

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Chemi-Hardener**
Trade Name: Sodium Silicate Solution, Concrete Densifier
Other Names: Silicic Acid, Sodium Salt Solution; Water Glass; Soluble Glass; Sodium. Beta-Silicate; Sodium silicate
Recommended Use: Aid & Hardening and Dust Proofing Concrete Floors
Revision Date: June 2008
Company Name: On-Crete Australia Pty Ltd
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2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical</u>	<u>CAS Number</u>	<u>Proportion (w/w)</u>
Sodium Silicate	1344-09-8	30.0-60.0
Water	7732-18-5	30.0-60.0

3. HAZARDS IDENTIFICATION

Hazardous according to criteria of NOHSC/ASCC

IRRITANT

Risk Phrases

R36/38 Irritating to eyes and skin.

Safety Phrases

S24/25 Avoid contact with skin and eyes.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28:SODSIS After contact with skin, was immediately with plenty of water

S37/39 Wear suitable gloves and eye/face protection

ERMA New Zealand Approval Code

HSR003640

HSNO Hazard Classification

6.1D 8.2C 8.3A 9.3C

This Material Safety Data Sheet may not provide exhaustive guidance for all HSNO Controls assigned to this substance. The ERMA Web Site should be consulted for a full list of triggered controls and cited regulations.

4. FIRST AID MEASURES

Ingestion:	Immediately rinse mouth with water. Repeat until product is thoroughly removed. Give water to drink. DO NOT induce vomiting due to risk of further damage. If vomiting occurs give water to drink to further dilute the product. Get medical attention.
Eye Contact:	Immediately rinse with plenty of water for at least 15 minutes. Eyelids to be held open. Urgently get medical assistance. Transport to hospital or medical centre.
Skin Contact:	Immediately wash contaminated skin with plenty of water. Soaked clothing should be removed while under the safety shower and skin washed with running water for a minimum of 30 minutes. No attempt should be made to neutralize the alkali with acid solutions, as this could aggravate the burns. Get medical attention if health effects develop or persist.
Inhaled:	Remove to fresh air. Get medical attention if health effects develop or persist.
Advice to Doctor:	Treat symptomatically as for strong alkalis based on judgment of doctor and individual reactions of patient.
Aggravated medical conditions caused by exposure:	No information available on medical conditions aggravated by exposure to this product. Subchronic Data: In a study of rats fed Sodium Silicate in drinking water for three months, at 200, 600 and 188ppm, changes were reported in the blood chemistry of some animals, but no specific changes to the organs of the animals due to Sodium silicate administration were observed in any of the dosage groups. Another study reported adverse effects to the kidneys of dogs fed Sodium Silicate in their diet at 2.4/kg/day for 4weeks, whereas rats fed the same dosage did not develop any threatment-related effects. Decreased numbers of and survival to weaning was reported for rats fed Sodium Silicate in their drinking water at 600 and 1200ppm. Special Studies: Sodium Silicate was not mutagenic to the bacterium E.Coli when tested in a mutagenicity bioassay. There are no known reports of carcinogenicity of Sodium 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. Sodium Silicate is not lised by IARC, NTP or OSHA as a carcinogen.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

In case of fire, appropriate extinguishing media include dry chemical, water spray, regular foam and cabon dioxide.

Hazards from Combustion Products

Non – combustible liquid. Incompatible with strong acids, aluminium, tin, lead, zinc, copper, brass, bronze and sources of ignition. Absorbs carbon dioxide on exposure to air which results in the deposition of insoluble silica. Can etch glass if not promptly removed. Flammable hydrogen gas will form on reaction with aluminium, copper, zinc etc. Gels and generates heat when mixed with acid. May react with ammonium salts resulting in evolution of ammonia gas. If overheated the solution will boil and irritating Sodium Silicate containing mists will be released.

Special Protective Precautions and Equipment for Fire Fighters

Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves) or chemical splash suit. Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk. Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.

Flammability Conditions

Product is a non-flammable liquid.

Hazchem Code

N/A

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures

Personnel involved in the clean up should wear full protective clothing as listed in section 8. Avoid accidents, clean up immediately. Evacuate all unnecessary personnel. Increase ventilation. Avoid walking through spilled product as it is slippery when spilt. Only water will evaporate from a spill of this material. Dries to form glass film which can easily cut skin. Sinks and mixes with water. High pH of this material is harmful to aquatic life. Keep unnecessary people away; isolate hazard area and deny entry. Do not touch spilled material. Stop leak if you can do so without risk. Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management. Use clean, non-sparking tools and equipment. Shut off all possible sources of ignition.

