Section 1: Product and Company Identification:

1.1 Product Identifier

- **Product Form:** Mixture
- **Identification of Substance:** Silicon Dioxide and Water
- **Product Name:** Xtreme Hard
- **Synonym:** Colloidal Silica Sol
- **CAS Number:** 7631-86-9
- **Index Number:** Not available.
- **EINECS Number:** 231-545-4
- **REACH Registration Number:** 05-2117294571-38-0000
- **Formula:** SiO₂

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

- **Recommended Use:** Papermaking. Ceramics.
- **Restrictions on Use:** For industrial use only, not for food, drug or home use.

1.3 Details of the supplier of the safety data sheet

- **Company Identification:** Xtreme Polishing Systems
  2200 NW 32nd Street #700, Pompano Beach, FL 866-812-9319
- **Email Contact:** info@xtremepolishingsystems.com
- **Internet:** www.xtremepolishingsystems.com

1.4 Emergency telephone number

- **In Case of Emergency:**
  USA/Canada CHEMTREC: +1 (703) 527-3887
  International CHEMTREC: +1 (703) 741-5970
  24 Hours/Day: 7 Days/Week

Section 2: Hazard(s) Identification

2.1 Classification of the substance or mixture

- **GHS-US Classification**
  Not classified.
- **Classification according to Regulation (EC) No. 1272/2008 (CLP)**
  Not classified.
- **Classification according to Directive 67/548/EEC and 1999/45/EC (including amendments)**
  Not classified.

2.2 Label Elements

- **Signal Word:** Not applicable.
- **Hazard Pictogram:** Not applicable.
- **Hazard Statement(s):** Not applicable.
- **Precautionary Statement(s):** Not applicable.

2.3 Other Hazards

- Components do not meet the criteria for a PBT or vPvB substance.

2.4 Unknown acute toxicity (GHS US)

- No information available.

Section 3: Composition / Information on Ingredients

**Description:** Mixture consisting of the following components.

<table>
<thead>
<tr>
<th>Component Name</th>
<th>Product Identifier</th>
<th>GHS Classification</th>
<th>Percent By Weight</th>
</tr>
</thead>
</table>
Section 4: First-Aid Measures

4.1 Description of first aid measures

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of the eye and lids with water. Get medical attention.

Skin Contact: In case of contact, immediately flush skin with plenty of water for several minutes. Remove contaminated clothing. Get medical attention if skin irritation develops or persists.

Inhalation: If inhaled, remove to fresh air. If not breathing, clear person's airway and give artificial respiration. If breathing is difficult, qualified medical personnel may administer oxygen. Get medical attention.

Ingestion: If a person is conscious and can swallow, immediately give two glasses of water (16 oz. or 500 ml.) but do not induce vomiting. If vomiting occurs, give fluids again. Do not give anything by mouth to an unconscious or convulsing person. Get medical attention.

First Aid Facilities: Eye wash station.

Advice to Physicians: No further relevant information available.

4.2 Most important symptoms and effects, both acute and delayed

Acute or delayed effects are not anticipated.

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

No further relevant information available.

Section 5: Fire-Fighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media: All are suitable. Use water spray, dry chemical, foam or carbon dioxide to extinguish flames. Use water spray to cool fire-exposed containers. Water or foam may cause frothing.

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture

Flammability of the product: Material will not burn in a fire. Containers can build pressure if exposed to heat or fire.

Special Hazard Arising from the Chemical: None known.

Fire Hazard: None known.

Explosion Hazard: None known.

Reactivity: None known.

5.3 Advice for firefighters

Special Protective Equipment for Fire-fighters: Wear standard full firefighter turn-out gear (full bunker gear) and respiratory protection (SCBA).
Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures
Eye protection and impervious gloves. An approved air-purifying respirator should be worn if dust or mist is present.

6.1.1 For non-emergency personnel
Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions
Prevent entry into sewers and waterways.

6.3 Methods and material for containment and cleaning up
Ventilate area. Avoid breathing vapor. Wear appropriate personal protective equipment, including appropriate respiratory protection. Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Prevent entry into sewers and waterways. Avoid contact with skin, eyes or clothing.

6.4 Reference to other sections
For more information on exposure controls and personal protection or disposal considerations, check section 8 and 13 of this SDS.

Section 7: Handling and Storage

7.1 Precautions for safe handling
Minimum feasible handling, and temperatures should be maintained. Avoid generating mist during use. Use only in well ventilated area.

7.1.1 Protective measures
Use only in well ventilated areas. As a precautionary measure, the wearing of standard work gear is suggested.

