

# MATERIAL SAFETY DATA SHEET

Product Name: Silc Free

Page: 1 of 6

This revision issued: September 2009

## Section 1 Identification of Chemical Product and Company

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**Substance:** Water solution of ingredients.

**Trade Name:** Silc Free

**Product Name:**

**Product Use:** Silc Free.

**Creation Date:** January 2005

**Revision Date:** September , 2009

## Section 2 Hazards Identification

### Statement of Hazardous Nature

This product is classified as: Hazardous according to the criteria of NOHSC Australia.  
Dangerous Goods according to the Australian Dangerous Goods (ADG) Code.

**Risk Phrases:** R10, R20/22, R36/38, R66. Flammable. Harmful by inhalation and if swallowed. Irritating to skin and eyes. Repeated exposure may cause skin cracking or dryness.

**Safety Phrases:** S2, S16, S23, S29, S33, S24/25, S36/37/39. Keep container tightly closed. Keep away from sources of ignition – no smoking. Do not breath vapour. Do not empty into drains. Take precautionary measures against static charges. Avoid contact with skin and eyes. Wear suitable protective clothing/ gloves and eye/face protection.

**SUSDP Classification:** S5.

**ADG Classification:** Class 3

**UN Number:** 1993 Flammable Liquid N.O.S.

### Emergency Overview

**Physical Description & Colour:** A Clear bright blue liquid.

**Odour:** Typical

**Major Health Hazards:** Flammable Liquid.

### Potential Health Effects

#### Inhalation:

Vapour is moderately irritating to mucous membrane and respiratory tract. Inhalation of the vapour may result in drunkenness or headache, nausea, in coordination, sleepiness and vomiting.

#### Skin Contact:

Contact with skin may result in slight irritation and redness. Prolonged, repeated or heavy skin contamination may cause skin drying, cracking or dermatitis with redness and itching.

#### Eye Contact:

Vapours may irritate the eyes. Eye contact with the liquid or spray mists may seriously irritate the eyes and cause corneal damage.

#### Ingestion:

Accidental swallowing is unlikely in the work setting. Swallowing can cause drunkenness and total intake of ethanol. Containing products is known as an Occupational Hazard. Effects of small intake may cause headache, dizziness, drowsiness, fatigue and sickness.

#### Carcinogen Status:

**NOHSC:** No significant ingredient is classified as carcinogenic by NOHSC.

**NTP:** No significant ingredient is classified as carcinogenic by NTP.

**IARC:** No significant ingredient is classified as carcinogenic by IARC.

See the IARC website for further details. A Web address has not been provided as addresses frequently change.

### Section 3 . Composition/Information on Ingredients

| Ingredients            | CAS No    | Conc, %    |
|------------------------|-----------|------------|
| Ethylalcohol (ethanol) | 54-17-5   | 30-<60%w/w |
| 1, 2, 3 Propanetriol   | -         | 10-<30%w/w |
| Water                  | 7732-18-5 | to 100     |

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

### Section 4 - First Aid Measures

#### General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.

**Inhalation:** If inhalation occurs, contact a Poisons Information Centre or a doctor. Remove source of contamination or move victim to fresh air. If there are any signs of intoxication or inebriation, respiratory irritation, nausea, dizziness or headache, seek medical attention.

**Skin Contact:** Flush contaminated area with lukewarm, gently flowing water for at least 15 minutes, and wash skin thoroughly. Remove contaminated clothing and launder before re use.

**Eye Contact:** Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 15 minutes. By the clock, while holding the eyelid(s) open. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. Take care not to rinse contaminated water into the unaffected eye or onto face. Call a Poisons Information Centre or a Doctor.

**Ingestion:** If product is swallowed, rinse mouth thoroughly with water and contact a doctor or poisons information centre. Hospital treatment may be needed. If intoxication is present treat as excess consumption of alcohol drink. If a minor amount has been accidentally swallowed, give a large amount of water. Do not attempt to induce vomiting or give anything by mouth to an unconscious person.

### Section 5 - Fire Fighting Measures

**Specific Hazards:** Flammable liquid. May form flammable mixtures with air. The vapour is heavier than air and may travel along the ground: distant ignition and flash back are possible. Run off to sewers and drains may cause explosions. Isolate for at least 800 meters in all directions if tanks or tankers are involved. The use of compressed air for filling, discharging, mixing or handling is prohibited due to vapour hazard. All vessels must be earthed to avoid generation of static charges when agitating or transferring solvents. Avoid all ignition sources. Intrinsically safe equipment necessary in areas where this chemical is being used.

**Extinguishing Media:** Use water fog ( or if unavailable fine water spray), dry chemical, carbon dioxide or alcohol stable foam.