Methods for cleaning up / taking up

Soak up spilled product using absorbent non-combustible material such as sand or soil. Avoid using sawdust or cellulose. When saturated, collect the material and transfer to a suitable, labeled chemical waste container and dispose of promptly as hazardous waste. Mop up and neutralize liquid. If containment is impossible, neutralize contaminated area and flush with large quantities of water.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid contact with eyes, skin and clothing. Avoid breathing spray mist. Keep container closed. Promptly clean residue from closures with cloth. Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product vapours.

Conditions for Safe Storage (Including any Incompatibles)

Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Store away from acids and foodstuffs. Store in clean steel or plastic containers. Separate from acids, reactive metals, and ammonium salts. Storage temperature 0-95°C. Do not store in aluminium, fiberglass, copper, brass, zinc or galvanized containers. This product is not classified dangerous for Dangerous Goods by Road and Rail.

Container Type

Store in original packaging as approved by manufacturer. Store in clean steel or plastic containers. Do not store in aluminium fiberglass, copper, brass, zinc or galvanized containers. Mild steel is the most suitable material of construction for drums, tanks, valves, pipe-work etc. Concrete storage tanks can be used but must be strong enough to hold the weight of Sodium Silicate solution to be stored and thick enough to prevent seepage of water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National Exposure Standards

No exposure standard has been established for this product by the Australian Safety and Compensation Council (ASCC). Sodium Silicate: TWA 5mg/m³ (STEL 5mg/m³) This standard is the manufacturer's recommended limit for good practice. All atmospheric contamination should be minimized.

Biological Limit Values

No information available on biological limit values for this product.

Engineering Controls

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.

Personal Protection

RESPIRATOR: Respiratory protection is not normally required due to low inhalation risk. EYES: Safety glasses, goggles or faceshield as appropriate (AS1336/1337). HANDS: Plastic or rubber gloves (AS2161). CLOTHING: Overalls, splash apron or similar protective apparel and chemical resistant safety boots (AS3765/2210)

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Viscous Black liquid
Boiling Point:	> 100°C
Melting Point:	Not applicable
Vapour Pressure:	< 23mm Hg @ 20°C
Specific Gravity:	1.150 – 1.300 kg/l
Flash Point:	Not applicable
Flammability Limits:	Not flammable
Solubility in Water:	Miscible
pH:	8.5-9.5

10. STABILITY AND REACTIVITY

Flammability

Not Flammable

Hazardous reactions

When handled and stored appropriately no dangerous reaction are known

Hazardouse decomposition products

When handled and stored appropriately no dangerous decomposition products are known

11. TOXICOLOGICAL INFORMATION

Ingestion:	May cause mouth, throat and stomach irritation, possibly resulting in nausea and vomiting.
Eye Contact:	May be a mild eye irritant.
Skin Contact:	Possible mild irritation to skin with prolonged use under direct, exposed contact.
Inhaled:	Considered not harmful by inhalation due to a low vapour pressure
Chronic Effects:	No serious effects known.

12. ECOLOGICAL INFORMATION

Environmental Fate (Exposure)

Do not release this product or chemically contaminated water containing this product into drains, soils or surface water. Make sure that water used in extinguishing any fires involving this product is disposed according to local regulations.

13. DISPOSAL CONSIDERATIONS

Product

Product should be taken to a suitable and authorized waste disposal site in accordance with relevant regulations and if necessary after consultation with the waste disposal operator and / or the competent Authorities.

Uncleaned Packaging

Packaging that cannot be cleaned should be disposed of as product waste.

14. TRANSPORT INFORMATION

Shipping Name:	None Allocated
UN No.:	None Allocated
Dangerous Goods Class:	None Allocated
Subsidiary Risk Class:	None Allocated
Hazchem Code:	None Allocated
Packaging Group:	None Allocated
EPG:	None Allocated
Poisons:	None Allocated

15. REGULATION INFORMATION

Classification and labeling have been performed according to regulations.

16. OTHER INFORMATION

This MSDS summarizes based on our present best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the work place. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including its use in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact On-Crete Australia Pty Ltd. Our responsibility for products sold is subject to our standard terms and conditions.

****END OF MSDS****