

Section 1: Identification of the substance/mixture and of the company

1.1 Product identifier

- Substance name: Mineral Bond LV, Component A
- Index number: Not applicable (mixture)
- Synonyms: Not applicable
- CAS number: Not applicable (mixture)
- EC number: Not applicable (mixture)
- Registration number: excluded from registration (polymer)

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

Relevant identified uses

Component A of 2-component, high strength silicate resin.
It is suitable for grout stabilization, for heavily cracked rock mass, gas sealing and water stopping.

Uses advised against

Any other uses than those listed should be consulted with the Supplier.

1.3 Details of the Supplier of the safety data sheet

- Company: ROCBOLT Technologies (Pty) Ltd
- Address: 30 North Reef Rd., Germiston, 1429
- Telephone: +27 (0)11 9701643
- Fax: +27 (0)11 9703596
- Website: www.rockbolt.com

1.4 Emergency telephone numbers

- Telephone: +27 (0)11 9701643
- Fax: +27 (0)11 9703596

Section 2: Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

- Skin Irritation: Category 2; H315
- Eye Irritation: Category 2; H319

Additional information: For full text of Hazard- and EU Hazard-statements: see SECTION 16

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- Signal Word: WARNING
- Hazard pictograms



Hazard statements

- H315 Causes skin irritation
- H319 Causes serious eye irritation

Prevention statements

- P262 Do not get in eyes, on skin, or on clothing.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response statements

- 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.

Section 3: Composition/Information on Ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Registration number	Weight [%]	CAS No	EC No	Classification according to Regulation (EC) No 1278/2008 (CLP)
silicic acid , sodium salt 01-2119448725-31-XXXX	80 -100	1344-09-8	215-687-4	Skin Irritation 2; H315 Eye Irritation 2; H319

Additional information: For full text of H-statements: see SECTION 16

Section 4: First Aid Measures

4.1 Description of first aid measures

- General information: In the event of accident or ailments appearing caused by the product it is necessary to protect the injured against continued exposure and immediately provide medical attention to him.
- Poisoning by inhalation: Move to fresh air.
- Skin contamination: Rinse with running water and soap. Apply replenishing cream. Change all contaminated clothing.
- Eye contamination: Rinse immediately with plenty of running water (for 15 minutes), seek medical attention from a specialist.
- Poisoning by swallowing: Rinse the mouth. Drink 1-2 glasses of water.

4.2 Most important symptoms and effects, both acute and delayed

Alkaline solution. Impact on the unprotected eyes can damage the eyes. Prolonged or repeated impact on the risk of unprotected skin may cause skin irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Each time, if you use a doctor recommended to provide the assisting these SDS.

Section 5: Firefighting Measures

5.1 Extinguishing media

- Suitable extinguishing media: Non-combustible
- Unsuitable extinguishing media: Non-combustible

5.2 Special hazards arising from the substance or mixture

- Hazardous combustion products: Non-combustible

5.3 Advice for firefighters

Avoid direct contact with skin and eyes. Apply general purpose measures for personal protection equipment. The substance is soluble in water. Avoid getting into drains / surface water / ground water.

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

In case of accidental spills contaminated site rampart, used sand or sorbent remains mechanically gather, be disposed of. Prevent from entering the municipal water system - sewage, water courses and the soil. Do not rinse with water. Prevent spraying and aerosol inhalation of the substance with air. Avoid contact with skin and eyes, avoid contact with substance, and provide adequate ventilation in enclosed spaces. Apply protective clothing and rubber gloves to protect against dirt, apply a mask or respirator with dust filter A/P2; use face protection-goggles. Remove contaminated clothing and wash before reuse.

6.2 Environmental precautions

Do not empty into drains / surface water / ground water. Methods for cleaning and take-up: Remove mechanically. In the case of environmental contamination with plenty of substance notify to local authority and emergency services.

6.3 Methods and material for containment and cleaning up

The whole material is released into the environment to collect mechanically. Provide material collected for recycling. Do not rinse with water. Do not neutralize.

6.4 Reference to other sections

Use the control measures and personal protective equipment described in section 8 of this SDS. The released material to follow the rules described in section 13 of this SDS - Waste Disposal.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Store in original containers. Empty containers to the end. Store in a dry place. Avoid contact with skin and eyes. Follow the general principles of occupational health and safety of chemicals, good industrial practice and the manufacturer's recommendations. If there is a need to handling the substance, use personal protective gloves, eye protection, clothing according to the principles described in section 8 of this SDS.

7.2 Conditions for safe storage, including any incompatibilities

Store only in the original containers. Store in tightly sealed, closed containers. Do not store near acids. Do not store in containers made of or coated with zinc, aluminium.

