



**GRANULOCK®**

**FACT SHEET**

**JUNE 2024**

# GRANULOCK® SS & GRANULOCK® Z

Sulphur and Zinc enriched planting fertilisers

For grain, forage, and cotton crops

A fertiliser that supplies phosphorus (P) and starter nitrogen (N) at planting is essential for grain, forage, and cotton in Australia's inland cropping areas. MAP (Monoammonium Phosphate) is a popular choice, however, there are times when other nutrients, such as sulphur (S), and micronutrients or trace elements such as zinc (Zn) need to be applied. In such cases, Granulock® SS and Granulock® Z provide an enriched fertiliser option, with the Granulock products containing additional sulphur and zinc respectively.

The Granulock SS and Granulock Z nutrient analysis is shown in Table 1.

Table 1: Analyses of Granulock® SS and Granulock® Z.

Product	Analysis			
	% N	% P	% S	% Zn
MAP	10.0	21.9	1.5	
Granulock® SS	10.0	17.5	12.0	
Granulock® Z	11.0	21.8	4.0	1.0

The sulphur and zinc are added during the manufacturing process to create uniform fully granulated compound fertilisers.

The sulphur in Granulock SS is present in two forms – 8% as elemental sulphur and 4% as sulphate. The sulphate (SO<sub>4</sub>) from of the sulphur is available for immediate uptake by the plant root systems. However, for the elemental sulphur to be available for plant uptake, it must first be converted by the soil bacteria *Thiobacillus* to the sulphate form.

Granulock SS may be used for pasture establishment, and when over-sowing or direct drilling into existing pasture. The nitrogen present in the fertiliser assists in the establishment of grasses. The nitrogen may also help legume crops in the first few weeks before their roots are properly nodulated, and they become self-sufficient in meeting their own nitrogen requirements.

## SULPHUR (S)

The nutrient, sulphur, is required in fertiliser programs for high sulphur-demanding crops such as canola, and to a lesser extent, pulses. Cereal crops are less likely to need sulphur.

Sulphur is present in most soils naturally as a component of soil organic matter. However, some soils contain low levels of soil organic matter and would benefit from the additional of supplemental sulphur. In some inland cropping areas, sulphur may be present as gypsum accretions at depth in the sub-soil.

If the topsoil is low in organic matter, some starter sulphur at planting can assist in establishment and the early growth stages, until such time that the crop roots grow into and can access the sulphur that is present deeper into the soil profile. High analysis fertilisers such as Anhydrous Ammonia (Big N), Urea, DAP and MAP either do not contain or are low in sulphur.

Higher crop yields and the adoption of reduced tillage practices which conserve soil organic matter and reduce its rate of mineralization have also contributed to the increased need to apply sulphur in fertiliser programs.

## ZINC (Zn)

Zinc is the most needed micronutrient in fertiliser programs as Australian soils are often deficient in this important nutrient. In agriculture, zinc is required to promote plant growth and development, and impacts on crop yields. Zinc deficiency is more likely to occur on soils that are low in soil organic matter.

Zinc availability in soils is higher in clay soils and lower in sandy soils and is dependent on the soil acidity (pH levels). Uptake of zinc by plants is greater in acid soils (pH < 6) and reduced in alkaline soils (pH > 7), therefore zinc is most likely to be needed in fertiliser programs on alkaline soils.

Zinc is not mobile in the soil and tends to stay where it has been placed, therefore crop uptake is reliant on plant roots growing towards the applied zinc rather than zinc moving in the soil solution to the roots.

Being a micronutrient (or trace element), the amount of zinc required by crops is relatively low. If a concentrated zinc fertiliser such as Zinc Sulphate Monohydrate (containing 33% Zn) was blended with MAP and used at planting in a winter cereal crop such as wheat or barley and planted at narrow row spacings, there would be insufficient point sources of zinc in the crop row for it to be accessed by all plants. Alternatively, Granulock Z is a compound fertiliser that contains zinc in every granule, providing a more uniform and effective distribution of zinc in the crop row, and improving availability of zinc to each plant.

## SAFETY DIRECTIONS

Refer to the Safety Data Sheet (SDS) for more detailed safety advice. Before use, read the Product Label and the SDS. Use safe work practices and avoid contact with the eyes and skin. Avoid ingestion and inhaling dust. Protective clothing, eyewear and dust masks should always be used when dealing with this product. Observe good personal hygiene, including washing hands after use. Avoid loss of fertiliser to waterways.

## WARNING

This document contains information of a general nature. Before using fertiliser seek independent agronomic advice. Fertiliser programs may need to be varied depending on the plants being grown, climatic and soil conditions, application methods, irrigation, agricultural and livestock management practices, the soil's fertility, and cultural practices. ('Unforeseen Elements')



Fertiliser may burn and/or damage crop roots or foliage. Foliar burn to the leaves, fruit or other plant parts is most likely to occur when fertilisers are foliar applied at high concentrations and/or on a regular basis, different products are mixed and sprayed together at cumulatively high rates, the water is of poor quality, or the spray is applied under hot dry conditions, e.g. in the heat of the day.

Fertiliser and supplements may affect animal health. Seek independent advice before using any supplements in livestock rations.

## DISCLAIMER

As Unforeseen Elements are beyond the control of Incitec Pivot Limited, in no event Incitec Pivot Limited and its related bodies corporate be liable or accept any responsibility whatsoever for any direct, indirect, punitive, incidental, special or consequential damages (including but not limited to loss of revenue, crops and livestock), in respect of the illness, injury or death of a person, damage to property (including of a third party), or any other loss whatsoever arising out of or connected with the use or misuse of this fertiliser, or its transport, storage, handling or application. Where Incitec Pivot Limited and its related bodies corporate's liability cannot be lawfully excused, it and its related bodies corporate's liability shall be limited to the replacement of, or cost of the fertiliser supplied. The buyer accepts and uses this product subject to these conditions.

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