

# AgriSil K50

## MATERIAL SAFETY DATA SHEET

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### 1. PRODUCT AND COMPANY IDENTIFICATION

**Distributed By:** Madumbi Sustainable Agriculture  
Postnet Suite 148, Private Bag X9118  
Pietermaritzburg 3200  
Emergency Telephone no.:27 (0)33 342 3984

**Manufactured and Registered by:** INEOS Silicas South Africa  
P.O. Box 14016  
Wadeville  
1422

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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical Family:** Silicate  
**Contains:** 28% Silicic Acid, Potassium salt; Potassium Silicate and Water  
**CAS Number:** 1312-76-1

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### 3. HAZARDS IDENTIFICATION

Classified "Irritant" under rules of the EEC "Dangerous Substance Directive" 67/548/EEC as amended by 92/32EEC

Emergency Overview: Clear to hazy, colorless, thick liquid. Alkalinity causes eye irritation, slight skin irritation and digestive tract irritation. Spray mist causes irritation to respiratory tract. High pH is harmful to aquatic life. No known chronic hazards. Non-combustible. Spills are slippery. Reacts with acids, ammonium salts, reactive metals and some organics. Dries to form glass film which can easily cut skin. Can etch glass if not promptly removed.

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### 4. FIRST AID MEASURES

**General:** In all cases of doubt, or when symptoms persist, seek medical attention.

**Inhalation:** Spray mist is irritating to respiratory tract. Remove to fresh air. See medical attention if irritation persists.

**Skin:** Causes slight irritation to skin. Remove contaminated clothing and wash the skin thoroughly with water. Seek medical advice if irritation or symptoms develop.

**Eye:** Alkalinity causes irritation to the eyes. Eye wash facilities must be kept close at hand. Wash immediately with copious amounts of water then obtain medical attention without delay.

**Ingestion:** May cause irritation to mouth, oesophagus, and stomach. Do not induce vomiting. Get medical attention immediately. If victim is fully conscious give a cupful of water. Never give anything by mouth to unconscious person.

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### 5. FIRE FIGHTING MEASURES

Not applicable. Aqueous solution will not support combustion.

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### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Wear chemical gloves, body-covering protective clothing, chemical resistant gloves, and rubber boots.

**Environmental precautions:** Sinks and mixes with water. High pH of this material is harmful to aquatic life. Only water will evaporate from spill of this material.

**Small Spill Clean-up:** Mop up and neutralize liquid, then discharge into sewer in accordance with local regulations.

**Large Spill Clean-up:** Keep unnecessary people away; isolate hazard area and deny entry. Do not touch or walk through spilled material as it is slippery. Stop leak if you can without risk. Prevent runoff from entering into storm sewers and natural waterways. Isolate, dike and store discharged material. Use sand or earth to contain spilled material. If containment is impossible, neutralize contaminated area and flush with large quantities of water.

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## 7. HANDLING AND STORAGE

**Special Sensitivity:** No special sensitivity.  
**Handling and Storage:** Avoid contact with eyes, skin and clothing. Avoid breathing spray mist. Keep container closed. Promptly clean residue from closures with a cloth dampened with water. Promptly clean spills. Store in clean steel or plastic containers. Separate from acids, reactive metals and ammonium salts. Do not store in aluminium, fibreglass, copper, brass, zinc or galvanized containers. Do not store at temperatures above 50 degrees Celsius for prolonged periods. Material becomes very viscous at low temperatures.  
**Ventilation requirements:** Normal ventilation is adequate.  
**Sensitive to static electricity:** No

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## 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

**Exposure limits:** (UK EH40/93) not listed.  
Potassium Hydroxide has an exposure limit of 2mg/m<sup>3</sup> (10min TWA). When using AgriSil it is recommended that exposure to alkalinity is calculated as KOH, should be kept below this limit.  
**Ventilation Requirements:** Local exhaust ventilation if solution is sprayed or forms an airborne aerosol. Otherwise no special controls are necessary.  
**Personal protection:**  
**Respiratory:** Use an SABS approved mist respirator where spray mist occurs. Observe OSHA regulations for respirator use.  
**Hand:** Impermeable plastic or rubber gloves.  
**Eye:** Safety glasses, goggles or face shield to protect against splashing.  
**Skin and body:** Alkaline resistant overalls, or similar body covering protective clothing.  
**Other information:** The usual precautions for handling chemicals should be observed.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Pure substance or Preparation: Preparation**  
**Physical form:** Liquid (20 °C )  
**Appearance / Odour:** Colourless to hazy liquid. No significant odour.  
**Flash point:** N/A  
**Flammability:** N/A  
**Explosive properties:** N/A  
**Density:** Approx. 1.25  
**Viscosity:** 200 to 5000 cps @ 20 °C  
**Solubility in water:** Soluble  
**pH value:** >11

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## 10. STABILITY AND REACTIVITY

**Stability:** Stable  
**Conditions to avoid:** Gels and generates heat when mixed with acid. May react with ammonium salts resulting in evolution of ammonium gas. May react with Zinc, Aluminium, Tin and their alloys evolving Hydrogen gas, Dilute solutions of less than 10% have zero or minimal effect on these metals. If arc welding is carried out on vessels containing silicate solutions electrolysis may occur. Circuits must not be completed through pipes containing valves, bolted flanges or threaded joints.  
Food or dairy residues may contain sugars which under certain conditions may react with alkaline materials evolving carbon monoxide. Ensure adequate ventilation before entering confined spaces.

**Hazardous decomposition products:** None known

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## 11. TOXICOLOGICAL INFORMATION

**The primary hazard of AgriSil by all routes is its alkalinity.**

**Ingestion:** LD50 oral Rat 1300-2000mg/kg. The toxicity of AgriSil is dependent on the silica to alkali weight ration and on the pH.

**Inhalation:** Unless the solution is sprayed or otherwise becomes an airborne aerosol, inhalation is unlikely. Irritation of airways is the likely effect.

**Eye Contact:** Severely irritating. May cause damage to eyes.

**Skin Contact:** Irritating to skin.

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## 12. ECOLOGICAL INFORMATION

This material is not persistent in aquatic systems, but its high pH when undiluted or unneutralized 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 bioaccumulate except in species that use silica as a structural material such as diatoms and siliceous sponges. Neither silica nor potassium will appreciably bioconcentrate up the food chain. Sinks and mixes with water. Only water will evaporate from this material.

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## 13. DISPOSAL CONSIDERATIONS

Waste disposal should be in accordance with the existing community national and local legislations.

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## 14. TRANSPORT INFORMATION

Pack only in plastic or steel drums, tanks or tankers. Do not use aluminum.

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## 15. REGULATORY INFORMATION

**EEC Hazard Classification:** Irritant under rules of the EEC "Dangerous Substance Directive" 67/548/EEC as amended by 92/32EEC

**Risk phrases:** R41, R38

**Safety phrases:** S2, S26, S27, S37/39

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## 16. OTHER INFORMATION

This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

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