7.3 Specific end use(s)

No information on specific end-uses. See also subsection 1.2

Section 8: Exposure Controls/Personal Protection

8.1 Control parameters

Silicic acid, sodium salt

DNEL

Application Area	Exposure routes	Health effect	Value
Workers	Inhalation	Long-term systemic effects	5.61[mg/m ³]
Workers	Skin contact	Long-term systemic effects	1.59[mg/kg] BW/d
Consumers	Inhalation	Long-term systemic effects	1.38[mg/m ³]
Consumers	Skin contact	Long-term systemic effects	0.8[mg/kg] BW/d
Consumers	Oral	Long-term systemic effects	0.8[mg/kg] BW/d

PNEC

Compartment	Value
Marine water	1[mg/l]
Fresh water	7.5[mg/l]
Marine sediment	no PNEC available
Fresh water sediment	no PNEC available
Sewage treatment plant	348[mg/l]
Aquatic intermittent release	7.5[mg/l]

8.1 Control parameters

1,2-Ethanediol

DNEL

Application Area	Exposure routes	Health effect	Value
Workers	Inhalation	Long-term local effects	35[mg/m ³]
Workers	Skin contact	Long-term systemic effects	106[mg/kg] BW/d
Consumers	Inhalation	Long-term local effects	7[mg/m ³]
Consumers	Skin contact	Long-term systemic effects	53[mg/kg] BW/d

PNEC

Compartment	Value
Soil	1.53[mg/kg]
Marine water	1[mg/l]
Fresh water	10[mg/l]
Marine sediment	3.7[mg/kg]
Fresh water sediment	37[mg/kg]
Sewage treatment plant	199.5[mg/l]
Aquatic intermittent release	10[mg/l]

8.2 Exposure controls

Avoid contact with eyes, mucous membranes and inhalation of vapours. It is forbidden to smoking, drinking, eating while working. Observe the typical standards of hygiene at work.

- Respiratory protection: In conditions of insufficient ventilation, while spraying the product, it is recommended to wear a mask with the filter type A2-P2 or better.
- Eye protection: Wear approved chemical safety goggles with side shields where eye exposure is reasonably probable, meet the requirements of EN 166.
- Hand protection: Use suitable protective gloves, such as: polychloroprene $\geq 0,5$ [mm] thick and breakthrough time ≥ 480 minutes; nitril $\geq 0,35$ [mm] thick and breakthrough time ≥ 480 minutes; butyl rubber $\geq 0,5$ mm thick and breakthrough time ≥ 480 minutes or fluoro-rubber $\geq 0,4$ [mm] thick and breakthrough time ≥ 480 minutes.
For prolonged or repeated skin contact use suitable protective gloves meet the requirements of EN 374.
- Skin protection: According to the exposure when handling the product wear suitable protective clothing, aprons, protective boots.

General recommendations

See also section 7.

Provide adequate ventilation. Remove contaminated clothing immediately. Wash hands before breaks and after work. Wash contaminated gloves before removing. At work do not eat, drink or smoke. Avoid contact with skin. Do not get in eyes. Do not breathe vapours.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

- Appearance:	light brown clear liquid
- Odour:	Characteristic
- Odour threshold:	unidentified
- pH:	11-13
- Melting point/freezing point:	not determined
- Initial boiling point and boiling range:	not determined
- Flash point:	Not applicable. Liquid, incombustible.
- Evaporation rate:	not determined
- Flammability (solid, gas):	Liquid, incombustible
- Upper/lower flammability or explosive limits:	Not applicable. Liquid, incombustible.
- Vapor pressure:	not determined
- Vapor density:	not determined
- Relative density:	1.45 ± 0.05[g/cm ³]
- Solubility(ies):	Mixed in water in any ratio
- Partition coefficient (n-octanol/water):	not determined
- Auto-ignition temperature:	Not applicable. Liquid, incombustible.
- Decomposition temperature:	not determined
- Viscosity:	300 ± 50[mPas]

9.2 Other information

No other information.

Section 10: Stability and Reactivity

10.1 Reactivity

Alkalinity, water soluble substance.

10.2 Chemical stability

Stable under normal condition storage and handling.

10.3 Possibility of hazardous reactions

Reacts with acids: Heat released.

10.4 Conditions to avoid

Avoid heat sources.

10.5 Incompatible materials

Acids; aluminium, zinc, tin, lead.

10.6 Hazardous decomposition products

Under normal conditions, the substance is not degradable.

