



# SAFETY DATA SHEET

Horticultural Potassium Silicate Solution: 3rd May 2014

PPP05-14-SDS41

SDS41

SILICON TREATMENT is a modified horticultural grade liquid Potassium Silicate. It is a safe and easy to use treatment that provides supplemental potassium and silicon. It is supplied in 100ML, 250ML, 500ML and 1Liter containers

## 1. Identification of the substance/preparation and the company

### SILICON TREATMENT

Application: Treatment to maximise strength of the cell-structure of plants and flowers.  
F-MAX, Gochsestraat 24B 6851JE Huissen Nederland

In case of emergency: +31 (0)616393840 +31 (0)630508242

## 2. Composition/information on ingredients

Water 76%

CAS No. 7732-18-5

Silicic acid, potassium salt; Potassium silicate 34.0%

CAS No. 1312-76-1 EINECS No. 2151991

Chlorophyll a ;1% w/w Spinach/nettle derived

CAS No. 479-61-8 EINECS Exempt

## 3. Hazards identification



Hazard Designation: Clear green, odorless, liquid. Causes moderate eye irritation, slight skin irritation and digestive tract irritation. Spray mist causes irritation to respiratory tract. High pH of product is harmful to aquatic life. Non-combustible. Spills are slippery. Reacts with acids, ammonium salts, reactive metals and some organics.

### IRRITANT

Eye contact: Causes moderate irritation to the eyes.

Skin contact: Causes slight irritation to the skin.

Inhalation: Spray mist irritating to respiratory tract.

Ingestion: May cause irritation to mouth, oesophagus, and stomach.

Chronic hazards: No known chronic hazards. Not listed as a carcinogen

## 4. First-aid measures

Upon inhalation of aerosol/vapour/dust: Take the patient into the fresh air; if there is difficulty in breathing, medical advice required.

Skin Contact: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention.

Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

After swallowing: If swallowed, DO NOT induce vomiting. Get medical attention immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

## 5. Fire-fighting measures

Flammable limits: This material is non-combustible.

Extinguishing Media: This material is compatible with all extinguishing media.

Hazards to fire-fighters: See Section 3 for information on hazards when this material is present in the area of a fire.



## 6. Accidental release measures

Personal protection: Wear chemical goggles, protective clothing and pvc gloves.

Environmental Hazards: Sinks and mixes with water. High pH of this material is harmful to aquatic life, see Section 12. Only water will evaporate from a spill of this material.

Small spill cleanup: Mop up and neutralise liquid, then discharge to sewer in accordance with local regulations or permits. For further disposal measures see section 13.

---

## 7. Handling and storage

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing spray mist.

Keep container closed. Promptly clean residue from closures with cloth dampened with water. Promptly clean up spills.

Storage: Keep containers closed. Keep stored in original plastic containers.

Separate from acids, reactive metals, and ammonium salts. Storage temperature 0-95° C.

---

## 8. Exposure controls/personal protection

Wear suitable protective clothing, protective goggles. Protective gloves according to DIN/EN 455 are recommended for short term handling. Chemical-resistant gloves according to DIN/EN 374 are recommended for long term handling.

Avoid contact with eyes and skin.

Keep away from food and drink stuffs

Do not eat, drink or smoke at work.

Wash hands before breaks and at the end of work and use skin-protecting ointment.

---

## 9. Physical and chemical properties

Form:	Liquid Colour: <b>VIOLET</b>
Odour:	Odourless
Density: approx.	1.28 g/cm <sup>3</sup> at 20°C
Solubility in water:	Miscible
PH value:	Approx. 11.7

---

## 10. Stability and reactivity

Stability: This material is stable under all conditions of use and storage.

Conditions to avoid: None.

Materials to avoid: Gels and generates heat when mixed with acid. May react with ammonium salts resulting in evolution of ammonia gas.

---

## 11. Toxicological information

Acute Data: When tested for primary irritation potential, this material caused moderate irritation to the eyes and slight irritation to the skin. Human experience indicates that irritation occurs when potassium silicates get on clothes at the collar, cuffs or other areas where abrasion may occur. The acute oral toxicity of this product has not been tested. When chemically similar sodium silicates were tested on a 100% solids basis, their single dose acute oral LD50 in rats ranged from 1500 mg/kg to 3200mg/kg. The acute oral lethality resulted from non-specific causes. This product contains approximately 39.2% potassium silicate.

Special Studies: The mutagenic potential of this material has not been tested. Chemically similar sodium silicate was not mutagenic to the bacterium E. Coli when tested in a mutagenicity bioassay. There are no known reports of carcinogenicity of potassium silicates. Frequent ingestion over extended periods of time of gram quantities of silicates is associated with the formation kidney stones and other siliceous urinary calculi in humans. Potassium silicate is not listed as a carcinogen.

## 12. Ecological information

Ecotoxicity: The ecotoxicity of potassium silicate has not been tested. The following data is reported for chemically similar sodium silicates on a 100% solids basis: A 96 hour median tolerance for fish (*Gambusia affinis*) of 2320ppm; a 96 hour median tolerance for water fleas (*Daphnia magna*) of 247ppm; a 96 hour median tolerance for snail eggs (*Lymnaea*) of 632 ppm; and a 96 hour median tolerance for Amphipoda of 160 ppm. This product contains approximately 39.2% potassium silicate.

Environmental Fate: This material is not persistent in aquatic systems, but its high pH when undiluted or unneutralised is acutely harmful to aquatic life. Diluted material rapidly depolymerizes to yield dissolved silica in a form that is indistinguishable from natural dissolved silica. It does not contribute to BOD. This material does not bio-accumulate except in species that use silica as a structural material such as diatoms and siliceous sponges. Where abnormally low natural silica concentrations exist (less than 0.1ppm), dissolved silica may be a limiting nutrient for diatoms and a few other aquatic algal species. However, the addition of excess dissolved silica over the limiting concentration will not stimulate the growth of diatom populations; their growth rate is independent of silica concentration once the limiting concentration is exceeded. Neither silica nor potassium will appreciably bio-concentrate up the food chain.

Physical/Chemical: Sinks and mixes with water. Only water will evaporate from this material.

---

## 12. Disposal Considerations

The relevant EU directives and local, regional and national regulations must be complied with. Examine possibilities for re-utilisation. May be disposed of in approved landfills providing local regulations are observed.

---

## 13. Transportation information

TRANSPORT: This product is not classified as dangerous for transport under regulation 5 of the Chemicals (Hazards Information and Packaging) Regulations 2002 (CHIP 3).

---

## 14. Regulatory Information

---

## 15. Other information

The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific products.

---

F-MAX, Postbus 4116 6803EC Arnhem Nederland