

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Product Name Ec0seal

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

Identified use(s) General purpose industrial chemical for use in a wide range of applications.

Binding agent ; Corrosion inhibitor ; Dust binding agent ; Flame retardant or fire preventing agent ; Flotation agent ; Stabiliser ; Waterproof seal; Surface crack repairs; Viscosity control agent

Uses advised against None known.

### Company Details

Name: ARC Innovations (PTY)LTD  
Address: 82 Bonnyvale road, Norton Home Estates  
Benoni, 1501

In case of an emergency contact either Cyril Attwell (0784563833) or Umar Kadwa (0844560011)

## 2. Composition / Information on ingredients

Regulation (EC) No. 1272/2008 (CLP)

Ingredient(s)	%W/W	CAS No.	EINECS No. / REACH Registration	Hazard symbol(s) and hazard statement(s)
Silicic acid, sodium salt (1.6<MR<=2.6)	35-55	1344-09-8	215-687-4	H315 : Skin Irrit. 2 ; H318 : Eye Dam. 1 ; H335 : STOT SE 3 ;
Water	46-65	7732-18-5	231-791-2	

The classification of the ingredient silicic acid, sodium salt is based on the powder form. For full text of R/H phrases see section 16.

## 3. Hazardous Identification

### 3.1 Classification of the substance or mixture

#### GHS Classification

H318: Serious eye damage/irritation Category 1

H315: Skin corrosion/irritation Category 2

#### Hazards summary

Alkaline.

Risk of serious damage to the eyes.

Irritating to skin.

### 2.2. Label elements

#### Hazard Pictogram(s)



#### Signal word(s)

Danger

#### Hazard statement(s)

H318 Causes serious eye damage.

H315: Causes skin irritation

#### Precautionary statement(s)

P262: Do not get in eyes, on skin, or on clothing

P280: Wear protective gloves/protective clothing/eye protection/face protection.

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.

### 3.3 Other hazards

Not classified as PBT or vPvB.

## 4. First Aid Measures

### 4.1 Description of first aid measures

#### Inhalation

Remove patient from exposure, keep warm and at rest. Obtain medical attention.

#### Skin Contact

Wash affected skin with plenty of water. If symptoms develop, obtain medical attention.

#### Eye Contact

Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention.

#### Ingestion

Do not induce vomiting. Wash out mouth with water and give 200-300ml (half a pint) of water to drink. Obtain medical attention

### 4.2 Most important symptoms and effects, both acute and delayed

Alkaline.

Risk of serious damage to eyes.

Irritating to skin.

The toxicity of Ec0seal is dependent on the silica to alkali ratio and on the pH

### 4.3 Indication of any immediate medical attention and special treatment needed

Obtain immediate medical attention

## 5. Fire Fighting Measures

### 5.1 Extinguishing media

Suitable Extinguishing Media  
Unsuitable Extinguishing Media

Compatible with all standard firefighting techniques.  
None known.

### 5.2 Special hazards arising from the substance or mixture

Not applicable. Aqueous solution. Non-combustible.

### 5.3 Advice for fire-fighters

None.

## 6. Accidental Release Measures

### 6.1 Personal precautions, Protective equipment and emergency procedures

Wear suitable protective clothing. Wear eye/face protection.  
See Section: 8.2

### 6.2 Environmental precautions

Do not allow to enter drains, sewers or watercourses. Advise Authorities if spillage has entered water course or sewers or has contaminated soil or vegetation.

### 6.3 Methods and materials for containment and cleaning up

Caution – spillages may be slippery. Contain spillages with sand, earth or any suitable adsorbent material. Transfer to a container for disposal or recovery.

### 6.4 Reference to other sections

See Also Section 8.

## 7. Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with eyes, skin and clothing.  
Avoid generation of mist. Provide adequate ventilation.  
Emergency shower and eye wash facilities should be readily available.  
See Also Section 8

### 7.2 Conditions for safe storage, including any incompatibilities

Keep at a temperature not exceeding (°C): 50  
Do not allow material to freeze.  
Provide an adequate bund wall.  
Unsuitable containers: Aluminium  
See Also Section 10.

