June 2026

Magnesium Nitrate Solution:

Why Magnesium and Nitrate Nitrogen Are Essential for Chlorophyll Production, Photosynthesis, and Crop Yield

Executive Summary

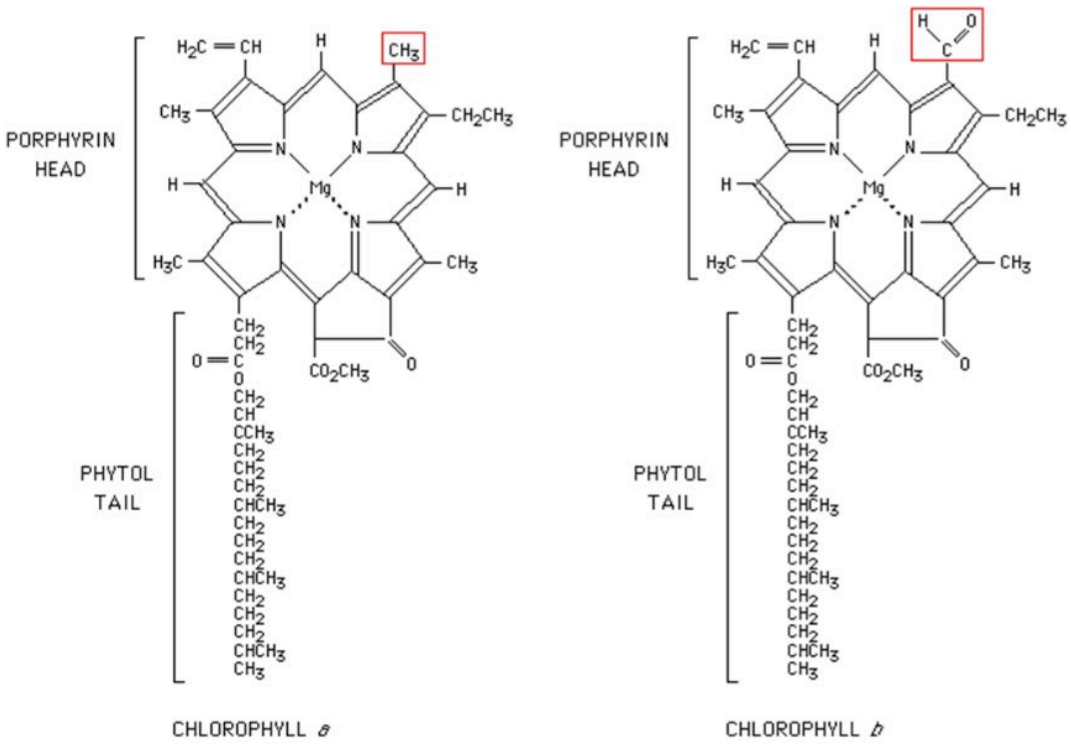
Magnesium nitrate solution supplies two nutrients directly involved in photosynthesis: magnesium and nitrate nitrogen. This unique combination supports chlorophyll production, plant growth, nutrient uptake, and crop yield.

Introduction

Growers frequently ask what is the best source of magnesium for crops, why magnesium is important for photosynthesis, and how magnesium nitrate compares to other magnesium fertilizers. Magnesium nitrate solution provides plant-available magnesium and nitrate nitrogen in a highly soluble form suitable for fertigation, foliar sprays, greenhouse production, and field crop nutrition.

Magnesium: The Central Atom of Chlorophyll

Every chlorophyll molecule contains a magnesium atom at its center. This position allows magnesium to capture solar energy and initiate photosynthesis.



Benefits of Magnesium Nitrate Solution

Benefits include rapid plant availability, improved photosynthetic efficiency, enhanced nutrient uptake, increased crop quality, excellent water solubility, and compatibility with modern fertigation systems.

Frequently Asked Questions About Magnesium Nitrate

What is magnesium nitrate used for? It is widely used in citrus, vegetables, watermelons, strawberries, turfgrass, greenhouse crops, and hydroponics. Why is magnesium important? It supports chlorophyll production, enzyme activation, energy transfer, and nutrient movement. What happens during magnesium deficiency? Symptoms include interveinal chlorosis, lower yields, and poor crop quality.

TradeMark Nitrogen Magnesium Nitrate Solution (6.3% Mg)

TradeMark Nitrogen manufactures Magnesium Nitrate Solution containing approximately 6.3% magnesium from its Tampa, Florida production facility. The product is 100% water soluble, rapidly available to plants, compatible with fertigation systems, and manufactured in the USA.

Conclusion

Few fertilizer products contribute as directly to photosynthesis as magnesium nitrate solution. By supplying both magnesium and nitrate nitrogen, magnesium nitrate supports plant growth, energy production, nutrient utilization, and crop yield.

References

1. Cakmak, I. (2013). Magnesium in Crop Production, Food Quality and Human Health.
2. Hermans, C. et al. (2013). How Do Plants Respond to Magnesium Deficiency?
3. Marschner, P. (2012). Mineral Nutrition of Higher Plants.
4. Havlin, J. et al. (2014). Soil Fertility and Fertilizers.
5. Taiz, L. & Zeiger, E. (2015). Plant Physiology and Development.