**Fire Fighting Procedures:** Flammable liquid. Use water to cool exposed containers. Heating can cause expansion or decomposition leading to violent rupture of containers. If safe to do so, remove containers from path of fire. Spills and leaks may be washed away with copious amounts of water, fog or spray. For major fires or where the atmosphere is either oxygen deficient or contains unacceptable levels of combustion products, fire fighters must wear self contained breathing apparatus with full face- mask and protective clothing.

**Hazardous Decomposition Products:** Burning can produce carbon monoxide and/or carbon dioxide.

**Hazchem Code:** 2[Y]E

### Section 6 - Accidental Release Measures

**Containment Procedures:** In the event of a spillage eliminate all sources of ignition and take measures to prevent static discharge- no smoking. Stop and contain for salvage or absorb in inert absorbent material (e.g. soil, sand, vermiculite) for disposal by an approved method. Prevent run off into drains and waterways. Clear area of all personnel not directly involved in the clean up. All personnel involved in the containment and disposal procedures to wear protective equipment as described in Section 8 prevent skin and eye contamination and inhalation of vapours. Use water spray to disperse vapour. Wash the cleaned up area with copious amounts of water to remove any trace amounts of product. Ethanol mixes completely with water. Spills can be converted to non – flammable mixtures by dilution with water. Ventilate area well and ensure the atmosphere is safe before personnel return to work area. If contamination of sewers or waterways has occurred, advise the local emergency services and environmental authorities.

## MATERIAL SAFETY DATA SHEET

## Section 7 Handling and Storage

**Handling:** Use in well ventilated areas away from all ignition sources. Intrinsically safe equipment only must be used in area where the chemical is being used. The use of compressed air filling, discharging, mixing or handling is prohibited due to the vapour hazard. Containers must be earthed to avoid generation of static charges when transferring product.

**Storage:** Store in tightly closed containers in cool, dry, isolated well ventilated areas away from heat, sources of ignition and incompatibles. Store away from oxidizing agents. Keep containers closed at all times. Check regularly for leaks. Do not smoke, eat or drink in areas of use or storage. Observe State regulations concerning their storage and handling of Dangerous Goods. Store with all precautions required for handling flammable liquids. The requirements of Australian Standards AS 1940 should be observed in addition to AS 1020, AS 1076, AS 2380 and AS 3000.

Empty containers retain residue (liquid and/or vapour) and are dangerous. Do not pressure cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition.

**Incompatibilities:** Not to be stored with explosives (Class 1), flammable gases in bulk (Class 2.1), poisonous gases (Class 2.3), spontaneously combustible substances (Class 4.2), oxidizing agents (Class 5.1), organic peroxides (Class 5.2), radioactive substances (Class 7). Exemptions may apply.

## Section 8 Exposure Controls and Personal Protection

**Exposure Standards : Australian Safety and Compensation Commission ASCC (formerly National Occupational Health and Safety Commission (NOHSC) National Occupational Exposure Standard (NES):**

|         |  |
|---------|--|
| Ethanol | TWA – 1000ppm (1880mg/m <sup>3</sup> ) |
|         | STEL – None Allocated                  |
|         | Carcinogen Category - None Allocated   |
|         | Notices – None Allocated               |

The Australian National Occupational Exposures Standard (NES) is the time-weighted average airborne concentration over an eight hour working day, for a five day working week over an entire working life. According to current knowledge this concentration should neither impair the health nor cause undue discomfort to nearly all workers. The NES also requires that exposure should be kept to as low a level as is workable. NES are guides to be used in the control of occupational health hazard and should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

### Engineering Controls:

**Ventilation:** Local exhaust ventilation and/or mechanical (general) exhaust are recommended when vapours are likely to be generated. All such equipment must be intrinsically safe.

**Special Considerations for repair and/or maintenance of contaminated equipment:** Empty containers retain residue and are dangerous. Do not pressure cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity or other sources of ignition. Vapour is heavier than air – prevent concentration in hollows or sumps. Do not enter confined spaces where vapour may have collected. Keep containers closed when not in use.

**Personal Hygiene:** Protective clothing (gloves, coveralls and boots etc) should be worn to prevent skin contact. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or reusing.

**Eye Protection:** Avoid eye contact by wearing chemical goggles with side shields or face shield (ASNZS 1336) whenever exposed to vapour or mist or if there is a risk of splashing liquid in the eyes. Safety showers with eye wash should be provided in all areas where product is handled.

**Skin Protection:** Avoid skin contact by the use of approved chemical resistant gloves and aprons – PVC or Neoprene (AS 2161).

