Safety Data Sheet

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier
Product Name: PCS 605 Photo Mask Cleaning Solution

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified use(s): Cleaning glass products

1.3 Details of the supplier of the safety data sheet
Manufacturer: HTA Enterprises
1605 Remuda Lane
San Jose, CA 95112
United States
www.microchrometechnology.com

Telephone (General): 408-452-5500
Telephone (General): 703-741-5500 - Information CHEMTREC

1.4 Emergency telephone number
Manufacturer: 1-800-424-9300 - CHEMTREC in US

Section 2: Hazards Identification

EU/EEC

2.1 Classification of the substance or mixture
CLP: Not classified

2.2 Label Elements
CLP
Hazard statements: No label element(s) required

2.3 Other Hazards
CLP: According to Regulation (EC) No. 1272/2008 (CLP) this material is not considered hazardous.

UN GHS
According to: UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

2.1 Classification of the substance or mixture
UN GHS: Not classified

2.2 Label elements
UN GHS
Hazard statements: No label element(s) required
2.3 Other hazards

UN GHS

- According to the Globally Harmonized System for Classification and Labeling (GHS) this product is not considered hazardous.

United States (US)
According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture
OSHA HCS 2012
- Not classified

2.2 Label elements
OSHA HCS 2012

Hazard statements
- No label element(s) required

2.3 Other hazards
OSHA HCS 2012
- This product is not considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard.

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance.

3.2 Mixtures

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Identifiers</th>
<th>%</th>
<th>LD50/LC50</th>
<th>Classifications According to Regulation/Directive</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>CAS:1310-73-2, EC Number:215-185-5, EU Index:011-002-00-6</td>
<td>0.48% TO 0.52%</td>
<td>NDA</td>
<td>UN GHS: Met. Corr. 1; Skin Corr. 1B; Eye Dam. 1, EU CLP: Annex VI, Table 3.1: Skin Corr. 1A, H314, OSHA HCS 2012: Met. Corr. 1; Skin Corr. 1B; Eye Dam. 1</td>
<td>NDA</td>
</tr>
</tbody>
</table>

See Section 16 for full text of H-statements.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing.

Skin
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. If irritation develops and persists, get medical attention.

Eye
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion
- Do NOT induce vomiting. Obtain medical attention immediately if ingested.

4.2 Most important symptoms and effects, both acute and delayed
4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- LARGE FIRE: Water spray, fog or regular foam.
  SMALL FIRES: Dry chemical, CO2, water spray or regular foam.

Unsuitable Extinguishing Media
- No data available.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- No data available

Hazardous Combustion Products
- During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

5.3 Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters’ protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
- Move containers from fire area if you can do it without risk.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Ventilate enclosed areas. Do not walk through spilled material. Use appropriate Personal Protective Equipment (PPE)

Emergency Procedures
- Keep unauthorized personnel away. Stay upwind.

6.2 Environmental precautions

- Avoid run off to waterways and sewers.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
  Dike to collect large liquid spills.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling
- Use only with adequate ventilation. Use good safety and industrial hygiene practices.
  Use appropriate Personal Protective Equipment (PPE) Avoid ingestion and inhalation.
  Avoid contact with skin, eyes, and clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

Storage
- Keep container tightly closed. Store in a cool, dry, well-ventilated place. Do not freeze.
7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

---

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

### 8.1 Control parameters

<table>
<thead>
<tr>
<th>Exposure Limits/Guidelines</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide (1310-73-2) TWAs</td>
<td>Not established</td>
<td>Not established</td>
<td>2 mg/m3 TWA</td>
</tr>
<tr>
<td>Ceilings</td>
<td>2 mg/m3 Ceiling</td>
<td>2 mg/m3 Ceiling</td>
<td>Not established</td>
</tr>
</tbody>
</table>

#### 8.2 Exposure controls

**Engineering Measures/Controls**

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Personal Protective Equipment**

**Respiratory**

- In case of insufficient ventilation, wear suitable respiratory equipment. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

**Eye/Face**

- Wear chemical splash safety goggles.

**Skin/Body**

- Wear appropriate gloves.

**Environmental Exposure Controls**

- Follow best practice for site management and disposal of waste.

