



## Product Information

### Potassium nitrate Plant Cell Culture Tested

Product Number **P 8291**  
Store at Room Temperature

#### Product Description

Molecular Formula:  $\text{KNO}_3$   
Molecular Weight: 101.1  
CAS Number: 7757-79-1  
Melting Point: 333 °C  
Synonym: saltpeter<sup>1</sup>

This product is plant cell culture tested (0.5 mg/ml) and is suitable for use in plant cell culture applications.

Potassium nitrate is used in industrial applications, including the manufacture of glass, matches, and fluxes, and for the tempering of steel.<sup>1</sup> It is also commonly used in dental research.<sup>2,3</sup> Potassium nitrate is a source of nitrate in studies of plant and bacterial growth.<sup>4,5</sup>

Potassium nitrate has been used in the ion chromatography of transition and heavy metal ions.<sup>6,7</sup> It has also been utilized in the synthesis of thiophenecarboxamides.<sup>8</sup>

#### Precautions and Disclaimer

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

#### Preparation Instructions

This product is soluble in water (133 mg/ml), yielding a clear, colorless solution.

#### References

1. The Merck Index, 12th ed., Entry# 7815.
2. Fischer, H., et al., Improved reliability of leucite reinforced glass by ion exchange. *Dent. Mater.*, **16(2)**, 120-128 (2000).
3. Pashley, D. H., et al., The effects of outward forced convective flow on inward diffusion of potassium across human dentin. *Am. J. Dent.*, **15(4)**, 256-261 (2002).
4. Zhang, H., et al., Dual pathways for regulation of root branching by nitrate. *Proc. Natl. Acad. Sci. USA*, **96(11)**, 6529-6534 (1999).
5. Glazebrook, M. A., et al., Nutrient effects on growth and the production of 5-hydroxy-4-oxonorvaline by *Streptomyces akiyoshiensis*. *Can. J. Microbiol.*, **39(5)**, 536-542 (1993).
6. Shaw, M. J., et al., Dynamic chelation ion chromatography of transition and heavy metal ions using a mobile phase containing 4-chlorodipicolinic acid. *J. Chromatogr. A*, **953(1-2)**, 141-150 (2002).
7. Cowan, J., et al., The ion chromatographic separation of high valence metal cations using a neutral polystyrene resin dynamically modified with dipicolinic acid. *Analyst*, **125(12)**, 2157-2159 (2000).
8. Shinkwin, A. E., et al., Synthesis of thiophenecarboxamides, thieno[3,4-c]pyridin-4(5H)-ones and thieno[3,4-d]pyrimidin-4(3H)-ones and preliminary evaluation as inhibitors of poly(ADP-ribose)polymerase (PARP). *Bioorg. Med. Chem.*, **7(2)**, 297-308 (1999).

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