### 7.3 Specific end use(s)

Not known.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

SUBSTANCE.	Occupational Exposure Limits
Silicic acid, sodium salt	No Occupational Exposure Limit assigned. An exposure limit of 2 mg/m <sup>3</sup> (15 min TWA) is recommended by analogy with sodium hydroxide (UK EH40).

Derived No Effect Level (DNEL)	Oral / mg/kg bw/d	Inhalation / mg/m <sup>3</sup>	Dermal / mg/kg bw/d
Workers - Acute - Systematic effects	-	-	-
Workers - Acute - Local effects	-	-	-
Workers - Long Term - Systematic effects	-	5.61	1.59
Workers - Long Term - Local effects	-	-	-
Consumers - Acute - Systematic effects	-	-	-
Consumers - Acute - Local effects	-	-	-
Consumers - Long Term - Systematic effects	0.80	1.38	0.80
Consumers - Long Term - Local effects	-	-	-

Risk management measures (RMMs) for identified uses must be implemented as described in this SDS.

	Predicated No Effect Concentration
PNEC Water (fresh)	7.5 mg/l
PNEC Water (marine)	1 mg/l
PNEC Water (intermittent)	7.5 mg/l
PNEC Sediment	Not available
PNEC Soil	Not available
PNEC Sewage treatment plant	348 mg/l
PNEC Secondary Poisoning (oral)	Not available

### 8.2 Exposure controls

Wear protective equipment to comply with good occupational hygiene practice. Do not eat, drink or smoke at the work place.

#### 8.2.1 Appropriate engineering controls

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.

## 8.2.2 Personal Protection

Respiratory protection	Respiratory protection not normally required. Advice on respiratory protective equipment is given in the HSE (Health Safety Executive) publication HS(G)53.
Eye/face protection	Chemical goggles (EN 166)
Skin protection	Wear suitable protective clothing and gloves. Plastic or rubber gloves. For example EN374-3, level 6 breakthrough time (>480min). Wear suitable overalls. For example EN ISO 13982 (dust), EN 14605 (liquid splashes).

## 8.2.3 Environmental Exposure Controls

The primary hazard of Ec0seal is the alkalinity. Avoid release to the environment

## 9. Physical & Chemical Properties

### 9.1 Information on basic physical and chemical properties

Appearance	Liquid. Almost colourless.
Odour	Odourless.
Odour Threshold (ppm)	Not applicable.
pH (Value)	Strongly alkaline.
Freezing Point (°C)	No data
Melting Point (°C)	Not applicable.
Boiling Point (°C)	100
Flash Point (°C) [Closed cup]	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.
Explosive Limit Ranges	Not applicable.
Vapour Pressure (mm Hg)	Not applicable.
Vapour Density (Air=1)	No data.
Density (g/ml)	1.4 – 1.6 (typically)
Solubility (Water)	Soluble.
Solubility (Other)	No data.
Partition Coefficient	No data.
Auto Ignition Point (°C)	Not applicable.
Decomposition Temperature (°C)	Not applicable.
Viscosity (mPa. s)	No data.
Explosive properties	Not applicable.
Oxidising Properties	Not applicable.

### 9.2 Other Information

No data.

