

1. IDENTIFICATION

Product Name	Sodium silicate
Other Names	Britesil C 330; C 335
Uses	General purpose industrial chemical for use in a wide variety of applications - Binding agent; Corrosion inhibitor; Dust binding agent; Flame retardant or fire preventing agent; Flotation agent; Stabiliser; Viscosity control agent; Intermediate.
Chemical Family	No Data Available
Chemical Formula	Unspecified
Chemical Name	Silicic acid, sodium salt
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details


For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) Not Scheduled

Globally Harmonised System

Hazard Classification	Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)		
Hazard Categories	Skin Corrosion/Irritation - Category 2 Serious Eye Damage/Irritation - Category 2A Specific Target Organ Toxicity (Single Exposure) - Category 3		
Pictograms			
Signal Word	Warning		
Hazard Statements	H315	Causes skin irritation.	
	H319	Causes serious eye irritation.	
	H335	May cause respiratory irritation.	
Precautionary Statements	Prevention	P280	Wear protective gloves/eye protection/face protection.
		P261	Avoid breathing dusts or mists.
		P271	Use only outdoors or in a well-ventilated area.
	Response	P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
		P337 + P313	If eye irritation persists: Get medical advice/attention.
		P312	Call a POISON CENTER or doctor/physician if you feel unwell.
		P332 + P313	If skin irritation occurs: Get medical advice/attention.
		P362	Take off contaminated clothing and wash before reuse.
		P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	Storage	P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
		P405	Store locked up.
	Disposal	P501	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Silicic acid, sodium salt (MR>3.2) Powder	Unspecified	1344-09-8	>75 %
Water	H2O	7732-18-5	<25 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink 200 - 300 ml of water. Do not induce vomiting. Call a Poison Centre or doctor/physician for advice.
Eye	IF IN EYES: Rinse cautiously with water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing until recovered. Call a Poison Centre or doctor/physician for advice.
Advice to Doctor	Treat symptomatically.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
Flammability Conditions	Non-combustible; Material does not burn.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction. Compatible with all standard firefighting techniques.
Fire and Explosion Hazard	Aqueous solutions will react with aluminium, zinc, tin and their alloys; evolving hydrogen gas which can form an explosive mixture with air.
Hazardous Products of Combustion	Fire may produce irritating, toxic and/or corrosive fumes.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) in combination with normal firefighting clothing (fire kit).
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. Do not touch or walk through spilled material - spillages can be slippery. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Collect material (vacuum or sweep up) and place into suitable containers for recovery or disposal (see SECTION 13).
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Prevent dust cloud.
Decontamination	No information available.
Environmental Precautionary Measures	Prevent entry into drains and waterways.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away; Keep upwind.
Personal Precautionary Measures	Use personal protective clothing as required; In case of inadequate ventilation or dust generation, wear respiratory protection (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Use
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only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing. Use personal protective equipment as required; In case of inadequate ventilation or dust generation, wear respiratory protection (see SECTION 8). When arc welding vessels containing aqueous solution of this material, take care to control any explosion risk from hydrogen gas evolved by electrolysis. Avoid release to the environment.

Storage	Store in a cool, dry and well-ventilated place. Keep container tightly closed. Keep away from incompatible materials (see SECTION 10). Store locked up.
Container	Keep in the original or suitable container. Do not store in aluminium.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. An exposure limit (TWA) of 2 mg/m ³ Peak limitation is recommended by analogy with Sodium hydroxide (CAS No. 1310-73-2). Derived no-effect levels (DNELs): - Workers, Long-term, systemic effects (Inhalation): 5.61 mg/m ³ . - Workers, Long-term, systemic effects (Dermal): 1.59 mg/kg bw/d.
Exposure Limits	No Data Available
Biological Limits	Predicted no-effect concentrations (PNECs): - Freshwater: 7.5 mg/L - Marine water: 1 mg/L - Intermittent release: 7.5 mg/L - STP: 348 mg/L
Engineering Measures	Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust) and control of process conditions.
Personal Protection Equipment	Respiratory protection: Wear suitable respiratory protection if working in confined spaces with inadequate ventilation or where there is any risk of exposure limits being exceeded. Recommended: Dust mask (FFP2). Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Chemical goggles. Hand protection: Wear protective gloves. Recommended: Plastic or rubber gloves; Level 6 break through time (>480 min). Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Suitable overalls in case of dust generation or liquid splashes.
Special Hazards Precautions	The primary hazard of Sodium silicate is its alkalinity. Avoid generating dust. Avoid release to the environment.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Take off contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Powder
Odour	Odourless
Colour	White
pH	Typical: 10.7 10 g/L aqueous solution (20 °C)
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	No Data Available
Melting Point	>1,000 °C
Freezing Point	No Data Available
Solubility	Soluble in water
Specific Gravity	No Data Available
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available

Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	Not applicable; Inorganic powder or granules.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Non-combustible; Material does not burn.
Reactions That Release Gases or Vapours	Can react with sugar residues to form Carbon monoxide. Fire may produce irritating, toxic and/or corrosive fumes.
Release of Invisible Flammable Vapours and Gases	Aqueous solutions will react with aluminium, zinc, tin and their alloys; evolving hydrogen gas which can form an explosive mixture with air.

