

# MATERIAL SAFETY DATA SHEET

SJ Enterprises

FILE NO: 005

Copyright, 2009, SJ Enterprises. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing SJ Enterprises products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from SJ Enterprises, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

NAME OF PRODUCT: Silica

MSDS DATE:14/8/09

---

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

---

PRODUCT NAME: Silica

SYNONYMS: N/A

PRODUCT CODES: 005

MANUFACTURER: SJ ENTERPRISES PTY LTD

DIVISION: N/A

ADDRESS: FACTORY 3&4 / 63 LANGFORD STREET, POORAKA, SOUTH AUSTRALIA

EMERGENCY PHONE: +61 8 8359 8732

CHEMTREC PHONE: N/A

OTHER CALLS: +61 0 430 217 040

FAX PHONE: +61 8 8359 8732

CHEMICAL NAME: N/A

CHEMICAL FAMILY: N/A

CHEMICAL FORMULA: N/A

PRODUCT USE: Hydroponic Additive

PREPARED BY:

---

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

---

INGREDIENTS: Potassium Silicate

<u>CAS NO.</u>	<u>% WT</u>	<u>% VOL</u>	<u>SARA 313 REPORTABLE</u>
1312-76-1	5.26%		

ppm

mg/m3

OSHA PEL-TWA: N/A

OSHA PEL STEL : N/A

OSHA PEL CEILING: N/A

ACGIH TLV-TWA: N/A

ACGIH TLV STEL: N/A

ACGIH TLV CEILING: N/A

# MATERIAL SAFETY DATA SHEET

SJ Enterprises

FILE NO: 005

Copyright, 2009, SJ Enterprises. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing SJ Enterprises products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from SJ Enterprises, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

**NAME OF PRODUCT:** Silica

**MSDS DATE:**14/8/09

## SECTION 3: HAZARDS IDENTIFICATION

---

**EMERGENCY OVERVIEW:** 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. Noncombustible. Spills are slippery. Reacts with acids, ammonium salts, reactive metals and some organics.

### ROUTES OF ENTRY:

**EYES:** Causes moderate irritation to the eyes.

**SKIN:** Causes slight irritation to the skin.

**INGESTION:** May cause irritation to mouth, esophagus, and stomach.

**INHALATION:** Spray mist irritating to respiratory tract.

**ACUTE HEALTH HAZARDS:** No known chronic hazards. Not listed by NTP, IARC or OSHA as a carcinogen.

**CHRONIC HEALTH HAZARDS:** No known chronic hazards. Not listed by NTP, IARC or OSHA as a carcinogen.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:** No Data found

### CARCINOGENICITY

OSHA: N/A

ACGIH: N/A

NTP: N/A

IARC: N/A

OTHER: N/A

---

## SECTION 4: FIRST AID MEASURES

---

**EYES:** Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.

**SKIN:** Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

**INGESTION:** Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

# MATERIAL SAFETY DATA SHEET

SJ Enterprises

FILE NO: 005

Copyright, 2009, SJ Enterprises. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing SJ Enterprises products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from SJ Enterprises, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

**NAME OF PRODUCT:** Silica

**MSDS DATE:**14/8/09

**INHALATION:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Refer to MSDS

---

## SECTION 5: FIRE-FIGHTING MEASURES

---

**FLAMMABLE LIMITS IN AIR, UPPER:** N/A  
**(% BY VOLUME) LOWER:** N/A

**FLASH POINT:** N/A

F:

C:

**METHOD USED:** N/A

**AUTOIGNITION TEMPERATURE:** N/A

F:

C:

