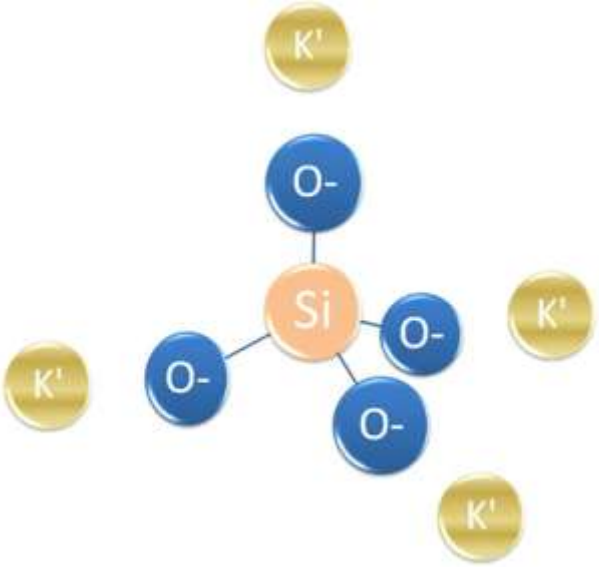
Sil-MATRIX®

FUNGICIDE/MITICIDE/INSECTICIDE

Potassium Silicate

Soluble Silicon



OMRI Listed
Organic Materials Review Institute

Residue Exempt

CERTIS

Fungicide / Miticide / Insecticide

- For use on vegetables, fruits, nuts, vine crops, and field crops control of fungal diseases and control of spider mites, aphids and whiteflies.
- Active Ingredient: 29% Potassium Silicate (8% K_20, 21% SiO_2)
- Product stable under all conditions of use and storage
- Created by mixing Quartz sand (SiO_2) and Potassium Carbonate (K_2CO_3) and melting at 1200°C.

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CERTIS

Biopesticide for Organic Production

- Potassium silicate is an EPA registered biopesticide
- Aqueous potassium silicate is NOP Synthetic Allowed with exceptions for pesticide use only.
  - Must come from a natural mined source of sand

OMRI® LISTED For Organic Use

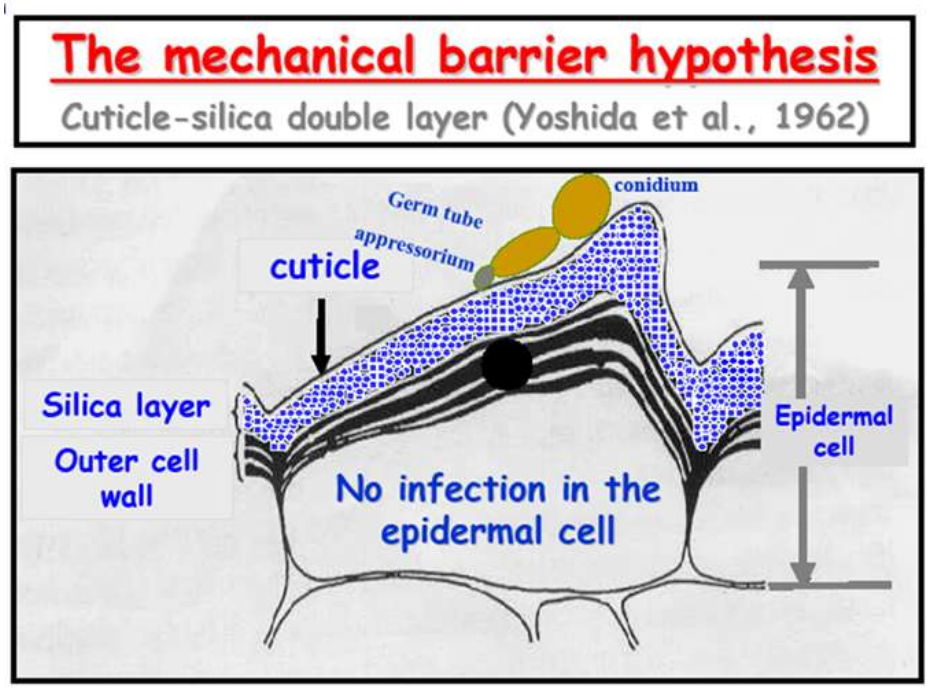
Sil-MATRIX® FUNGICIDE/MITICIDE/INSECTICIDE

CERTIS

Active Mechanism

Disease control via foliar application

- When it dries, it forms a physical barrier on the surface of the leaf
- Amorphous silica deposits in the. leaf apoplast making them more resistant to attacks.
- Restricts fungal development or penetration.
- Becomes less palatable to insects; silica acts as a desiccant.
- May diminish the quality of phloem sap and affect insect development.



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CERTIS

Use and Handling

- 1-4 quarts/100 gallons (0.25-1.0% v/v)
- Apply no sooner than every 7 days.
- REI: 4 hours
- PHI: 0 days
- Use non-ionic surfactant.
- PPE: Coveralls, chemical-resistant gloves made of any waterproof material, shoes and socks, goggles or face shield when handling undiluted concentrate.

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CERTIS

Compatibility

- Most fungicides appear to be compatible. However, each one should be tested before mixing.
  - Examples to of acceptable products include Carb-O-Nator, Double Nickel, and Neemix.
- Compatible with liquid sulfur products, horticultural oils, DMI and strobilurin fungicides
- Inorganic Fertilizers: Use caution when mixing Sil-Matrix with inorganic fertilizers. Most will react to form an insoluble silicate.
  - Some examples of incompatible materials are zinc sulfate, manganese sulfate, zinc nitrate, zinc chloride, calcium acetate, calcium nitrate.
  - Some examples of compatible materials are Diamond 91, Boron, 10-34-0 liquid, chelated and complexed minerals.
- Avoid pH 6. Sil-Matrix is an alkaline (pH 11.3).

Compatibility

Sensitive to low pH materials.

Dilution - dilute Sil-Matrix before combining with other materials. Lowest possible concentration = improve compatibility.

pH adjustment – lower pH of dilute Sil-Matrix with dilute acids

If it gels, dilute more and try again

The Sil-Matrix solution should be 1% or less for pH adjustment.

Target pH should be 4 -5 or 7-8. Avoid pH 6.

SiO2 concentration	pH target	Acid Source	Stability
5000 ppm	4.0	Citric acid	4 weeks*
5000 ppm	4.0	pH Down	1 week
7500 ppm	4.0	Citric acid	4 days
5000 ppm	5.0	Citric Acid	1 week
5000 ppm	5.5	Citric Acid	2 days
5000 ppm	6.0	Citric Acid	Less than 24 hours

Adjusting pH or mixing with other materials

1.Add Sil-Matrix to water (DI or softened water recommended)

2.Slowly add Citric Acid or phosphoric acid with mixing to desired pH range