10. STABILITY AND REACTIVITY

General Information	Can react violently if in contact with acids.
Chemical Stability	Stable.
Conditions to Avoid	Avoid generating dust. Keep dry.
Materials to Avoid	Incompatible/reactive with acids, sugar residues; aluminium, zinc, tin and their alloys.
Hazardous Decomposition Products	Can react with sugar residues to form Carbon monoxide. Aqueous solutions will react with aluminium, zinc, tin and their alloys evolving explosive hydrogen gas.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information	<p>Acute toxicity: Symptoms of acute toxicity are due to high alkalinity. Material will cause gastrointestinal irritation.</p> <p>Skin corrosion/irritation: Causes skin irritation.</p> <p>Eye damage/irritation: Causes serious eye irritation.</p> <p>Respiratory/skin sensitisation: Not sensitising.</p> <p>Germ cell mutagenicity: No evidence of genotoxicity (in vitro/in vivo - negative).</p> <p>Carcinogenicity: No structural alerts.</p> <p>Reproductive toxicity: No evidence of reproductive toxicity or developmental toxicity.</p> <p>STOT - single exposure: May cause respiratory irritation.</p> <p>STOT - repeated exposure: Not classified.</p> <p>Aspiration toxicity: Not classified.</p>
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Acute

Ingestion	Acute toxicity (Oral): - LD50, Rat: 3,400 mg/kg bw.
Inhalation	Acute toxicity (Inhalation): - LC50, Rat: >2.06 g/m3
Other	Acute toxicity (Dermal): - LD50, Rat: >5,000 mg/kg bw.

Chronic

Ingestion	Repeated exposure toxicity (Oral): - NOAEL, Rat: >159 mg/kg bw/d.
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Carcinogen Category None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: - LC50, Fish (Brachydanio rerio): 1,108 mg/L (96 h). - EC50, Invertebrates (Daphnia magna): 1,700 mg/L (48 h).
Persistence/Degradability	Inorganic; Soluble silicates (upon dilution) rapidly depolymerise into molecular species indistinguishable from natural dissolved silica.
Mobility	No information available.
Environmental Fate	The alkalinity of this material will have a local effect on ecosystems sensitive to changes in pH. Low hazard to water (German classification).
Bioaccumulation Potential	Inorganic; The substance has no potential for bioaccumulation.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container to a hazardous or special waste collection point, in accordance with local/regional/national regulations.
Special Precautions for Land Fill	Discharge of this product to sewage treatment works is dependent on local regulations, with regards to pH controls.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	SODIUM SILICATE
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	SODIUM SILICATE
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	SODIUM SILICATE
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	SODIUM SILICATE
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	SODIUM SILICATE
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No

Air Transport

IATA DGR

Proper Shipping Name	SODIUM SILICATE
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available

Pack Group	No Data Available
Special Provision	No Data Available

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15. REGULATORY INFORMATION

General Information	Sodium silicate is listed in the SUSMP in Schedule 5 in (other) solid preparations, the pH of which, in a 10 g/L aqueous solution, is more than 11.5.
Poisons Schedule (Aust)	Not Scheduled

National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	215-687-4
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Not Determined
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Listed

16. OTHER INFORMATION

Related Product Codes	SODSIL0500, SODSIL1000, SODSIL1001, SODSIL1002, SODSIL1003, SODSIL1004, SODSIL1005, SODSIL1006, SODSIL1007, SODSIL1008, SODSIL1009, SODSIL1010, SODSIL1011, SODSIL1012, SODSIL1013, SODSIL1500, SODSIL1800, SODSIL2000, SODSIL2001, SODSIL2002, SODSIL3000, SODSIL3010, SODSIL4000, SODSIL5000, SODSIL6000, SODSIL6500, SODSIL7000, SODSIL8000
Revision	4

Revision Date

01 Jun 2016

Key/Legend

< Less Than

> Greater Than

AICS Australian Inventory of Chemical Substances**atm** Atmosphere**CAS** Chemical Abstracts Service (Registry Number)**cm²** Square Centimetres**CO₂** Carbon Dioxide**COD** Chemical Oxygen Demand**deg C (°C)** Degrees Celcius**EPA (New Zealand)** Environmental Protection Authority of New Zealand**deg F (°F)** Degrees Farenheit**g** Grams**g/cm³** Grams per Cubic Centimetre**g/l** Grams per Litre**HSNO** Hazardous Substance and New Organism**IDLH** Immediately Dangerous to Life and Health**immiscible** Liquids are insoluable in each other.**inHg** Inch of Mercury**inH₂O** Inch of Water**K** Kelvin**kg** Kilogram**kg/m³** Kilograms per Cubic Metre**lb** Pound**LC₅₀** LC stands for lethal concentration. LC₅₀ is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.**LD₅₀** LD stands for Lethal Dose. LD₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.**ltr** or **L** Litre**m³** Cubic Metre**mbar** Millibar**mg** Milligram**mg/24H** Milligrams per 24 Hours**mg/kg** Milligrams per Kilogram**mg/m³** Milligrams per Cubic Metre**Misc** or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.**mm** Millimetre**mmH₂O** Millimetres of Water**mPa.s** Millipascals per Second**N/A** Not Applicable**NIOSH** National Institute for Occupational Safety and Health**NOHSC** National Occupational Heath and Safety Commission**OECD** Organisation for Economic Co-operation and Development**Oz** Ounce**PEL** Permissible Exposure Limit**Pa** Pascal**ppb** Parts per Billion**ppm** Parts per Million**ppm/2h** Parts per Million per 2 Hours**ppm/6h** Parts per Million per 6 Hours**psi** Pounds per Square Inch**R** Rankine**RCP** Reciprocal Calculation Procedure**STEL** Short Term Exposure Limit**TLV** Threshold Limit Value**tne** Tonne**TWA** Time Weighted Average**ug/24H** Micrograms per 24 Hours**UN** United Nations**wt** Weight