Product Data Sheet

S-Chelate Plant Nutrition
For Escalated Micronutrient Uptake

S-Chelate Zn

Coating Powder

Element	Quantity
Elemental Zinc (Zn)	13% minimum

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

Level of Chelation

Precipitation Point pH 11

Volume of 0.5M NaOH to precipitate 1% solution – 21ml

Particle Size Distribution

Volume Weighted Mean – 107 microns

50% under 76 microns

Appearance White powder

Bulk Density 0.84 g/cm3

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

www.s-chelate.com | email: barry.langdon@s-chelate.com | tel: +44 (0)1494 728458

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

We recommend you perform soil and 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 below for a result achieved with our S-Chelate Cultiv-8 eight element system.

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 mixing tank in the greater volume 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.

S-Chelate Zn

Under-Cover, Controlled Growing Systems

S-Chelate Zn 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 Zn 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 Zn has a unique chelate chemistry that can transport this important element into the plant with remarkable effectiveness.

S-Chelate Zn 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 which can result in lower application rates than for non-chelated products because more of the metal ion will stay in solution and reach the plant tissues as has been shown by yield and quality improvements alongside parallel tissue analysis.

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 can result in healthier plants, increased yields, and larger fruits and vegetables.

S-Chelate Zn trials on Linseed showing increased leaf cover

Examples of Zinc Deficiency

Rice - Description of Symptoms

In rice, the visible symptoms of zinc deficiency vary with soil, variety, and growth stage. Usually, the midrib at the base of the youngest leaf of zinc-deficient rice becomes chlorotic 2-4 weeks after sowing or transplanting. Brown spots then appear on the older leaves. The spots enlarge, coalesce, and give the leaves a brown color. Some varieties exhibit an yellow-orange discoloration of older leaves, spreading from the tip, instead of the brown spots. In severe deficiency, the entire leaf turns orange or brown and the rice plant dies (Plate 1(0) and Plate 2(0)). Zinc deficiency results in stunted growth and depressed tillering. In soils with moderate zinc deficiency, plants may recover after 4-6 weeks, but maturity is delayed and yields of susceptible cultivars are reduced.

Amelioration of Zinc Deficiency in Rice on Left by Root Dip of Zinc Oxide (4% Zno). The Rice on the Right Has Not Had Any Zinc Treatment.

Grape Vines in Taiwan with Zinc Deficiency Usually Bear Bunches Where Grapes of Normal Size Are Mixed with Smaller Grapes. These Have No Seeds, and Are Light Yellow in Color.

References:
Food and Fertilizer Technology Center

Email: infofftc1234@gmail.com

Soil Conditions Likely to Produce Zinc Deficiency

Zinc deficiency is the most common disorder in wetland rice soils, next to nitrogen and phosphate deficiencies. Zinc deficiency in wetland rice occurs on soils with a pH greater than 7.0, soils with low available zinc or a low total zinc content, and on soils with a high organic matter content. The following soils are likely to be deficient in zinc: calcareous soils, sodic soils, volcanic ash soils, scraped soils, sandy soils and, regardless of pH, soils which are continuously wet. Zinc deficiency is also associated with a high bicarbonate content, a magnesium to calcium ratio in soils which is greater than 1, and high levels of available phosphate and silica. The use of high levels of fertilizers, intensive cropping, the use of high-yielding varieties, prolonged submergence, and irrigation with alkaline water, all tend to induce a state of zinc deficiency in rice.

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.

.

S-Chelate Zn

An example we are proud to show of our product performance and formulating capability

Brown Turkey figs – Crop tripled with S-Chelate Cultiv-8 which includes S-Chelate Zn

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

Tel: +44 (0)1494 728458

Mobile: +44 (0)7787 587489

Email: barry.langdon@s-chelate.com

10th June 2019