7.1.2 Advice on general occupational hygiene
Avoid inhalation, ingestion and contact with eyes. General occupational hygiene measures are required to ensure a safe handling of the substance. These measures involve good personal and housekeeping practices (i.e. regular cleaning with suitable cleaning devices), no eating, drinking and smoking at the workplace and wearing standard working clothes and shoes unless otherwise stated. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas. Shower and change clothes at end of work shift. Do not wear contaminated clothing at home.

7.2 Conditions for safe storage, including any incompatibilities
Keep from freezing. Periods of exposure to high temperatures should be minimized. Provide sufficient ventilation in storage and workrooms. Store in a cool dry area.

7.3 Specific end use(s)
No additional information available. Refer to Section 1.2 of this SDS.

Section 8: Exposure Controls / Personal Protection

8.1 Control Parameters
8.1.1 National Limit Values
Silicon Dioxide, CAS 7631–86–9

<table>
<thead>
<tr>
<th>Country</th>
<th>Occupational exposure limit</th>
<th>Reference period</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>80 mg/m³/%,SiO2</td>
<td>8 hours</td>
<td>OSHA PEL – <a href="http://www.cdc.gov/niosh/idlh/7631869.html">http://www.cdc.gov/niosh/idlh/7631869.html</a></td>
</tr>
<tr>
<td>UK</td>
<td>6 mg/m³ (inhalable)</td>
<td>8 hours</td>
<td>Health and Safety Executive- <a href="http://www.hse.gov.uk/pubns/priced/eh40.pdf">http://www.hse.gov.uk/pubns/priced/eh40.pdf</a></td>
</tr>
<tr>
<td>Germany</td>
<td>4 mg/m³ (inhalable)</td>
<td>8 hours</td>
<td>Senate Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (MAK Commission): <a href="http://www.dfg.de/en/dfg_profile/statutory_bodies/senate/health_hazards/index.html">http://www.dfg.de/en/dfg_profile/statutory_bodies/senate/health_hazards/index.html</a></td>
</tr>
</tbody>
</table>
**8.1.2 DNELs and PNECs**

**Silicon Dioxide, CAS 7631–86–9**

<table>
<thead>
<tr>
<th>Route of Exposure/Environmental protection target</th>
<th>DNEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation — Long term/systemic effects</td>
<td>4 mg/m³</td>
</tr>
</tbody>
</table>

**PNEC (Predicted No Effect Concentration)**

No information available

**8.2 Exposure Controls**

**Engineering Controls:**

Ventilation adequate to meet occupational exposure limits.

**Hygiene Measures:**

Workers should wash exposed skin several times daily with soap and water. Soiled work clothing should be changed and laundered or dry-cleaned.

**Respiratory:**

Airborne concentrations should be kept to lowest levels possible. If vapor, mist or dust is generated and the occupational exposure limit of the product, or any component of the product, is exceeded, use appropriate NIOSH or MSHA approved air purifying or air supplied respirator after determining the airborne concentration of the contaminant. Air-supplied respirators should always be worn when airborne concentrations of the contaminant or oxygen content is unknown.

**Hands:**

Wear impervious gloves such as neoprene.

**Eyes:**

Safety glasses, chemical type goggles, or face shield recommended to prevent eye contact.

**Skin:**

Wear clean body-covering clothing; impervious gloves such as neoprene. Workers should wash exposed skin several times daily with soap and water. Soiled work clothing should be laundered or dry-cleaned.

**Environmental Exposure Controls:**

Adverse effects of this material on the environment have not been evaluated. Proper disposal techniques to isolate and recover material should be implemented.

**Section 9: Physical and Chemical Properties**

**9.1 Information on basic physical and chemical properties**

**Appearance (Physical State, Color):**

Translucent to transparent white liquid. The product is a water-based material.

**Upper/lower flammability or explosive limits:**

Not determined.

**Volatile by Weight:**

83%

**Odor:**

Odorless.

**Vapor Pressure:**

2260 kPs (17 mm Hg) at 20°C water

**Odor Threshold:**

Not determined.

**Vapor Density:**

Not determined.

**pH:**

10.0

**Relative Density:**

Not determined.

**Melting point/freezing point:**

Not determined.

**Solubility in Water:**

Disperses in water but is negligibly soluble.

**Initial boiling point and boiling range:**

100° C (212° F) water

**Flashpoint:**

Not applicable.
Evaporation Rate: Slow (Butyl Acetate = 1)
Flammability (solid, gas): Material will not burn in a fire.
Partition Coefficient: Not determined.
Auto-ignition temperature: Not determined.
Decomposition temperature: Not determined.
Viscosity: Less than 20 cP
Specific Gravity: 1.1
Freezing Point: 0°C (32° F) water
Explosion Limits: Not applicable.
Oxidizing Properties: Not an oxidizer.

