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

1.1 Product identifier
Sodium Waterglass Comp. A

1.2 Relevant identified uses of the substance or mixture and uses advised against
“A” component for water glass - polyisocyanate based two-component synthetic resin. The synthetic resin (components “A”+“B”) is used for the lining of sewer pipes and manholes. The application has to be carried out under professional, industrial conditions by persons having proper previous training.

1.3 Details of the supplier of the safety data sheet
Company: Source One Environmental Ltd
Endeavour Works
Valley Park
Wombwell, Barnsley
S73 0UW

Email: contact@s1e.co.uk
Website: www.s1e.co.uk
Telephone: +44 (0) 1226 397 015
Telefax: +44 (0) 1226 447 300

1.4 Emergency telephone number
Medical emergency information in case of intoxication
Emergency telephone number: +44 (0) 845 408 9575

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
2.1.1 Classification according to Regulation (EC) No 1272/2008 (CLP)

<table>
<thead>
<tr>
<th>Hazard Classes / Categories</th>
<th>Hazard Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Irrit. 2</td>
<td>H315</td>
</tr>
<tr>
<td>Eye Dam. 1</td>
<td>H318</td>
</tr>
</tbody>
</table>
2. HAZARDS IDENTIFICATION - CONT’D.

2.2 Label elements

2.2.1 Labeling according to Regulation (EC) No 1272/2008 (CLP)

<table>
<thead>
<tr>
<th>Hazard pictogram</th>
<th>Precautionary statements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P262 Do not get in eyes, on skin, or on clothing.</td>
</tr>
<tr>
<td></td>
<td>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</td>
</tr>
</tbody>
</table>

Signal word: Danger

Hazard statements:
- H315 Causes skin irritation
- H318 Causes serious eye damage

2.2.2 Other hazards

None Known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances/ Mixtures: Mixtures

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No.</th>
<th>CAS-No</th>
<th>REACH-No</th>
<th>Content (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicic acid, sodium salt (Molar ratio Na2O : SiO2 = 1 : &gt; 1.6 - &lt; 2.6)</td>
<td>215-687-4</td>
<td>1344-09-8</td>
<td>01-211948725-31-0000</td>
<td>25-50</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

4.1 Description of first aid measures

General information: No special measures necessary

If inhaled: No special measures necessary

On skin contact: In case of contact with skin, wash off immediately with plenty of water. Do not allow the product to dry on the skin. Consult a doctor if skin irritation persists.

On contact with eyes: Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion: Immediately rinse mouth and drink plenty of water, do not induce vomiting, seek medical attention immediately.

Hints for the physician: This product contains alkali silicates.
5. FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media  Product itself is non-combustible; adapt fire extinguishing measures to surrounding areas.
Unsuitable extinguishing media  Compatible with all usual extinguishing media.

5.2 Special hazards arising from the substance or mixture
None known.

5.3 Advice for firefighter
Special protective equipment  In case of combustion use a suitable breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective clothing. Avoid contact with skin, eyes and clothing. High risk of slipping due to leakage/spillage of product.

6.2 Environmental precautions
Do not allow to enter drains or waterways.

6.3 Methods and material for containment and cleaning up
Take up with absorbent material (e.g. sand, kieselguhr, universal binder). Rinse away rest with plenty of water.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Observe the usual precautions for handling chemicals. Open and handle container with care.

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels  Keep only in the original container
Further information on storage conditions  Protect from frost
Recommended storage temperature  Value 5-45°C
VCI storage category  12 non-combustible liquids
Storage stability  Under correct storing conditions the product is stable for at least 12 months
8. EXPOSURE CONTROLS

8.1 Control Parameters
No exposure limit value known

8.2 Exposure Controls
General protective and hygiene measures
Observe the usual precautions when handling chemicals. Wash hands before breaks and after work. Do not eat, drink or smoke during work time.

Occupational exposure controls
Respiratory protection
Breathing apparatus in the event of aerosol or mist formation. Short term: filter apparatus, Filter B.

Hand protection
Gloves (alkali-resistant) Appropriate material: Latex KCL Lapren 706/ 0.6 mm /480 min.

Eye protection
Safety glasses with side protection shield.