**Respiratory Protection :** None should be needed under normal circumstances. In high vapour concentrations or in suspected oxygen deficient atmosphere, such as empty vessels or confined spaces, use air supplied hood. In other instances where ethanol concentrations are likely to exceed 500ppm, an approved organic vapour respirator (AS/NZS 1715 AND 1716) must be worn.

## MATERIAL SAFETY DATA SHEET

### Section 9 - Physical and Chemical Properties:

|   |  |
|---|--|
| <b>Physical Description &amp; colour:</b> | Clear blue liquid.   |
| <b>Odour:</b>                             | Characteristic alcohol odour. Ethanol is detectable at 800 – 100ppm. |
| <b>ph, at stated concentration :</b>      | Not available  |
| <b>Boiling Point:</b>                     | 78C – 87C ( 24% - 100% ethanol)*                                     |
| <b>Melting Point:</b>                     | 117C – 10C (24% - 100% ethanol)*                                     |
| <b>Vapour Pressure:</b>                   | 44mm Hg@20C (ethanol)*   |
| <b>Specific Gravity (H2O=1):</b>          | Approx 1.00  |
| <b>Water Solubility:</b>                  | Completely soluble in water  |
| <b>Evaporation Rate:</b>                  | 253 (n-Butyl Acetate = 100) (ethanol)*                               |
| <b>Vapour Density:</b>                    | 1.59 (air = 1) (ethanol)   |
| <b>Percent Volatile:</b>                  | 100%   |
| <b>Flash Point:</b>                       | 13C – 34C (24 – 100% ) (ethanol)*                                    |
| <b>Flammability:</b>                      | Flammable  |
| <b>FP Test Method:</b>                    | Abel closed cup  |
| <b>Autoignition temp:</b>                 | 392C (ethanol)*  |
| <b>Lower Explosive Limit (LEL):</b>       | 3.5% (ethanol)*  |
| <b>Upper Explosive Limit (UEL):</b>       | 19% (ethanol)*   |

\* Figures refer to that for Ethanol

### Section 10 Stability and Reactivity

|  |   |
|--|---|
| <b>Chemical Stability:</b>               | Stable  |
| <b>Hazardous Polymerisation:</b>         | Will not occur  |
| <b>Incompatible Materials:</b>           | Will react with strong oxidizing agents                   |
| <b>Conditions to avoid:</b>              | Heat, sparks, flame, and build up of static electricity   |
| <b>Hazardous Decomposition products:</b> | Burning can produce carbon monoxide and/or carbon dioxide |

### Section 11 -Toxicological Information

**Acute Effects:** Inhalation at levels at or exceeding the Occupational Exposure limits or any deliberate ingestion is known to lead to health effects which may be evident in themselves, or lead to impaired functioning and consequent safety risks in the industrial setting. A blood alcohol level in excess of 0.05g/100ml is regarded as likely to impair functioning for tasks such as operating machinery.

LD50/oral/rat: 7060 mg/kg (literature data ) (ethanol)

LC50/inhalation/rat: 38mg/10h (literature data ) (ethanol)

**Swallowed:** Accidental swallowing is unlikely in the work setting. Swallowing can cause drunkenness and any health effects caused by the total intake of ethanol containing products is a known occupational risk and as little as 50 – 100ml intake in a shift in a 70kg worker may cause inebriation to the point where safety is impaired. Effects of a small intake may induce excitation, euphoria, headache, dizziness, drowsiness, blurred vision and fatigue. Drinking a large amount may lead to severe acute intoxication, tremors, convulsions, coma, respiratory arrest and death. Aspirations into lungs may cause pneumonitis.

**Eye:** Vapours may irritate the eyes. Liquid and mists may severely irritate the eyes and cause corneal damage.

**Skin:** Contact with the skin may result in slight irritation and redness. Prolonged or repeated contact and heavy skin contamination may cause skin drying and cracking and/or dermatitis with redness, itching, and swelling. This may lead to possible secondary infection.

**Inhalation:** Vapour is moderately irritating to mucous membranes and respiratory tract. Inhalation of the vapour may result in drunkenness (see effects of swallowing above) or headache, nausea, incoordination, narcosis (sleepiness) and vomiting. Early signs or systems may occur at airborne levels of 1000 to 5000pm. Ongoing or repeated exposures at high concentrations may cause central nervous systems similar to “swallowed” above. Deliberate inhalation of the vapour is a known occupational risk.

