MAXSIL PRODUCT FACT SHEET

Granule Plus

Soluble silicon with humates and carbon, in one granule that spreads with your fertiliser



MaxSil soluble silicon granulated with humates and a carbon rich lignite base. One 3 to 5 mm granule that spreads with your fertiliser and works in the soil, the root zone and the plant at the same time.

Three parts, one granule



Silicon: the activator

Hydrolyses, then dissolves to MSA for the root, and acts as a signal: in tobacco, silicon switched on a family of defence genes (histidine rich defensins) in roots and young leaves.

Humates: the orchestrator

Organic carriers that keep silicon and nutrients mobile, stimulate root growth and buffer metals around the granule.

Lignite carbon: the foundation

A long lasting carbon matrix that feeds soil microbes, improves structure and holds moisture.

What it drives: the six MSA pillars

1 Soil Amendment

Silicon: MSA binds toxic aluminium and iron in acid soils and regulates heavy metal toxicity, so fine roots keep growing and exploring.

+ Humates and carbon build organic matter and feed the soil microbes around each granule.

2 Nutrient Efficiency

Silicon: MSA competes with phosphorus for the binding sites on iron, aluminium and clay, freeing phosphorus the soil has locked up.

+ Humates and carbon hold nutrients near the root, so less is lost to leaching.

3 Strengthen Cells and Stems

Silicon: Silicon is laid down as silica in cell walls, giving stiffer stems and tougher leaves that stand up to wind and lodging. The slow release granule keeps it flowing into new growth all season.

4 Primes Biochemical Defence

Silicon: Silicon switches on the plant's own defence genes, so it responds faster and harder when disease attacks. It primes the crop; it does not replace a fungicide.

5 Resists Insects, Mites and Caterpillars

Silicon: Silica in the leaf wears down chewing mouthparts and makes tissue harder to digest, so caterpillars and other chewing pests eat less and grow slower.

6 Regulates Metabolism and Stress

Silicon: Silicon helps the plant manage water, heat and salt, keeping leaves working when conditions turn, so the crop holds yield and quality.

+ Humates and carbon hold moisture in the root zone, buffering the crop through dry spells.

SOLUBLE SILICON IS MSA

Plants can only take up silicon in its soluble, plant available form: monosilicic acid, known as MSA. In moist soil it hydrolyses, then dissolves to MSA around the roots.

GRANULE

Size	**3 to 5 mm**
Shape	**Prill shaped**
Crush strength	**2.5 kg**

SILICON CONTENT

Total Si	**25%**
Soluble Si	**1% | 10,000 ppm**

5 day ISO 19747 test. The rest releases slowly.

MAJOR NUTRIENTS

Nitrogen (N)	**0.55%**
Phosphorus (P)	**0.11%**
Potassium (K)	**0.31%**
Sulphur (S)	**0.29%**
Calcium (Ca)	**8.47%**
Magnesium (Mg)	**0.41%**

TRACE ELEMENTS

Zinc (Zn)	**45 mg/kg**
Manganese (Mn)	**197 mg/kg**
Copper (Cu)	**16 mg/kg**
Boron (B)	**21 mg/kg**

Boron and silicon work together. Boron is a key synergistic trace element, catalysing nutrient uptake, with a strong synergy with silicon.

CARBON AND SOIL

Total carbon	**16.35%**
Humic acid	**3.53%**
Organic matter	**27.8%**
pH	**7.7**

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How to Apply

Placement, rates and tips for Granule Plus

MAXSIL
Silicon Agricultural Solutions



Granule Plus goes on dry, with the equipment you already run. For best results, apply it in the rhizosphere: as close to the roots as you can.

1. Application and rates

✓ **Broadcast** ✓ **Banded** ✓ **In furrow** ✓ **Tree crops** ✓ **Compost blend**

Blending: suits most fertilisers, including urea, DAP, MAP and other prills; confirm compatibility first. Best results when blended within 48 hours of spreading. Check the spread pattern.

Crop group kg/ha per growing season	Broadcast	In furrow or banded	Air seeder	Stool splitter	Establishment
Cereals and Broadacre	100	15 to 20	15 to 20	—	—
Sugarcane	100	50	—	50	—
Cotton	100	50	—	—	—
Pastures (grass and legumes)	100	—	15 to 20	—	15 to 20
Turf	100	—	—	—	—
Horticulture	100	50	—	—	1 kg/vine
Tree Crops	100	—	—	—	1 kg/tree
Roots and Bulbs	100	50	—	—	—
Compost and potting mixes	Blended through the mix at 0.5 to 1 kg per m^3				

kg/ha per growing season unless shown. Rates match the MaxSil Application Guide.

Rates are per growing season, best split: at sowing or planting, then two to three more in crop. Tree crops: last application at least 8 weeks before harvest. Seed coating: use SuperFine Powder.