Skin protection
Clothing as usual in the chemical industry.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value/Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid, clear, colourless to slightly yellow</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>no data</td>
</tr>
<tr>
<td>pH-value</td>
<td>13-14</td>
</tr>
<tr>
<td>Melting point/ freezing point</td>
<td>no data</td>
</tr>
<tr>
<td>Boiling range</td>
<td>appr. 100 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>not flammable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>not data</td>
</tr>
<tr>
<td>Flammability (solid, gaseous)</td>
<td>not ignitable</td>
</tr>
<tr>
<td>Ignitable, explosive range</td>
<td>no data</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>no data</td>
</tr>
<tr>
<td>Vapour density</td>
<td>no data</td>
</tr>
<tr>
<td>Density</td>
<td>appr. 1.55 kg/l (at 20 °C)</td>
</tr>
<tr>
<td>Solubility</td>
<td>completely miscible</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water</td>
<td>no data</td>
</tr>
<tr>
<td>Self-ignition temperature</td>
<td>no data</td>
</tr>
<tr>
<td>Decomposition tempera- ture</td>
<td>no data</td>
</tr>
<tr>
<td>Viscosity</td>
<td>approx. 600 mPa.s (at 20 °C)</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>no data</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>no data</td>
</tr>
</tbody>
</table>

9.2 Other information
Not applicable

10. STABILITY & REACTIVITY

Conditions to avoid
Protect from frost

Materials to avoid
Acids

Hazardous decomposition products
No hazardous decomposition products known
11. TOXICOLOGICAL INFORMATION

Information is related to the product, data are used as cross reference.

**Acute toxicity**

**Acute oral toxicity**

<table>
<thead>
<tr>
<th>Remarks</th>
<th>The toxicological data shown are those obtained from tests on products of similar composition.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference substance</td>
<td>Silicic acid, sodium salt (Molar ratio Na$_2$O : SiO$_2$ 1 : 2.0; 40-50%)</td>
</tr>
<tr>
<td>Species rat</td>
<td>LD$_{50}$ &gt; 2000 mg/kg</td>
</tr>
<tr>
<td>Source: data of supplier</td>
<td></td>
</tr>
<tr>
<td>Reference substance</td>
<td>Silicic acid, sodium salt (Molar ratio Na$_2$O: SiO$_2$ = 1 : 3.2-3.4; 35-40%)</td>
</tr>
<tr>
<td>Species rat</td>
<td>LD$_{50}$ &gt; 2000 mg/kg</td>
</tr>
<tr>
<td>Source: data of supplier</td>
<td></td>
</tr>
<tr>
<td>Reference substance</td>
<td>Silicic acid, potassium salt (Molar ratio K$_2$O: SiO$_2$ = 1:3.9-4.0; 28-30%)</td>
</tr>
<tr>
<td>Species rat</td>
<td>LD$_{50}$ &gt; 2000 mg/kg</td>
</tr>
<tr>
<td>Source: data of supplier</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks**
The poisonous effect of the product is caused by its alkalinity and not by substance-specific systemic characteristics.

**Irritant/corrosive effects**

<table>
<thead>
<tr>
<th>Irritant effect on skin</th>
<th>irritant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irritant effect on eyes</td>
<td>irritant - risk of serious damage to eyes</td>
</tr>
<tr>
<td>Sensitization</td>
<td>non-sensitizing</td>
</tr>
</tbody>
</table>

**Effects after repeated or prolonged exposition (subacute, subchronic, chronic)**

<table>
<thead>
<tr>
<th>Experience in practice</th>
<th>Irritating effects on the skin and mucous membrane. Risk of serious damage to eyes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other information</td>
<td>When handled appropriately, even after long years of experience with this product, no adverse health effects are known.</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

Information is related to the product, data are used as cross reference.

**Fish toxicity**

<table>
<thead>
<tr>
<th>Remarks</th>
<th>Ecotoxicological data are taken from a similar product of the same type.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference substance</td>
<td>Silicic acid, sodium salt (Molar ratio Na$_2$O : SiO$_2$ = 1 : 3.6; 35%)</td>
</tr>
<tr>
<td>Species Brachidanio rerio</td>
<td>LC$_{50}$ &gt; 2000 mg/l</td>
</tr>
<tr>
<td>Duration of exposure 96 h</td>
<td>Source: data of supplier</td>
</tr>
<tr>
<td>Reference substance</td>
<td>Silicic acid, potassium salt (Molar ratio K$_2$O: SiO$_2$ = 1:3.9-4.0; 29%)</td>
</tr>
<tr>
<td>Species Leuciscus idus</td>
<td>LCO &gt; 500 mg/l</td>
</tr>
<tr>
<td>Duration of exposure 48 h</td>
<td>Source: data of supplier</td>
</tr>
</tbody>
</table>

**Remarks**
The ecotoxic effect of the product is mainly due to its alkalinity.
12. ECOLOGICAL INFORMATION - CONT’D.

**Daphnia toxicity**
Remarks: Ecotoxicological data are taken from a similar product of the same type.
Reference substance:
- Silicic acid, sodium salt (Molar ratio \( \text{Na}_2\text{O}:\text{SiO}_2 = 1:3.2; 35\% \))
  - Species Daphnia magna
  - ECO > 2000 mg/l
  - Duration of exposure 48 h
  - Source: data of supplier
- Silicic acid, potassium salt (Molar ratio \( \text{K}_2\text{O}:\text{SiO}_2 = 1:3.9-4.0; 29\% \))
  - Species Daphnia magna
  - ECO > 500 mg/l
  - Duration of exposure 24 h
  - Source: data of supplier

Remarks: The ecotoxic effect of the product is mainly due to its alkalinity.