Section 10: Stability and Reactivity

10.1 Reactivity
Not determined.
10.2 Chemical Stability
Stable.
10.3 Possibility of hazardous reactions
Hazardous polymerization will not occur.
10.4 Conditions to avoid
No recommendation.
10.5 Incompatible materials
Not determined.
10.6 Hazardous decomposition products
Not determined.

Section 11: Toxicological Information

11.1 Information on toxicological effects
Acute toxicity:
LD50, Rat, Oral Values for classification:
Silicon Dioxide, 7631–86–9 3160 mg/kg
Skin corrosion/irritation: Avoid contact with skin, may cause skin irritation or dryness.
Eye damage / eye irritation
Inhalation: Avoid contact with eyes, may cause irritation.
Use breathing protection when aerosol or mist is formed. Breathing dried dust or spray mist causes irritation. OSHA exposure limit: Amorphous Silica = 20 mppcf (5 mg/M^3) SiO2 respirable dust or mist. 8–hour time weighted average. Exposure analysis method: NIOSH Manual of Analytical Methods, 3rd edition, Method 7501.

Sensitization: No sensitizing effect known.
Chronic Effects: No further relevant information available.
Carcinogenicity No data indicating any concern for carcinogenicity.

Section 12: Ecological Information

12.1 Aquatic Toxicity, Silicon Dioxide CAS #7631–86–9
Not harmful to aquatic organisms.
12.2 Persistence and degradability
No further relevant information available.
12.3 Bioaccumulative potential
No further relevant information available.

12.4 Mobility in soil
No further relevant information available.

12.5 Results of PBT and vPvB Assessment
The PBT and vPvB criteria of Annex XIII to the Regulation do not apply to this product.

12.6 Other adverse effects
No further relevant information available.

Section 13: Disposal Considerations
This information presented only applies to the materials as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Disposal Considerations: The product should be recycled or burned in an incinerator or scrubber approved for chemical waste.

United States: The product is not a RCRA hazardous waste.

Section 14: Transport Information
The product is not restricted for transportation.

Sections 14.1 – 14.4

Regulations
ICAO/IATA: Not regulated.
IMO/IMDG: Not regulated.
ADR: Not regulated.

14.5 Environmental Hazards
Not an environmental hazard for transport.

14.6 Special precautions for user
None.

14.7 Transport bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

Section 15: Regulatory Information

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

Worldwide Chemical Inventories
EINECS (EU): All ingredients listed
TSCA (USA): All ingredients listed
DSL (Canada): All ingredients listed
AICS (Australia): All ingredients listed
ENCS (Japan): All ingredients listed
ECL (Korea): All ingredients listed
PICCS (Philippines): All ingredients listed
IECSC (China): All ingredients listed

Technical Instructions (air): Not determined.
Water hazard class: Based on available data, Silicon Dioxide is not classified as dangerous for the environment according regulation (EC) 1272/2008.

State Right-to–Know Laws: Section 3 of this SDS lists all components of the product.
California Proposition 65: No ingredients listed.
Product is not classified as hazardous.

No ingredients listed.

21 CFR 175.105 – Silicon Dioxide may be used as a component of adhesives used to prepare articles intended for the use in packaging, transporting or holding food.

21 CFR 177.1200 – Silicon Dioxide may be used as a component of a polymer used as a base sheet or as a coating applied to a base sheet for use in food packaging.

21 CFR 182.90 – Silicon Dioxide is generally recognized as safe (GRAS) as a substance migrating to food from paper and paper board products used in food packaging.

Workers using the product should read and understand this SDS and be trained in the proper use of this material.

Recommended Use: The product is recommended for use in papermaking, and ceramics. Other uses have not been investigated and may have other hazards. For industrial use only, not for food, drug or home use.

Work Alert: Workers using the product should read and understand this SDS and be trained in the proper use of this material.

Other Special Considerations: None known.

This SDS contains all the information items specified in Schedule 1, Column 3 of the Controlled Products Regulations in a 16-heading format.

Section 16: Other Information

List of hazard phrases: None, product is not classified.

National Fire Protection Association (U.S.A.) 704 Hazard HMIS® Hazard Rating: Health–1, Flammability–0, Reactivity–0, Special–None Health–1, Flammability–0, Reactivity–0, Protective Equipment – B; safety glasses, gloves.

Recommended Use: The product is recommended for use in papermaking, and ceramics. Other uses have not been investigated and may have other hazards. For industrial use only, not for food, drug or home use.

Work Alert: Workers using the product should read and understand this SDS and be trained in the proper use of this material.

Other Special Considerations: None known.

SDS Prepared By: Andrew A. Guzelian

Telephone: 800–659–5843 U.S.A.