

Product Description [†]

Mineral Magic™ is Biogenic Amorphous Silica (BAS) and is both non-toxic and non-carcinogenic and a 100% natural mineral that has been over 125 million years in the making. From our mine in Western Australia's Northwest that is simply produced by crushing and screening the raw, mined product which requires the absolute minimum carbon footprint as opposed to the manufactured products that attempt to achieve the same benefits. Whether it be for the hydrophobic sand plains or the heavy clay-based soil, our **Crop Starter** can provide benefits to improve the soil structure, drought proofing and nutrient retention to improve quality crops whilst maximising your yield and return on investment.



Without/With MM (Zero Fertiliser)

Applications

- **Hydroponics & Aquaponics:**
 - Growth Substrate (Drip, Flood & Drain Methods, Plant Germination & Growth)
- **Horticulture & Agriculture:**
 - Soil Improver (increase water holding and nutrient capacity)
 - Plant Improver (increase disease resistance and shelf life of produce)
 - Nutrient holding and leaching prevention.
 - Pest deterrent
- **Aquaculture:**
 - Filter medium to improve water quality.

Features and Benefits

Here are just some of the benefits that our Agronomy team has been able to claim under laboratory conditions to Australian Standard testing.

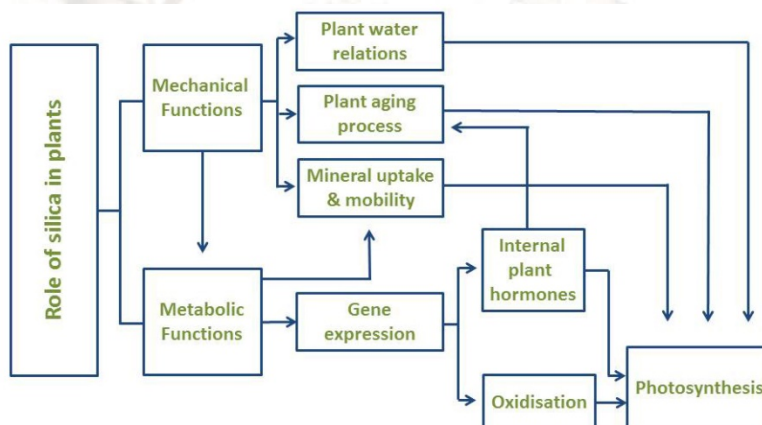
- Increased growth & quality – aesthetic & less susceptible to disease, heat stress and insects.
- Reduced crop stress losses – lower cost by less water and nutrients required.
- Works as a natural filter – removes impurities from the water and the soil.
- Reduced water usage – lower costs and protect the environment.
- Reduced leaching – protects the environment and saving on fertilisers.
- Aids run off – use less water and protects our most scarce resource.
- Phenomenal CEC (Cation Exchange) properties – stores and releases nutrient on demand
- Reduced pesticide/chemical usage – lower costs and protect the environment and people.
- Increased safety to grower & community – certified 100% organic and inert.
- Improved soil condition & fertility – 100% key to quality crops. Below ground rules above.
- Aids carbon production in the soil – reduces co2 and therefore protects ozone layer.
- Inert and doesn't interfere with pH – assists with availability of take up of nutrients.

Certified

To support the results of our Agronomy team, **Mineral Magic™** has been independently assessed by the following reputable bodies below and has passed their rigorous assessment to display their logos as an accredited certified supplier.



The Role of Silica in Plants



Physical and Hydraulic Specification

Appearance	Off White	Total Porosity (%; v/v)	60-65
Type	Granular	Field Capacity (%; v/v)	50
Granule Size (mm)	5 – 0.8 [‡]	Plant Available Water (%;v/v)	27**
Particle Density (g/cm ³)	1.9 – 2.2	Saturated Hydraulic Conductivity (m/day)	2-5
Loose (Packed) Bulk Density (g/cm ³)	0.7 – 0.8	Reactivity	Non-Swelling Non-Slaking Non-Plastic
Moisture Content (%)	<4.0		
Surface Charge	Negative	Point of Zero Charge (PZC)	pH 2.6

[‡]Can vary from 75mm to 0.8mm. <10% silt + clay; **Field Capacity (10kPa) – Permanent Wilting Point (1,500kPa).

Chemical Specification

pH (1:5 water)	8.5	SiO ₂ (%; Total)	86
Electrical Conductivity (EC) (1:5 water)	<40*	Al ₂ O ₃ (%; Total)	7.2
Cation Exchange Capacity (CEC; meq/100g)	>30	CaO (%; Total)	1.3
Nitrogen (%; Total)	<0.1	Fe ₂ O ₃ (%; Total)	0.8
Phosphorus (%; Total)	<0.2	MgO (%; Total)	0.3
Sulphur (%; KCl extractable)	<0.1	LOI (%)	4.7
Plant Available Silicon (PAS; %)	0.1 [‡]	Organic Matter (%; w/w)	0.22
Copper (mg/kg)*	0.2	Manganese (mg/kg)*	4.3
Zinc (mg/kg)*	1.0	Boron (mg/kg; Total)	7

EC after flushing. [‡] Measured by the calcium chloride extraction method (1:100 extraction ratio). ^{}DTPA Extractable. [†]Typical analysis specified. Given the heterogeneity of the material the actual properties of the material may differ from those specified in this document. The information contained in this Product Specification Sheet is given in good faith and may not be interpreted as a binding specification or representation.