## 10. Stability and Reactivity

<b>10.1 Reactivity</b>	See section: 10.3
<b>10.2 Chemical stability</b>	Stable.
<b>10.3 Possibility of hazardous Reactions</b>	When arc welding vessels containing aqueous solutions of this material, take care to control any explosion risk from hydrogen evolved by electrolysis. Aqueous solutions will react with aluminum, zinc, tin and their alloys evolving hydrogen gas which can form an explosive mixture with air. Can react violently if in contact with acids. Can react with sugar residues to form carbon monoxide.
<b>10.4 Conditions to avoid</b>	See Section: 10.3
<b>10.5 Incompatible materials</b>	See Section: 10.3

## 11. Toxicological Information:

### 11.1 Information on toxicological effects

#### Acute toxicity

Ingestion	All symptoms of acute toxicity are due to high alkalinity. Material will cause irritation. Oral LD50 (rat) 3400 mg/kg bw
Inhalation	Mist is irritant to the respiratory tract. All symptoms of acute toxicity are due to high alkalinity. Inhalation LC50 (rat) >2.06 g/ m <sup>3</sup>
Skin Contact	Material will cause irritation. Dermal LD50 (rat) >5000 mg/kg bw
Eye Contact	Material will cause severe irritation. Risk of serious damage to eyes.

#### Skin corrosion/ Irritation

Irritating to skin.

#### Serious Eye damage/irritation

Irritating to eyes. Risk of serious damage to eyes.

#### Sensitisation

Not sensitising.

#### Mutagenicity

No evidence of genotoxicity. In vitro/in vivo negative.

#### Carcinogenicity

No structural alerts.

#### Reproduce toxicity

No evidence of reproductive toxicity or developmental toxicity.

#### STOT – single exposure

Not classified.

#### STOT – repeated exposure

Not classified. NOAEL oral (rat) >159 mg/kg bw/d

#### Aspiration hazard

Not classified.

## 12. Ecological Information

<b>12.1 Toxicity</b>	Fish (Brachydanio rerio) LC50 (96 hour) 1108 mg/l Aquatic invertebrates: (Daphnia magna) EC50 (48 hour) 1700 mg/l
<b>12.2 Persistence and degradability</b>	Inorganic. Soluble silicates, upon dilution, rapidly depolymerise into molecular species indistinguishable from natural dissolved silica.
<b>12.3 Bioaccumulative potential</b>	Inorganic. The substance has no potential for bioaccumulation.
<b>12.4 Mobility in soil</b>	Not applicable.
<b>12.5 Results of PBT and vPvB assessment</b>	Not classified as PBT or vPvB
<b>12.6 Other adverse effects</b>	The alkalinity of this material will have a local effect on ecosystems sensitive to changes in pH

## 13. Disposal Considerations

<b>13.1 Waste treatment methods</b>	Discharge of this product to sewage treatment works is dependent on local regulation with regard to pH controls. Dispose of this material and its container to hazardous or special waste collection point. Disposal should be in accordance with local, state or national legislation.
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## 14. Transport Information

Not classified according to the United Nations 'Recommendation on the Transport of Dangerous Goods'.

<b>14.1 UN Number</b>	Not applicable.
<b>14.2 Proper Shipping Name</b>	Not applicable.
<b>14.3 Transport hazard class(es)</b>	Not applicable.
<b>14.4 Packing group</b>	Not applicable.
<b>14.5 Environmental hazards</b>	Not classified as a Marine Pollutant.



## 15. Regulatory Information:

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

TSCA Inventory Status: Reported/Included.

AICS Inventory Status: Reported/Included.

DSL/NDSL Inventory Status: Reported/Included.

German Water Hazard Classification VwVwS: Product ID number 1314, WGK class 1 (low hazard to water).

## 16. Other Information:

Data referenced in this eSDS is from company-owned information and from data legitimately accessed by ARC Innovations (Pty) Ltd through membership of Industry Consortia or other agreements. This includes data relating to toxicology, ecotoxicology, DNELs, PNECs and other information in this eSDS and its annex.

This SDS was last reviewed: 05/2016

The following sections contain revisions or new statements: All sections.

### GLOSSARY

H315: Causes skin irritation.

H318: Causes serious eye damage.

H335: May cause respiratory irritation.

STOT SE 3: Specific target organ toxicity – single exposure Category 3

DNEL: Derived No effect Level

PNEC: Predicted No Effect Concentration

PBT: Persistent, Bioaccumulative and Toxic

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