

Material Safety Data Sheet

CONPELL Pty Ltd.

Issue Date December 11, 2019

Dura Shield

Version 3

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SECTION 1 - IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Chemical Nature: Alkali silicate solution.
Trade Name: Dura Shield
Product Use: Concrete densifier.
Product Code: CPDS
Creation Date: December 2019

THIS VERSION ISSUED: DECEMBER 2016 AND IS VALID FOR 5 YEARS FROM THIS DATE.

Poisons Information Centre: Phone 13 1126 from anywhere in Australia

SUPPLIER CONTACT INFORMATION:

Name : Conpell Pty. Ltd.

Address : Unit 2, 4 Elderslie Drive, Yatala Qld 4207, PO Box 4252 Loganholme DC Qld 42129 **Telephone :** 61.1300 966 118

Website : www.conpell.com

Email : info@conpell.com

Emergency : 0433 400 220(24 hours, 7 days a week)

SECTION 2 - HAZARDS IDENTIFICATION

Statement of Hazardous Nature

This product is classified as hazardous according to the criteria of NOHSC.

Not subject to the ADG Code when transported in Australia by Road or Rail.

SUSMP Classification: None allocated.

ADG Classification: N/A

UN Number: N/A



GHS Signal word: WARNING

Eye Damage /Irritation : Category 2A

Skin Corrosion/Irritation : Category 2

HSNO Approval Number: HSR004658

Haz Classes: 6.1D(oral), 6.3A, 6.4A, 9.3C

HAZARD STATEMENT:

H315: Causes skin irritation.

H319: Causes serious eye irritation.

RESPONSE

P264: Wash skin thoroughly after handling.

P280: Wear protective gloves, protective clothing and eye or face protection.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.

P332+P313: If skin irritation occurs, get medical advice/attention.

P337+P313: If eye irritation persists, get medical advice/attention.

P362: Take off contaminated clothing and wash before reuse.

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STORAGE

P410: Protect from sunlight.

P411: Store at temperatures not exceeding 30°C.

P402+P404: Store in a dry place. Store in a closed container.

DISPOSAL

P501: If they can not be recycled, dispose of contents to an approved waste disposal plant and containers to landfill (see Section 13 of this SDS).

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS No	Conc, %	TWA (mg/m ³)	STEL (mg/m ³)
Sodium Silicate	1344-09-8	10-20	not set	not set
Water		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.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

SECTION 4 - FIRST AID MEASURES

General Information: You should call The Poisons Information Centre if you feel that you may have been poisoned, burned 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 SDS with you when you call.

Inhalation: Remove victim to fresh air and obtain medical attention if health effects occur or persist.

Skin Contact: Quickly and gently blot away excess liquid. Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) for 10-20 minutes or until product is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts) and completely decontaminate them before reuse or discard. If irritation persists, repeat flushing and seek medical attention.

Eye Contact: Quickly and gently blot material from eyes. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses. Urgently get medical attention.

Ingestion: If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

SECTION 5 - FIRE FIGHTING MEASURES

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is little risk of an explosion from this product if commercial quantities are involved in a fire.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: In case of fire, use carbon dioxide, dry chemical, foam, dry sand. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used. Try to contain spills, minimise spillage entering drains or water courses.

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Fire Fighting: Flammable hydrogen gas may be produced on prolonged contact with metals such as aluminium, tin, lead and zinc. Aqueous solution, not flammable under normal conditions of use. Flammable hydrogen gas may be produced on prolonged contact with metals such as aluminium, tin, lead and zinc.

Flash point: No data

Upper Flammability Limit: No data.

Lower Flammability Limit: No data.

Autoignition temperature: No data.

Flammability Class: No data.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Accidental release: Spilled material is very slippery. 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.

Clean up methods: For small spills, mop up and neutralise liquid, then discharge to sewer in accordance with federal, state and local regulations or permits. For large spills, Keep unnecessary people away; isolate hazard area and deny entry. Do not touch or walk through spilled material. Stop leak if you can do so without risk. Prevent runoff from entering into storm sewers and ditches which lead to natural waterways. Isolate, dike and store discharged material, if possible. Use sand or earth to contain spilled material. If containment is impossible, neutralise contaminated area and flush with large quantities of water.

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes, skin and clothing. Avoid breathing spray mist. Keep containers closed. Promptly clean residue from closures with cloth.