**NFPA HAZARD CLASSIFICATION**

**HEALTH:** N/A

**FLAMMABILITY:** N/A

**REACTIVITY:** N/A

**OTHER:** N/A

**HMIS HAZARD CLASSIFICATION**

**HEALTH:** N/A

**FLAMMABILITY:** N/A

**REACTIVITY:** N/A

**PROTECTION:**N/A

**EXTINGUISHING MEDIA:** Use any means suitable for extinguishing surrounding fire.

**SPECIAL FIRE FIGHTING PROCEDURES:** In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Not combustible

**HAZARDOUS DECOMPOSITION PRODUCTS:** No data found

# MATERIAL SAFETY DATA SHEET

SJ Enterprises

FILE NO: 005

Copyright, 2009, SJ Enterprises. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing SJ Enterprises products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from SJ Enterprises, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

**NAME OF PRODUCT:** Silica

**MSDS DATE:**14/8/09

---

## SECTION 6: ACCIDENTAL RELEASE MEASURES

---

**ACCIDENTAL RELEASE MEASURES:** Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. **Spills:** Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

---

## SECTION 7: HANDLING AND STORAGE

---

**HANDLING AND STORAGE:** Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

---

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

---

**ENGINEERING CONTROLS:** N/A

**VENTILATION :** A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

**RESPIRATORY PROTECTION:** For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**EYE PROTECTION:** Safety glasses. Maintain eye wash fountain and quick-drench facilities in work area.

**SKIN PROTECTION:** Wear protective gloves and clean body-covering clothing.

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT:** N/A

**WORK HYGIENIC PRACTICES:** Please refer to State And Federal regulations

**EXPOSURE GUIDELINES:** No exposure guidelines have been set for this product.

**SECTION 8 NOTES:**

# MATERIAL SAFETY DATA SHEET

SJ Enterprises

FILE NO: 005

Copyright, 2009, SJ Enterprises. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing SJ Enterprises products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from SJ Enterprises, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

**NAME OF PRODUCT:** Silica

**MSDS DATE:**14/8/09

---

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

---

**APPEARANCE:** Clear

**ODOR:** Odourless

**PHYSICAL STATE:** Liquid

**pH AS SUPPLIED:**

**pH (Other):**

**BOILING POINT:**

F: 212

C: 100

**MELTING POINT:**

F: N/A

C: N/A

**FREEZING POINT:**

F: 32

C: 0

**VAPOR PRESSURE (mm Hg):**

@

F: N/A

C:

**VAPOR DENSITY (AIR = 1):** N/A

@

F:

C:

**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):**

@ room temperature

F: 77

C: 25

**EVAPORATION RATE:**

**BASIS (=1):**

**SOLUBILITY IN WATER:**

**PERCENT SOLIDS BY WEIGHT:**

**PERCENT VOLATILE:**

BY WT/ BY VOL @

F:

C:

# MATERIAL SAFETY DATA SHEET

SJ Enterprises

FILE NO: 005

Copyright, 2009, SJ Enterprises. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing SJ Enterprises products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from SJ Enterprises, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

**NAME OF PRODUCT:** Silica

**MSDS DATE:**14/8/09

**VOLATILE ORGANIC COMPOUNDS (VOC):**

<b>WITH WATER:</b>	<b>LBS/GAL</b>
<b>WITHOUT WATER:</b>	<b>LBS/GAL</b>

**MOLECULAR WEIGHT:**

**VISCOSITY:**

@

F:

C:

---

## SECTION 10: STABILITY AND REACTIVITY

---

**STABILITY:** Stable under ordinary conditions of use and storage

**CONDITIONS TO AVOID (STABILITY):** Gels and generates heat when mixed with acid. May react with ammonium salts resulting in evolution of ammonia gas. Flammable hydrogen gas may be produced on contact with aluminum, tin, lead, and zinc.

**INCOMPATIBILITY (MATERIAL TO AVOID):**

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** Hydrogen

**HAZARDOUS POLYMERIZATION:** No hazardous polymerization data found.

**CONDITIONS TO AVOID (POLYMERIZATION):** N/A

---

## SECTION 11: TOXICOLOGICAL INFORMATION

---

**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 3200 mg/kg. The acute oral lethality resulted from nonspecific causes. This product contains approximately 39.2% potassium silicate.