#### MATERIAL SAFETY DATA SHEET

**Chronic:** Long term exposure by swallowing or repeated exposures in excess of the occupational exposure limits occur may cause degenerative changes in the liver, kidneys, gastrointestinal tract and heart muscle. Persons with pre-existing liver impairment, skin and respiratory disorders may be at an increased risk. Ethanol may cause adverse reproductive effects. Absorption of some drugs may be affected causing adverse health effects. Ingestion by pregnant woman may cause serious effects in their newborn babies called "foetal alcohol syndrome". Ethanol is not listed as a carcinogen by the Australian Safety and Compensation Commission (formerly NOHSC) The International Agency for Research on Cancer (IARC) has elevated ethanol as a human carcinogen on the basis of effects of drinking alcoholic beverages, but there is no known carcinogenic risk from occupational exposures. There is extensive toxicological and epidemiological information on the effects of ingesting alcoholic drinks containing ethanol. Any occupational exposures will add to overall exposures from ingestion of alcoholic drinks and any health effects that result from such exposures.

## Section 12 Ecological Information

**Ecotoxicity: (Ethanol):** Toxicity to fish (acute): LCO/Golden ide/: >1000mg/l/48h  
Toxicity to daphnia: EC50/Daphnia magna/: > 1000mg/l/24h

**Persistence and degradability (Ethanol):** Degree of elimination: 94%  
Evaluation: biodegradable

**Mobility in soil (Ethanol):** No Data available

## Section 13 Disposal Considerations

Suitable for incineration by approved agent controlled conditions if permitted by local authorities, otherwise disposal must be in accordance with local waste authority requirements. Product must be contained and not disposed to sewerage systems, drains, or waterways. Advise flammable nature. Empty containers must be decontaminated by rinsing with water. Non – returnable containers should be de – gassed prior to disposal.

## Section 14 Transport Information

### Transport Requirements:

**UN Number:** 1993 Flammable Liquid N.O.S.

**Class:** 3

**Subsidiary Risk 1:** Non Allocated

**Packaging Group:** II ( III for solutions with a flashpoint > 23C)

**Hazchem Code:** 2[Y]E

**EPG Incompatibilities:** Not to be stored with explosives (Class 1), flammable gases in bulk ( Class 2.1) , poisonous gases (Class 5.2), spontaneously combustible substances (Class 4.2), oxidizing agents (Class 5.1), organic peroxides (Class 5.2) , and radioactive substances (Class 7). Exemptions may apply.

### Road and Rail Transport (Australian Dangerous Goods Code):

**UN Number:** 1993 Flammable Liquid N.O.S

**Proper Shipping Name:** Silc Free

**Class:** 3 Flammable Liquid

**Hazchem Code:** 2[Y]E

**Packaging Group:** II (III for solutions with a flashpoint >23C

### Marine Transport (International Maritime Dangerous Goods Code):

**UN Number:** 1993 Flammable Liquid N.O.S

**Proper Shipping Name:** Silc Free

**Class** 3 Flammable Liquid

## MATERIAL SAFETY DATA SHEET

**Packing Group:** II (III for solutions with a flashpoint >23C)  
**Marine Pollutant:** No

**Air Transport (International Air Transport Association Dangerous Goods Code):**

**UN Number:** 1993 Flammable Liquid N.O.S.  
**Proper Shipping Name:** Silc Free  
**Class:** 3 Flammable Liquid  
**Packaging Group:** II (III for solutions with a flashpoint >23C )

**Section 15 Regulatory Information**

**Classification:** Hazardous according to SCC/NOHSC Criteria.  
 Dangerous Good according to criteria of the Australian Dangerous Goods Code.

**Poisons Schedule:** S5  
 Scheduled Poisons must be store, maintained and used in accordance with the relevant regulations.

**Section 16 Other Information**

**This MSDS contains only safety-related information. For other data see product literature.**

**Additional Information**

**Australian Standards References**

**As 1020** The control of undesirable static electricity.  
**AS 1076** Code of Practice for selection, installation and maintenance of electrical apparatus and associated equipment for use in explosive atmospheres (other than mining applications) – Parts 1 to 13  
**AS/NZS 1336** Recommended Practices for Occupational Eye Protection.  
**AS/NZS 1715** Selection, Use and Maintenance of Respiratory Protective Devices.  
**AS/NZS 1716** Respiratory Protective Devices.  
**AS 1940** The Storage and Handling of Flammable and Combustible Liquids.  
**AS 2161** Industrial Safety Gloves and Mittens (excluding electrical and medical gloves).  
**AS 2380** Electrical equipment for explosive atmospheres – Explosion Protection techniques ( Parts 1 to 9).  
**AS 3000** Electrical Installations (known as the Australian/New Zealand Wiring Rules).

This MSDS was correct at the time it was prepared. The supplier as part of its Health and Safety Program updates MSDS when its ongoing review process indicates a need for a change to be made. You should make sure that the MSDS you are reading and relying on is current. You can do this by contacting the Supplier at the above address.

THIS MSDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS MSDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE. IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

**Please read all labels carefully before using product.**

**MATERIAL SAFETY DATA SHEET**