Section 11: Toxicological Information

11.1 Information on toxicological effects

Toxicological effects	Silicic acid, sodium salt	1,2-EthanedioI
Acute toxicity	LD50 Oral – Rat = 3400[mg/kg] bw LC50 Inhalation – Rat > 2.06[g/m ³]: LD50 Dermal – Rat > 5000[mg/kg] bw	LD50 Oral – Rat – 4.700[mg/kg] LD50 Dermal – Rabbit – 10.626[mg/kg]
Skin corrosion/irritation	Skin Irritation 2; H315	Skin – Rabbit Result: No skin irritation
Serious eye damage/eye irritation	In vitro study rabbit Result: irritating	Eyes – Rabbit Result: Mild eye irritation – 24[h]
Respiratory or skin sensitisation	Based on the category approach, sodium silicate is not sensitising.	No data available
Germ cell mutagenicity	In vitro: negative, in vivo: negative Not classified	No data available
Carcinogenicity	No reliable data available. In addition, sodium silicate does not carry any structural alerts for carcinogenicity.	This product is or contains a component that is probably not carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.
Reproductive toxicity	Not classified	Laboratory experiments have shown teratogenic effects. Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.
Specific target organ toxicity - single exposure	Not classified	No data available
Specific target organ toxicity - repeated exposure	Not classified	Oral – May cause damage to organs through prolonged or repeated exposure. – Kidney
Aspiration hazard	Not classified	No data available

Section 12: Ecological information

12.1 Toxicity

Silicic acid, sodium salt

- Acute toxicity to fish: LC50 (96[h]): 1108[mg/l] (Brachydanio rerio)
LC50 (96[h]): 260 - 310[mg/l] (Onchorhynchus mykiss)
NOEC (96[h], Mortality): 348[mg/l] (Brachydanio rerio)
- Long-term toxicity for fish: No NOEC available
- Acute toxicity for invertebrates: EC50 (48[h]): 1700[mg/l] (Daphnia magna)
- Long-term toxicity for algae: EC50 (72[h], biomass): 207[mg/l] (Scenedesmus subspicatus)
EC50 (72[h], growth rate): > 345.4[mg/l] (Scenedesmus subspicatus)
Exposure for aquatic environment is not sufficient to classify the substance. Because of the physical properties - extremely low vapor pressure - release to the atmosphere during use of the substance is not possible

12.2 Persistence and degradability

As inorganic substances and in view of their chemical structure, soluble silicates are not amenable to biodegradation. In water, the substance is hydrolyzed.

12.3 Bioaccumulative potential

The substance has a low potential for bioaccumulation, which was confirmed toxicokinetic studies on vertebrates.

12.4 Mobility in soil

Due to good solubility in water can penetrate into the surface waters of the release site and can be detected at points located far away from this place.

12.5 Results of PBT and vPvB assessment

Not applicable.

12.6 Other adverse effects

No other effects.

Section 13: Disposal Considerations

13.1 Waste treatment methods

Avoid or minimize waste material production. The material must be disposed in accordance with local or national rules (Waste Act). Unrefined material is not suitable for disposal. Do not let waste material, even in small quantities, down to wastewater, sewage system or watercourses. Emptied packaging must be passed to authorized waste receiver.

Section 14: Transport Information

14.1 UN number

Not dangerous goods.

14.2 UN proper shipping name

Not dangerous goods.

14.3 Transport hazard class(es)

Not a hazardous material under the provisions of RID and ADR.

14.4 Packing group

Not dangerous goods.

14.5 Environmental hazards

Not a hazardous material for environmental.

14.6 Special precautions for user

Alkaline substance. The Accidental release (spill) to collect the mechanical application of personal protection measures described in section 8 of this SDS.

14.7 Transport bulk according to Annex II of Marpol and the IBC Code

The substance is not transport in bulk.

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislations specific for the substance or mixture

- 1. Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC). No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC as amended, (REACH) (OJ EU L of 2006 No. 396, item 1).
- 2. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (OJ EU L of 2008 No. 35, item 1).
- 3. Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (OJ EU L of 2015 No. 132).
- 4. Commission Directive No. 2000/39/EC; 2006/15/EC and 2009/161/EC establishing first, second and third lists of indicative occupational exposure limit values (OJ EU L 2000, No. 142, item 47; OJ EU L 2006, No. 38, item 36; OJ EU L of 2009 No. 338, item 87).

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out.

Section 16: Other Information

The full version of the hazard classes and category codes from sections 2 and 3

- Skin Irritation 2: Skin corrosion/irritation; category 2
- Eye Irritation 2: Serious eye damage/eye irritation; category 2
- Acute Toxicity 4: Acute toxicity (oral); category 4
- STOT RE 2: Specific target organ toxicity – repeated exposure; category 2

Full text of H-sentences (Hazard statements) referred to under sections 2 and 3

- H302: Harmful if swallowed
- H315: Causes skin irritation
- H319: Causes serious eye irritation
- H373: May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed
- DNEL: Derived No Effect Level
- PNEC: Predicted No Effect Concentration

The current edition of the safety data sheet replaces the previous edition.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.