2. Application tips for MSA

1. **Requires water to activate.** Granule Plus hydrolyses, then dissolves to MSA, only in moist soil. Apply before moderate rain or irrigation.
2. **Not a one time application.** Silicon works best applied over a full season: multiple applications, matched to soil conditions. Most growers see their best results after two full seasons or growing cycles.
3. **Acid, iron and aluminium rich soils grab silicon first.** Part of the first application binds to iron and aluminium in acid clays, which is also what frees phosphorus. Use the upper rate in the first season, or follow up with repeat applications.
4. **Closer to the root, less product.** Only silicon dissolved in the rhizosphere reaches the crop. Banded and in furrow placement puts more of each kilogram to work: in cereals, 15 to 20 kg/ha in furrow against 100 kg/ha broadcast.
5. **Apply ahead of stressful periods.** Silicon has to be in the plant before heat, frost, pests or disease arrive. It prevents; it does not cure.
6. **Soil test to get the balance right.** Test pH, aluminium, phosphorus and $CaCl_2$ silicon before the first application, so you know what is in the soil and can balance the program. You get more value from both your fertiliser and your silicon, and you only trim phosphorus when the tests show it.
7. **Follow up with leaf tissue testing.** A mid season leaf test shows how much silicon is actually getting into the plant. Season on season, it tells you what each harvest removes and what the crop needs to reach target yield, so you can set the next rate with confidence.

Contact MaxSil for crop specific information: 0468 000 879 or maxsil.com.au

HANDLING AND STORAGE

- Offered in 1,000 kg bulk bags or 20 kg bags
- Bulk bags discharge straight into spreader, seeder or blender bins; 20 kg bags suit small areas and tree rows
- Keep dry; store in closed bags, off the ground

SAFETY

Amorphous, not crystalline. MaxSil is amorphous silica. Silicosis comes from breathing crystalline silica dust, such as quartz. The WHO cancer agency (IARC) classes amorphous silica as Group 3, not classifiable as a cancer risk.

General cautions:

- Avoid generating or breathing dust
- Wear a P2 mask and gloves as required
- Wash hands after handling

Find us at your nearest reseller or online at www.maxsil.com.au

1,000 kg bulk bag	MAXSILICON10+1000B
50 x 20 kg bags	MAXSILICON10+0020X

OTHER MAXSIL PRODUCTS



SuperFine Powder
Total Si 33.7%
Soluble Si 3.6%
A 5 micron powder for seed coats and liquid spray.



Mini Prill
Total Si 25%
Soluble Si 1%
A smaller 1 to 2 mm prill for a finer spread. Best for home gardens and turf.



Suspension Concentrate
Soluble Si 1.51%
Coming soon. Ready to use liquid: no mixing on site. Call 0468 000 879 for details.

MAXSIL GRANULE PLUS FACT SHEET

Synergies

Silicon working with your fertiliser program



MaxSil works alongside the fertilisers you already use. Silicon does not replace them; it helps the crop get more from each input.

What happens when silicon is combined with other inputs

COMBINING GRANULE PLUS WITH YOUR PROGRAM	
Urea 46% N	**Silicon and nitrogen are one of the most studied pairings in agronomy.** Silicon helps roots take up nitrate and keeps leaves green and working for longer, so more of each kilogram of applied nitrogen ends up in the crop rather than lost to the air or below the root zone.
DAP and MAP DAP 18% N, 20% P; MAP 10% N, 22% P	**Silicon competes with phosphate for binding sites, helping release locked up phosphorus.** On soils that hold phosphorus on iron, aluminium and clay, MSA takes up the binding sites, so more of the applied and legacy phosphorus stays plant available. Best when placed together in the band.
MOP, Muriate of Potash About 50% K	**Silicon helps the crop take up and hold potassium.** Silicon lifts potassium uptake and keeps the potassium to sodium balance in the leaf healthy, especially under salt or drought, and eases the stress of a short potassium supply. Potassium runs water control in the leaf while silicon strengthens the tissue, so the two work toward the same outcome.
Lime $CaCO_3$	**Lime corrects pH; silicon deals with the aluminium and iron at the root.** Lime works slowly through the profile. MSA binds toxic aluminium and iron right where the roots are, so the crop gets relief while the lime does its work. A practical fit for acid soils.
Gypsum $CaSO_4$: Ca and S	**Complementary: gypsum works on the soil, silicon works on the plant.** Gypsum improves structure and supplies calcium and sulphur. Silicon strengthens cell walls and supports stress tolerance. No known antagonism; it fits within existing soil programs.
Boron Trace element	**Boron is a key synergistic trace element, catalysing nutrient uptake, with a strong synergy with silicon.** Boron and silicon both build strong cell walls and new growth. Keep boron in the program alongside MaxSil, especially in brassicas, horticulture and tree crops.

General guidance. Responses vary with soil, crop and season. Soil test first, follow up with leaf tissue testing, and adjust rates on your own results.

HOW TO COMBINE

- Blends with urea, DAP, MAP, MOP and other prills of a similar size
- Blend within 48 hours of spreading and check the spread pattern
- Confirm compatibility first
- Spread with lime or gypsum in the same program

THE PRINCIPLE

Fertiliser supplies the nutrients. Silicon helps the plant find, take up and use them, and stand up to the stress that wastes them.

TALK TO US

For a crop specific program: 0468 000 879 or maxsil.com.au