# MATERIAL SAFETY DATA SHEET

SJ Enterprises

FILE NO: 005

Copyright, 2009, SJ Enterprises. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing SJ Enterprises products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from SJ Enterprises, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

**NAME OF PRODUCT:** Silica

**MSDS DATE:**14/8/09

### *Sub chronic Data:*

The sub chronic toxicity of this material has not been tested. In a study of rats fed chemically similar sodium silicate in drinking water for three months, at 200, 600 and 1800 ppm, changes were reported in the blood chemistry of some animals, but no specific changes to the organs of the animals due to potassium silicate administration were observed in any of the dosage groups. Another study reported adverse effects to the kidneys of dogs fed potassium silicate in their diet at 2.4g/kg/day for 4 weeks, whereas rats fed the same dosage did not develop any treatment-related effects. Decreased numbers of births and survival to weaning was reported for rats fed sodium silicate in their drinking water at 600 and 1200 ppm.

### *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 by IARC, NTP or OSHA as a carcinogen.

## SECTION 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 2320 ppm; 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 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. Where abnormally low natural silica concentrations exist (less than 0.1 ppm), 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 bioconcentrate up the food chain.

### *Physical/Chemical:*

Sinks and mixes with water. Only water will evaporate from this material.

# MATERIAL SAFETY DATA SHEET

SJ Enterprises

FILE NO: 005

Copyright, 2009, SJ Enterprises. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing SJ Enterprises products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from SJ Enterprises, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

**NAME OF PRODUCT:** Silica

**MSDS DATE:**14/8/09

## SECTION 13: DISPOSAL CONSIDERATIONS

---

**WASTE DISPOSAL METHOD:** Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

**RCRA HAZARD CLASS:** N/A

**SECTION 13 NOTES:** Do not use this container for any other purpose. Triple rinse containers, then offer the container for recycling, reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with your local government regulations.

---

## SECTION 14: TRANSPORT INFORMATION

---

**U.S. DEPARTMENT OF TRANSPORTATION Not Regulated**

**PROPER SHIPPING NAME:**

**HAZARD CLASS:**

**ID NUMBER:**

**PACKING GROUP:**

**LABEL STATEMENT:**

**WATER TRANSPORTATION Not Regulated**

**PROPER SHIPPING NAME:**

**HAZARD CLASS:**

**ID NUMBER:**

**PACKING GROUP:**

**LABEL STATEMENTS:**

**AIR TRANSPORTATION Not Regulated**

**PROPER SHIPPING NAME:**

**HAZARD CLASS:**

**ID NUMBER:**

**PACKING GROUP:**

**LABEL STATEMENTS:**



# MATERIAL SAFETY DATA SHEET

SJ Enterprises

FILE NO: 005

Copyright, 2009, SJ Enterprises. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing SJ Enterprises products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from SJ Enterprises, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

**NAME OF PRODUCT:** Silica

**MSDS DATE:**14/8/09

---

## SECTION 15: REGULATORY INFORMATION

---

### U.S. FEDERAL REGULATIONS

**TSCA (TOXIC SUBSTANCE CONTROL ACT):** No Data Found

**CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT):** No CERCLA Reportable Quantity has been established for this material.

**SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):** Not an Extremely Hazardous Substance under §302. Not a Toxic Chemical under §313. Hazard Categories under §§311/312: Acute

**311/312 HAZARD CATEGORIES:** No Data found

**313 REPORTABLE INGREDIENTS:** No Data found

**STATE REGULATIONS:** No Data found

**INTERNATIONAL REGULATIONS:** No Data found

---

## SECTION 16: OTHER INFORMATION

---

**OTHER INFORMATION:** N/A

**PREPARATION INFORMATION:** N/A

### DISCLAIMER:

\*\*\*\*\*

SJ Enterprises provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

SJ ENTERPRISES MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, SJ ENTERPRISES WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.

\*\*\*\*\*