Safety Data Sheet according to WHS and ADG requirements Issue Date: 24/08/2023

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	**PRIMECHEM ROCK HARD CONCRETE DENSIFIER**
Chemical Name	**Mixture blended from discrete components – not applicable**
Synonyms	**CONCRETE HARDENER**
Chemical Formula	**Mixture blended from discrete components – not applicable**
Other Means of Identification	**Not Available**
CAS Number	**Mixture blended from discrete components – not applicable**

Relevant identified uses of the substance or mixture and uses advised against

Relevant Identified Uses	**HARDENING AND SEALING OF CONCRETE SURFACES**

Details of the supplier of the safety data sheet

Registered Company Name	**Primechem PTY LTD**
Address	**37 Hardiman St, Woody Point QLD 4019, Australia**
Telephone	**+61 449003053**
Website	**www.primechem.com.au/**
Email	**hello@primechem.com.au**

Emergency telephone number

Emergency Contact Number	**000 (from anywhere in Australia)**
Other Emergency Numbers	**13 11 26 (Poisons Information Centre Hotline)**

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS CHEMICAL. NON-DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

CLASSIFICATION

Skin Corrosion/Irritation Category 1A
Serious Eye Damage Category 1
Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation)

POISONS SCHEDULE S5

Label elements

GHS LABEL ELEMENTS

SIGNAL WORD **DANGER**

Hazard statement(s)

H314 **Causes severe skin burns and eye damage.**
H335 **May cause respiratory irritation.**

Precautionary statement(s) Prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement(s) Response

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Precautionary statement(s) Storage

Store locked up.

Precautionary statement(s) Disposal

Dispose of contents/container in accordance with Local, State, and Federal regulations

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

CAS #	% w/w	NAME
1312-76-1	10 - 30	Alkali salts expressed as potassium silicate
	100	Ingredients determined not to be hazardous

Mixtures

See section above for composition of Substances

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact
If this product comes in contact with the eyes:
Immediately hold eyelids apart and flush the eye continuously with running water.
Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
Transport to hospital or doctor without delay.
Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin Contact
If skin contact occurs:
Immediately remove all contaminated clothing, including footwear.
Flush skin and hair with running water (and soap if available).
Seek medical attention in event of irritation.

Inhalation
If fumes or combustion products are inhaled remove from contaminated area.
Lay patient down. Keep warm and rested.
Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
Transport to hospital, or doctor, without delay.

Ingestion
Immediately give a glass of water.
First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
Alkalis continue to cause damage after exposure.
INGESTION:
Milk and water are the preferred diluents
No more than 2 glasses of water should be given to an adult.
Neutralising agents should never be given since exothermic heat reaction may compound injury.
Do not induce vomiting!
Activated charcoal does not absorb alkali.
Gastric lavage should not be used.
SKIN AND EYE:
Injury should be irrigated for 20-30 minutes.
Eye injuries require saline.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

There is no restriction on the type of extinguisher which may be used. Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility Reactivity : Reacts with acids to form insoluble silica.

Advice for firefighters

Fire Fighting

Alert Fire Brigade and tell them location and nature of hazard.
Wear breathing apparatus plus protective gloves in the event of a fire.
Prevent, by any means available, spillage from entering drains or water courses.
Use fire fighting procedures suitable for surrounding area.
DO NOT approach containers suspected to be hot.
Cool fire exposed containers with water spray from a protected location.
If safe to do so, remove containers from path of fire.
Equipment should be thoroughly decontaminated after use.

Fire/Explosion Hazard

Non combustible.
Not considered a significant fire risk, however containers may burn
Decomposition may produce toxic fumes of:

silicon dioxide (SiO_2)

metal oxides

May emit poisonous fumes.

May emit corrosive fumes..

HAZCHEM : Not listed

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
See section 8

Environmental precautions
See section 12

Minor Spills

Slippery when spilt.
Clean up all spills immediately.
Avoid breathing vapours and contact with skin and eyes.
Control personal contact with the substance, by using protective equipment.
Contain and absorb spill with sand, earth, inert material or vermiculite.
Wipe up.
Place in a suitable, labelled container for waste disposal.

Major Spills

Moderate hazard.
CAUTION: Advise personnel in area.
Alert Emergency Services and tell them location and nature of hazard.
Contain released substance, pump into suitable containers. Plug the leak, cut off the supply
Control personal contact by wearing protective clothing.
Prevent, by any means available, spillage from entering drains or water courses.
Recover product wherever possible.
Vacuum/shovel up and place in labelled containers for disposal.
ALWAYS: Wash area down with large amounts of water and prevent runoff into drains.
If contamination of drains or waterways occurs, advise Emergency Services.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

DO NOT allow clothing wet with material to stay in contact with skin
DO NOT use aluminium, galvanised or tin-plated containers
Avoid all personal contact, including inhalation.
Wear protective clothing when risk of exposure occurs.
Use in a well-ventilated area.
Avoid contact with moisture.
Avoid contact with incompatible materials.
When handling, DO NOT eat, drink or smoke.
Keep containers securely sealed when not in use.
Avoid physical damage to containers.
Always wash hands with soap and water after handling.
Work clothes should be laundered separately. Launder contaminated clothing before re-use.
Use good occupational work practice.
Observe manufacturer's storage and handling recommendations contained within this SDS.
Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

Store in original containers.
Keep containers securely sealed.

