes, including deoxyribonuclease (DNase), the restriction enzymes *EcoR* I and *EcoR* V, and Ribonuclease H.<sup>3,4</sup> Magnesium also stabilizes polymeric nucleic acids such as transfer RNA and ribozymes.<sup>5</sup>

A protocol for chromosome and nuclei isolation that incorporates  $\text{MgSO}_4$  has been published.<sup>6</sup> The use of  $\text{MgSO}_4$  for leukotoxin production from cultured *Pasteurella haemolytica* has been reported.<sup>7</sup>

#### Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

#### Preparation Instructions

This product is soluble in water (100 mg/ml), yielding a clear, colorless solution.

#### References

1. Cowan, J. A., in *The Biological Chemistry of Magnesium*, Cowan, J. A., ed., VCH Publishers (New York: 1995), pp. 1-23.
2. *The Biological Chemistry of the Elements*, Frausto da Silva, J. J. R., and Williams, R. J. P., Clarendon Press (Oxford, UK: 1991), pp. 243-267.
3. Brooks, J. E., Properties and uses of restriction endonucleases. *Methods Enzymol.*, **152**, 113-129 (1987).
4. Black, C. B., and Cowan, J. A., in *The Biological Chemistry of Magnesium*, Cowan, J. A., ed., VCH Publishers (New York: 1995), pp. 137-157.
5. *Principles of Bioinorganic Chemistry*, Lippard, S. J., and Berg, J. M., University Science Books (Mill Valley, CA: 1994), pp. 192-196.
6. Trask, B., and van den Engh, G., Chromosome and nuclei isolation with the  $\text{MgSO}_4$  procedure. *Methods Cell. Biol.*, **33**, 363-367 (1990).
7. Sun, Y., and Clinkenbeard, K.D., Serum-free culture of *Pasteurella haemolytica* optimized for leukotoxin production. *Am. J. Vet. Res.*, **59(7)**, 851-855 (1998).

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