**Bacteria toxicity**
Remarks: Ecotoxicological data are taken from a similar product of the same type.
Reference substance:
- Silicic acid, sodium salt (Molar ratio \( \text{Na}_2\text{O}:\text{SiO}_2 = 1:3.36; 35\% \))
  - Species Pseudomonas putida
  - ECO > 1000 mg/l
  - Duration of exposure 48 h
  - Source: data of supplier

Remarks: The ecotoxic effect of the product is mainly due to its alkalinity.

**Biodegradability**
Remarks: Inorganic product. cannot be eliminated from the water by biological purification processes.

Behaviour in sewers (waste treatment plants): The product is an alkaline solution. Neutralization is normally necessary before a waste water is discharged into sewage treatment plants. When low concentrations are discharged correctly into adapted biological sewage treatment plants, disturbance of the degradation activity of activated sludge is not likely.

13. DISPOSAL CONSIDERATIONS

**Disposal recommendations for the product**
EWC waste code: 06 02 05 other bases. Dilution and neutralization with acid. After solidification (e.g. as \( \text{CaSiO}_3 \) precipitate), landfill in accordance with local authorities. Re-use without reprocessing as long as not solidified.

**Disposal recommendations for packaging**
Completely emptied packagings can be given for recycling.

14. TRANSPORT INFORMATION

**Land transport** ADR/RID
Not classified as dangerous according to transport regulations

**Sea transport** IMDG/GGVSee
Not classified as dangerous according to transport regulations

**Air transport**
Not classified as dangerous according to transport regulations
15. REGULATORY INFORMATION

15.2 Chemical safety assessment
Chemical Safety Assessment has been carried out for the substance. See Exposure scenario attached.

**Contributing scenarios**

- PROC 1, 2, 3
- PROC 4, 5, 6, 8a, 8b, 9, 10, 13, 14, 22, 23, 24
- PROC 7, 11

**Risk Management Measures**

- Handle substance within a closed system. No other specific measures identified.
- Wear suitable gloves (tested to EN374). No other specific measures identified.
- Covers percentage substance in the product up to 25%. Provide enhanced general ventilation by mechanical means. Wear suitable gloves (tested to EN374) and eye protection or wear a respirator conforming to EN140 with Type A/P2 filter. Avoid carrying out operation for more than 1 hour. Wear suitable gloves (tested to EN374) and eye protection.

**Section 2.2**

**Control of environmental exposure**

Not required, as soluble silicates, including sodium/potassium silicate/disodium metasilicate, do not meet the criteria for classification as dangerous to the environment (See Article 14.4 of REACH Regulation). Furthermore, as high production volume substances, soluble silicates have been reviewed to a great extent for their exposure potential to the environment and the possible risks arising from their release (Van Dokkum et al. 2002. OECD SIDS 2004, HERA 2005, and CEES 2008). It was concluded that soluble silicates are currently of low priority for further work because of their low hazard profile.

**Section 3**

**Exposure Estimation**

- Health

The ECETOC TRA tool has been used to estimate worker exposures.

**Section 4**

**Guidance to check compliance with the Exposure Scenario**

- Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
16. OTHER INFORMATION

Hazard symbols
Xi Irritant
Skin irrit. 2 Skin irritation
Eye dam. 1 Serious eye damage.

H-Phrases
H315 Causes skin irritation.
H318 Causes serious eye damage

P-Phrases
P262 Do not get in eyes, on skin, or on clothing
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection
P303+P361 IF ON SK IN (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.

Exposure Scenario
Title Workplace exposure to sodium silicate (EC 215-687-4)
Use Descriptor Sector of Use: SU 3 and SU 22
Process Categories (PROC): 1, 2, 3, 4, 5, 6, 7, 8a, 8b, 9, 10, 11, 13, 14, 22, 23, 24, 25
Environmental Release Categories: not required

Processes, tasks, activities covered
Manufacture of the substance as well as industrial and professional uses.

Section 2
Operational conditions and risk management measures.
Whenever handling sodium silicate in a water preparation outside closed systems, depending on the use and concentration suitable, personal protective equipment (gloves, goggles, dust masks or respirators) are the preferred and only measure of control.

Control of worker exposure.
Product characteristics; Physical form of product
Concentration of substance in product
Covers percentage substance in the product up to 100 %, unless otherwise stated.

Amounts used
No limit
Frequency and duration of use
Covers frequency up to: daily use, weekly, monthly, yearly.

Human factors not influenced by risk management
Not applicable

Other Operational Conditions affecting worker exposure
Assumes a good basic standard of occupational hygiene is implemented.
The work occurs inside as well as outside.