Store in a cool, dry, well-ventilated area.
Store away from incompatible materials and foodstuff containers.
Protect containers against physical damage and check regularly for leaks.
Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable container

Polyethylene or polypropylene container.
Packing as recommended by manufacturer.
Check all containers are clearly labelled and free from leaks.

Storage incompatibility

Avoid Oxidizing agent. Reducing agents.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
potassium silicate	Potassium silicate; (Silicic acid, potassium salt)	30 mg/m3	330 mg/m3	2,000 mg/m3

Ingredient	Original IDLH	Revised IDLH
potassium silicate	Not Available	Not Available

MATERIAL DATA
No exposure limits set by NOHSC or ACGIH

Exposure controls

Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.
Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Employers may need to use multiple types of controls to prevent employee overexposure.

Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.

If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered.
Such protection might consist of:

(a): particle dust respirators, if necessary, combined with an absorption cartridge;
(b): filter respirators with absorption cartridge or canister of the right type;
(c): fresh-air hoods or masks.

Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Personal protection

Safety glasses with side shields. Chemical goggles.
Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye

irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).
When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use. Contaminated gloves should be replaced. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended. Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present. polychloroprene. nitrile rubber.butyl rubber. fluorocaoutchouc. polyvinyl chloride. Gloves should be examined for wear and/ or degradation constantly.

Other protection
Overalls.
P.V.C. apron.
Barrier cream.
Skin cleansing cream.
Eye wash unit.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

CLEAR WATER WHITE LIQUID

Physical state	Liquid	Relative Density (Water = 1)	1.20 @ 20°C
Odour	BLAND	Partition co-efficient n-octanol / water	Not Available
Odour Threshold	Not Available	Autoignition Temperature	Not Available
pH (as supplied)	11 - 12 typical	Decomposition Temperature	Not Available
Melting Point / Freezing Point (°C)	0	Viscosity	Not Determined
Initial Boiling point and boiling range (°C)	100°C	Molecular Weight	Not Applicable
Flash Point (°C)	Not Applicable	Taste	Not Applicable
Evaporation Rate	Not Determined	Explosive Properties	Not Applicable
Flammability	Not Flammable	Oxidizing Properties	Not Oxidising
Upper Explosive Limit (UEL %)	Not Applicable	Surface Tension (mN/m)	Not Determined
Lower Explosive Limit (LEL %)	Not Applicable	Volatile Component	Approx. 70%
Vapour pressure (kPa)	As for water	Gas Group	Not Applicable
Solubility in water (g/L)	Miscible	pH as a solution (1%)	9 – 10 @ 25°C
Vapour density (Air = 1)	Not Determined	VOC g/L	Not applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity See section 7

Chemical stability Unstable in the presence of incompatible materials.
Product is considered stable.
Hazardous polymerisation will not occur.

Possibility of hazardous reactions See section 7

Conditions to avoid See section 7

Incompatible materials See section 7

Hazardous decomposition products See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled **This is not anticipated to be an issue under normal conditions of use.**
Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. The material has NOT been classified by EC Directives or other classification systems as "harmful by inhalation". This is because of the lack of corroborating animal or human evidence. In the absence of such evidence, care should be taken nevertheless to ensure exposure is kept to a minimum and that suitable control measures be used, in an occupational setting to control vapours, fumes and aerosols.
Inhalation of alkaline corrosives may produce irritation of the respiratory tract with coughing, choking, pain and mucous membrane damage. Pulmonary oedema may develop in more severe cases; this may be immediate or in most cases following a latent period of 5-72 hours. Symptoms may include a tightness in the chest, dyspnoea, frothy sputum, cyanosis and dizziness. Findings may include hypotension, a weak and rapid pulse and moist rales.

Ingestion **This is not anticipated to be an issue under normal conditions of use.**

The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

Skin Contact

Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic).

Eye When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation. Alkaline salts may be intensely irritating to the eyes and precautions should be taken to ensure direct eye contact is avoided.

Chronic

Repeated exposure to synthetic amorphous silicas may produce skin dryness and cracking. Available data confirm the absence of significant toxicity by oral and dermal routes of exposure.

Reference Data

	TOXICITY	IRRITATION
potassium silicate	**dermal (rat) LD50: >5000 mg/kg[1]** **Oral (rat) LD50: >5000 mg/kg[1]**	**Not Available**

SECTION 12 ECOLOGICAL INFORMATION

Reference Data - Ecotoxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
potassium silicate	EC50	96	Crustacea	160mg/L	1
potassium silicate	NOEC	96	Fish	>=1000mg/L	1

Legend:
Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Untreated soluble silicate solutions are generally alkaline (pH values > 9) and therefore neutralisation should be carried out before discharging to water/ effluent systems. Once neutralised, no adverse effects on aquatic biosystems are known.
DO NOT discharge into sewer or waterways.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

Reduction
Reuse
Recycling
Disposal (if all else fails)
This material 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. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

DO NOT allow wash water from cleaning or process equipment to enter drains.
It may be necessary to collect all wash water for treatment before disposal.

In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
Where in doubt contact the responsible authority.
Recycle wherever possible.
Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
Dispose of by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or incineration in a licenced apparatus (after admixture with suitable combustible material).
Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant NO

HAZCHEM Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

Other information
All ingredients are listed on the Australian Inventory of Chemical Substances (AICS)

SECTION 16 OTHER INFORMATION

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations
PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit。
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index