Conditions for safe storage: Keep containers closed at all times. 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. Loading temperature 45 - 95°C. Do not store in aluminium, fibreglass, copper, brass, zinc or galvanised containers. Mild steel is the most suitable material of construction for drums, tanks, valves, pipework, etc. Concrete storage tanks can be used but must be strong enough to hold the weight of Potassium Silicate solution to be stored and thick enough to prevent seepage of water.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure control, personal protection: The following Australian Standards will provide general advice regarding safety clothing and equipment: Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

Exposure limits have not been established by SWA for any of the significant ingredients in this product.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

Eye Protection: Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.

Skin Protection: If you believe you may have a sensitisation to this product or any of its declared ingredients, you should prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

Protective Material Types: We suggest that protective clothing be made from the following materials: neoprene, butyl rubber.

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Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Otherwise, not normally necessary.
Eyebaths or eyewash stations and safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES:

Physical Description & colour:	Hazy homogeneous liquid.
Odour:	Characteristic odour.
Boiling Point:	>100°C at 100kPa
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Volatiles:	No data.
Vapour Pressure:	No data.
Vapour Density:	No data.
Specific Gravity:	1.10-1.16
Water Solubility:	Insoluble.
pH:	No data.
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	No data
Viscosity:	100-500 cps (temperature not stated)
Autoignition temp:	No data.

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

Conditions to Avoid: This product should be kept in a cool place, preferably below 30°C. Keep containers tightly closed. Containers should be kept dry. Keep containers and surrounding areas well ventilated.

Incompatibilities: strong acids, oxidising agents.

Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form hydrogen chloride gas, other compounds of chlorine. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: Polymerisation reactions are unlikely; they are not expected to occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute toxicity – Oral: LD50, rat: Not determined. The acute oral toxicity of this product has not been tested. When chemically similar Sodium Silicates were tested on a 100% solid basis, their single dose acute oral LD50 in rats ranged from 1280 mg/kg to 3200 mg/kg. The acute oral lethality resulted from nonspecific causes. These products contain 30-60% Potassium Silicate thus each product is estimated to have an Acute Oral Toxicity LD50, rat: >2000 mg/kg.

Acute toxicity – Dermal: No data available.

Acute toxicity – Inhalation: No data available.

Acute toxicity – Respiratory: No data available.

Skin sensitization: No data available.

Germ cell mutagenicity: 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.

Carcinogenicity: There are no known reports of carcinogenicity of alkali silicates. Alkali silicates are not listed by IARC, NTP or OSHA as a carcinogen.

Reproductive toxicity STOT-single: No data available.

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STOT repeated exposure: Frequent ingestion over extended periods of time of gram quantities of silicates is associated with the formation of kidney stones and other siliceous urinary calculi in humans.

Aspiration hazard: No data available.

Serious eye damage: Severe/Irritant. This material has not been tested for primary eye irritation. However, on the basis of it's similarity to Sodium Silicate solutions in composition and alkalinity it is regarded as a severe eye irritant.

Skin corrosion/irritation: When tested for primary skin irritation potential, similar potassium silicate solutions produced no irritation to intact skin but well defined irritation to abraded skin. Human experience confirms that irritation occurs when this material gets on clothes at the collar, cuffs or other areas when abrasion may occur.

Subchronic/chronic toxicity: The subchronic 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 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 g/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.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: Avoid contaminating waterways. Soluble in water. Sinks and mixes with water. Only water will evaporate from this material. 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 247 ppm; 1 96 hour median tolerance for snail eggs (*Lymnea*) of 632 ppm; and a 96 hour median tolerance for Amphipoda of 160 ppm. These products contain 30-60% Potassium Silicate.

Persistence and degradation: This material is not persistent in aquatic systems but it's high pH when undiluted or unneutralised is acutely harmful to aquatic life. Diluted material rapidly depolymerises 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 appreciable bioconcentrate up the food chain.

Mobility: Expected to be mobile in soil. Diluted material rapidly depolymerises to yield dissolved silica in a form that is indistinguishable from natural dissolved silica.

Bioaccumulative potential: No data available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal: This product may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. If neither of these options is suitable in-house, consider controlled incineration, or contact a specialist waste disposal company.

SECTION 14 - TRANSPORT INFORMATION

Transport information: Not classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. Not regulated for transport of Dangerous Goods: ADG7, UN, IATA, IMDG.

SECTION 15 - REGULATORY INFORMATION

Poisons schedule: S5

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

The following ingredient: Bisphenol A/Epichlorohydrin resin, (Epoxy resin) is mentioned in the SUSMP.

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SECTION 16 - OTHER INFORMATION

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

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail (7 th edition)
AICS	Australian Inventory of Chemical Substances
SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

THIS SDS 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 SDS 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.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (December 2011)