



## Coating Powder



Element	Quantity
Elemental Magnesium (Mg)	5.0%

This is the level of Magnesium quoted as an element not as an oxide or any other compound.

### Level of Chelation

Precipitation Point pH 12

**Appearance** White Powder

**Bulk Density** 0.87 g/cm<sup>3</sup>

pH of 1% aqueous solution: 1.76

**Packing** 20kg PE lined steel pails

## Field Cereal Crop Application Guide Rates

(For use alongside NPK plant macronutrients)

For each foliar application:	
Maintenance Rate	0.2-0.3kg/ha
Moderate Deficiency	0.3-1.1kg/ha
Severe Deficiency	>1.1kg/ha

The application rate will vary depending on the crop and application regime and you may for example prefer half applications and apply double the guide amount for each application.

We recommend you perform tissue tests to determine the optimum application rate and optimise your costs.

As with all S-Chelate products, the ingredients are food or feed grade and as long as they are used at the guide rates are completely safe to use on all crops.

This is a single, straight element product but we can offer customised multi-component formulated systems to suit your requirements. Please see website for a result achieved with our S-Chelate M<sup>2</sup> two element system which incorporates S-Chelate Mg synergistically with S-Chelate Mn.

As a guide dissolve the above amounts in 200 litres of water to apply over one hectare. However, the guide application quantities are easily soluble in smaller volumes of water or can be dissolved in larger volumes as long as there is sufficient stirring to ensure it has diffused evenly throughout the increased bulk of water.

## Application Timing

**Preventive:** Apply at early stage after establishment of the seedlings, at 4-6 leaves stage.

**Remedial:** Start at first sign of micronutrient deficiency; apply 2 additional sprays at 10-15 day intervals.

## Under-Cover, Controlled Growing Systems

**S-Chelate Mg** is ideal for use in drip fertigation polytunnel fruit growing systems where their pH range can overcome the locking up of nutrients which can be caused by growing media like coconut coir.

**S-Chelate Mg** is perfect for use in vegetable and herb hydroponic systems where the pH range tolerates other chemicals like hydrogen peroxide used to control pathogens in this intensive, high volume growing environment.

## Product Features

**S-Chelate Mg** has a unique chelate chemistry that can transport this important secondary element magnesium into the plant with remarkable effectiveness. Magnesium has many roles in plants but the central one relates to photosynthesis. Crops that are deficient in magnesium cannot photosynthesize efficiently. And since photosynthesis (the process whereby plants turn sunlight energy into sugars) directly drives yield, the impacts of magnesium shortages are felt in yield. This is particularly the case in “intensive” crop management – where growers use higher levels of N, P and K with high potential genetics.

**S-Chelate Mg** is bioavailable in a much broader-than-normal range of pH and soil conditions such as in contact with clay, carbonates, phosphates, organic matter and other elements in the soil that seek to tie up and make secondary elements and micronutrients insoluble.

Chelation is defined as the capacity to hold the metal ion in solution above the precipitation point of the non-chelated ion and the Level of Chelation measurement is your assurance of the performance of our product which will stand up to independent assessment.

This is the backbone of the performance of this technology resulting in markedly lower application rates than for non-chelated products because so much more of the metal ion will stay in solution and reach the plant tissues as has been shown repeatedly by yield and quality improvements alongside parallel tissue analysis.

## There are two ways this works:

### 1) In the growing medium

Protecting the vulnerable cationic metal ions from being tied up and allowing them to reach and be absorbed by the root hairs.

### 2) In the plant

Carrying them in a more biologically compatible way to the regions of the plant where they are needed. Chlorophyll is a chelate structure so the plant's phloem system recognises S-Chelates as organic molecules with familiar structures, enabling them to be transported and assimilated more readily than traditional unchelated mineral salts.

**S-Chelate Coating Powders** are made in the UK using a unique, specially developed and crop safe and environmentally friendly chelation technology. This technology can be demonstrated to out-perform traditional chelation (such as EDTA) and for providing important secondary and trace element nutrition in a protected, constant and extraordinarily effective manner.

**S-Chelate Coating Powders** coat and then cling to NPK granular fertilizers in such a way as to deliver a targeted nutrition straight to the plant. Nutrition is absorbed into the plant through the roots and is targeted in such a way that the elements are subsequently found in tissue samples of the plants instead of being wasted on surrounding soil. This enhanced nutritional bioavailability results in healthier plants, increased yields, and larger fruits and vegetables.

## Example of Mg Deficiency symptoms in Strawberries

Older leaves initially develop a marginal leaf chlorosis which later progresses to a tanning or darkening coloration along the outside leaf margin. As symptoms develop further, the interveinal chlorosis expands inward on the leaf and the dark discoloration spreads between the veins. With advanced symptoms, the entire leaf can become necrotic. In addition, fruit colour appears pale, but fruit size is normal.



Strawberry advanced Mg deficiency symptoms

Brian E. Whipker – University of Arkansas

## Foliar Application

**S-Chelate Coating Powders** have a second important function - they are water soluble and can be dissolved for use as liquids for spray, drip, and fertigation and are compatible with most liquid fertilizers, herbicides, insecticides, and fungicides. As a precaution please perform jar test before mixing with other agrichemicals.

Guide application rates produce very dilute solutions of 0.2-2% but due to using conditions varying widely we always recommend trialling before adopting widely and cannot accept liability for damage or underperformance.

**Please contact us or our agents for technical support.**

**Achieve greater yields with Super Bioavailable S-Chelate™ Technology**

**Chemistry not Mystery**

**Made in the UK**

## Get in touch

**Visit our website**

**[www.s-chelate.com](http://www.s-chelate.com)**

**Tel: +44 (0)1494 728458**

**Mobile: +44 (0)7787 587489**

**Email: [barry.langdon@s-chelate.com](mailto:barry.langdon@s-chelate.com)**

S-Chelate and S-Chelate Plant Nutrition are brands of Align Chemical Ltd  
Align Chemical Limited, Registered in England and Wales, no 6335052

Registered Office: 29 Milton Lawns, Amersham, Bucks, HP6 6BJ  
UK VAT registration number: 913 4463 37

10th June 2019