



100% Natural



Organic Certified



Waterwise Approved

Natural Amorphous Silica for Salt Mitigation & Soil Health

Mineral Magic is a biogenic amorphous silica (BAS) – 100% natural, organic, inert, non-toxic, and non-carcinogenic. Formed over 125 million years in Western Australia, it is sustainably mined, crushed, and screened with a minimal carbon footprint. Unlike manufactured silica products, Mineral Magic provides permanent improvement to soil and growing media structure.

Its honeycomb-like structure creates an enormous surface area, allowing it to hold and release over 60% of its weight in water and nutrients. Rich in soluble silica, it strengthens plant cell walls, enhances photosynthesis, and builds resilience to stress, pests, and disease.

Salt Mitigation in Broadacre & Cereal Crops:

Amorphous silica (non-crystalline or hydrated silica) plays a vital role in reducing salt stress across broadacre and cereal crops such as wheat by improving soil chemistry, plant resilience, and water dynamics.

- 1. Ion Management & Soil Conditioning** - Amorphous silica has a high cation exchange capacity, allowing it to swap harmful sodium (Na^{2+}) ions with beneficial calcium (Ca^{2+}), magnesium (Mg^{2+}), or potassium (K^{+}). This exchange lowers sodium concentrations in the root zone, improving soil structure and reducing salinity. It also buffers soil pH, creating a stable environment for nutrient availability and plant health.
- 2. Root Zone Protection & Water Balance** - Applied to soil, amorphous silica forms a micro-barrier around soil particles, slowing the upward movement of salts and water. This maintains a balanced moisture profile and prevents salt accumulation near roots. By reducing transpiration, it conserves soil moisture and limits the capillary rise of salts.
- 3. Improved Plant Physiology & Tolerance** - Silicon absorbed by roots is deposited in plant tissues, reinforcing cell walls and reducing salt ion penetration. This strengthens plant structure, enhances turgor pressure, and boosts resistance to osmotic and oxidative stress. Silicon also improves photosynthesis and regulates stress-response genes, helping plants maintain productivity under saline conditions.
- 4. Enhanced Root Growth & Nutrient Uptake** - Amorphous silica stimulates root development, increasing water and nutrient uptake capacity. It promotes a healthier sodium-to-potassium

ratio and improves the absorption of key nutrients such as phosphorus and iron, both commonly limited in saline soils.

- 5. Integrated Management** - For best results, incorporate amorphous silica into a comprehensive salinity management plan, including irrigation control, drainage, and appropriate crop selection. Application rates should be tailored to soil type, crop species, and salinity severity.



Applications:

Mineral Magic is highly versatile and can be applied across agriculture, horticulture, landscaping, and controlled-environment systems.

- ✓ Hydroponics & Aquaponics – growth substrate for drip, flood and drain systems, germination & growth; also a natural water filtration medium.
- ✓ Horticulture & Agriculture – improves water and nutrient holding capacity; reduces fertiliser leaching; increases disease resistance and produce shelf life; deters pests.
- ✓ Aquaculture – filtration medium for improved water quality.
- ✓ Gardens & Turf – improves soil structure and fertility; provides consistent hydration; reduces stress from drought, heat, or poor soils.

Mineral Magic Garden Conditioner - Commercial

Key Features & Benefits:

Mineral Magic provides a wide range of agronomic and environmental benefits, proven through laboratory testing to Australian Standards.

Improved Growth & Quality - healthier plants, stronger roots, higher yields, more uniform crops.

Water Efficiency - holds water at the root zone, reducing irrigation needs and hand-watering.

Stress Resistance - silica strengthens plants against heat, drought, frost, salinity, pests, and disease.

Environmental Sustainability - reduces fertiliser leaching, lowers pesticide reliance, improves soil carbon and CO₂ sequestration.

Safe & Stable - inert, organic, pH neutral, certified by independent bodies.

Permanent Soil Improvement - does not degrade, swell, slake, or compact, providing long-term soil benefits.

Independent Certification:

Mineral Magic has been independently tested and accredited by leading industry bodies, validating its performance and environmental credentials. Certified for use in agriculture, horticulture, landscaping, and waterwise applications.



Environmental & Climate Impact:

By improving water and nutrient efficiency while reducing fertiliser and pesticide use, Mineral Magic delivers measurable environmental benefits:

- Promotes soil-carbon production.
- Supports carbon-offset and reforestation programs.
- Contributes to lowering atmospheric CO₂ through improved soil sequestration.

Rates of Application:

Situation	Rate	Comments
Residential	1kg per m ²	Can be applied in multiple lighter doses eg 2 x 500g per m ²
Commercial	500g per m ²	With an optimum lifetime profile of 1kg per m ²
Broadacre Crops	500kg-1T per ha	Achievable over multiple applications
Construction & Renovation	1-5T per ha	Rotary hoe into soil profile
Hydroponics & Aquaponics	Ideal for drip containers, flood and drain and recirculating systems	

Product Specification:

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

Available in 10kg,
20kg bags & 1T bulkas



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