**Section 1 - Identification of the Substance/Preparation and the Company/Undertaking**

Manufacturer Information
Zaclon LLC
2981 Independence Road
Cleveland, OH 44115
Phone: 216-271-1569 or 800-356-7327
Fax: 216-271-1792
Emergency # 800-424-9300 CHEMTREC

**Section 2 - Composition / Information on Ingredients**

<table>
<thead>
<tr>
<th>EC #</th>
<th>Component</th>
<th>Percent</th>
<th>Symbols</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>231-791-2</td>
<td>Water 7732-18-5</td>
<td>59-72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>215-199-1</td>
<td>Potassium silicate 1312-76-1</td>
<td>28-41</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Section 3 - Hazards Identification**

Human and Environmental Hazards
Potassium silicate solutions are severe eye irritants and prolonged or repeated contact may cause skin irritation.

**Section 4 - First Aid Measures**

First Aid: Eyes
Immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

First Aid: Skin
Flush skin with water. Remove contaminated clothing and wash before reuse and discard shoes.

First Aid: Ingestion
Do not induce vomiting. Immediately give two glasses of water or activated charcoal slurry. Call a physician.
Never give anything by mouth to an unconscious person.

First Aid: Inhalation
Move person to non-contaminated air. If the affected person is not breathing, apply artificial respiration.

**Section 5 - Fire Fighting Measures**

General Fire Hazards
Will not burn.

Hazardous Combustion Products
Not determined

Extinguishing Media
Use appropriate extinguishing media for surrounding fire.

Fire Fighting Equipment/Instructions
Firefighters should wear full protective gear.

**Section 6 - Accidental Release Measures**

Containment Procedures
Stop the flow of material, if this is without risk.

Clean-Up Procedures
Spill area will be slippery; use care to avoid falling. Flush spill area with plenty of water.

Evacuation Procedures
Isolate area. Keep unnecessary personnel away.

Special Procedures
None

**Section 7 - Handling and Storage**

Handling Procedures
Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.
Storage Procedures
Store in a cool place. Keep drums tightly closed to avoid evaporation. Keep from freezing (freeze point below 0 °F /-35 °C)

Specific Use
Paper treatment

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**Section 8 - Exposure Controls / Personal Protection**

Substance Exposure Limits
The EU, ACGIH, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Spain, Sweden, and United Kingdom have not developed exposure limits for any of the substances in this preparation.

Engineering Controls
Good general ventilation should be provided.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face
Use chemical splash goggles.

Personal Protective Equipment: Skin
Wear coveralls and rubber gloves.

Personal Protective Equipment: Respiratory
None needed under normal product use conditions.

Personal Protective Equipment: General
Eye wash fountain and emergency showers are recommended.

---

**Section 9 - Physical & Chemical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear, colorless</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>pH</td>
<td>11-12</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>ND</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>NA</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>100°C (212°F) at 760 mm Hg</td>
</tr>
<tr>
<td>Melting Point</td>
<td>NA</td>
</tr>
<tr>
<td>Solubility (H2O)</td>
<td>Soluble</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.26-1.39</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>0°C (32°F)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>&lt;1</td>
</tr>
<tr>
<td>VOC</td>
<td>ND</td>
</tr>
<tr>
<td>Octanol/H2O Coeff.</td>
<td>ND</td>
</tr>
<tr>
<td>Flash Point</td>
<td>NA</td>
</tr>
<tr>
<td>Flash Point Method</td>
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</tr>
<tr>
<td>Upper Flammability Limit</td>
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</tr>
<tr>
<td>Lower Flammability Limit</td>
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</tr>
<tr>
<td>(UFL)</td>
<td>(LFL)</td>
</tr>
<tr>
<td>Burning Rate</td>
<td>NA</td>
</tr>
<tr>
<td>Auto Ignition</td>
<td>NA</td>
</tr>
</tbody>
</table>

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**Section 10 - Chemical Stability & Reactivity Information**

Chemical Stability
This is a stable material.

Chemical Stability: Conditions to Avoid
None

Incompatibility
Strong Acids.

Hazardous Decomposition
Will not occur.

Hazardous Polymerisation
Will not occur.

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**Section 11 - Toxicological Information**

Potential Health Effects

A: General Product Information
No information available for the product.

B: Substance Analysis - LD50/LC50
Water (231-791-2)
Safety Data Sheet

Material Name: Zacsil Solution
Grades: 30, 865, 18, Electronics 200, 865 D, Zacsil AG

Oral LD50 Rat >90 mL/kg

Potassium silicate (215-199-1)
Oral LD50 Rat 1300 mg/kg

Carcinogenicity
A: General Product Information
   No information available for the product.
B: Substance Carcinogenicity
   None of the substances in this preparation are listed by IARC, Austria, Belgium, Denmark, France, Germany, Ireland, Luxembourg, Netherlands, Spain, or United Kingdom.

*** Section 12 - Ecological Information ***

Ecotoxicity
A: General Product Information
   No information available for the product.
B: Substance Analysis - Ecotoxicity - Aquatic Toxicity
   Potassium silicate (215-199-1)
   Test & Species                      Conditions
   96 Hr LC50 Lepomis macrochirus      301-478 mg/L
   96 Hr LC50 Brachydanio rerio       3185 mg/L [semi-static]
   96 Hr EC50 Daphnia magna           216 mg/L

Mobility
   No information available for the product.

Persistence & Degradation
   No information available for the product.

Bioaccumulation
   No information available for the product.

Other Adverse Effects
   No information available for the product.

*** Section 13 - Disposal Considerations ***

Waste Disposal Instructions
   Avoid disposal, attempt to utilize preparation completely. Prior to disposal of unused preparation, consult an approved waste disposal operative to ensure regulatory compliance. Refer to local statutory requirements and the Toxic Industrial Waste Regulations (TIWR) for proper disposal instructions.

*** Section 14 - Transportation Information ***

IATA Information
   Shipping Name: Not Regulated

ICAO Information
   Shipping Name: Not Regulated

IMDG Information
   Shipping Name: Not Regulated

*** Section 15 - Regulatory Information ***

EU MARKING AND LABELLING:
Symbol(s):
   Not Classified.
Safety Data Sheet

Material Name: Zacsil Solution
Grades: 30, 865, 18, Electronics 200, 865 D, Zacsil AG

Risk Phrases:
None

Safety Phrases:
A: General Product Information
None

B: Substance Analysis - Inventory

<table>
<thead>
<tr>
<th>Component/CAS</th>
<th>EC #</th>
<th>EEC</th>
<th>CAN</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water 7732-18-5</td>
<td>231-791-2</td>
<td>EINECS</td>
<td>DSL</td>
<td>Yes</td>
</tr>
<tr>
<td>Potassium silicate</td>
<td>215-199-1</td>
<td>EINECS</td>
<td>DSL</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*** Section 16 - Other Information ***

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; AS = Standards Australia; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EU = European Union; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IMO = International Maritime Organization; IATA = International Air Transport Association; MAK = Maximum Concentration Value in the Workplace; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NOHSC = National Occupational Health & Safety Commission; NTP = National Toxicology Program; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average

End of Sheet