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**Section 9 - Physical and Chemical Properties**

### 9.1 Information on Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Material Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Description</td>
</tr>
<tr>
<td>Color</td>
</tr>
<tr>
<td>Odor Threshold</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
</tr>
<tr>
<td>Specific Gravity/Relative Density</td>
</tr>
<tr>
<td>Viscosity</td>
</tr>
<tr>
<td>Oxidizing Properties</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Volatility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapor Pressure</td>
</tr>
<tr>
<td>Evaporation Rate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flammability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point</td>
</tr>
<tr>
<td>LEL</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
</tr>
</tbody>
</table>

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Format: EU CLP/REACH Language: English (US)
UN GHS, EU CLP, OSHA HCS 2012

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9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Excess heat. Avoid boiling of product.

10.5 Incompatible materials

- Do not mix with strong acids.

10.6 Hazardous decomposition products

- No data available.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th>Components</th>
<th>Irritation:</th>
<th>Mutagen:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide (0.48% TO 0.52%)</td>
<td>Eye-Rabbit • 1 % • Severe irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Severe irritation;</td>
<td>Cytogenetic analysis • Unreported Route-Hamster • Lung (Somatic cell) • 10 mmol/L</td>
</tr>
<tr>
<td>1310-73-2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GHS Properties

<table>
<thead>
<tr>
<th>GHS Properties</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory sensitization</td>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td></td>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td></td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Serious eye damage/Irritation</td>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td></td>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td></td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Acute toxicity</td>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td></td>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td></td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Aspiration Hazard</td>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td></td>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td></td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td></td>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td></td>
<td>UN GHS • Data lacking</td>
</tr>
</tbody>
</table>
### Potential Health Effects

#### Inhalation

**Acute (Immediate)**
- Under normal conditions of use, no health effects are expected.

**Chronic (Delayed)**
- No data available.

#### Skin

**Acute (Immediate)**
- Under normal conditions of use, no health effects are expected.

**Chronic (Delayed)**
- No data available.

#### Eye

**Acute (Immediate)**
- Under normal conditions of use, no health effects are expected.

**Chronic (Delayed)**
- No data available.

#### Ingestion

**Acute (Immediate)**
- Under normal conditions of use, no health effects are expected.

**Chronic (Delayed)**
- No data available.

### Section 12 - Ecological Information

#### 12.1 Toxicity

- Material data lacking.

#### 12.2 Persistence and degradability

- Material data lacking.

#### 12.3 Bioaccumulative potential

- Material data lacking.

#### 12.4 Mobility in Soil

- Material data lacking.

#### 12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.
12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>DOT</th>
<th>14.1 UN number</th>
<th>14.2 UN proper shipping name</th>
<th>14.3 Transport hazard class(es)</th>
<th>14.4 Packing group</th>
<th>14.5 Environmental hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDA</td>
<td>Not Regulated</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
</tr>
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<td>NDA</td>
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<td>NDA</td>
<td>NDA</td>
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<td>NDA</td>
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<td>NDA</td>
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<tr>
<td>NDA</td>
<td>Not Regulated</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
</tr>
</tbody>
</table>

14.6 Special precautions for user
- None specified.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
- Data lacking.

Section 15 - Regulatory Information

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

SARA Hazard Classifications
- None

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>Canada DSL</th>
<th>Canada NDSL</th>
<th>EU EINECS</th>
<th>EU ELNICS</th>
<th>TSCA</th>
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</thead>
<tbody>
<tr>
<td>Sodium chloride</td>
<td>7647-14-5</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Canada - WHMIS - Classifications of Substances

- Sodium hydroxide 1310-73-2
  - E (including 0.04% in aqueous solution, 0.08%, 0.4% in aqueous solution, 2%, 2.5%, 4% in aqueous solution, 5%, 10%, 16%, 20%, 40%, 50% in aqueous solution, 8.7N)
  - Uncontrolled product according to WHMIS classification criteria
- Sodium chloride 7647-14-5

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UN GHS, EU CLP, OSHA HCS 2012
### Canada - WHMIS - Ingredient Disclosure List

- Sodium hydroxide: 1310-73-2, 1%
- Sodium chloride: 7647-14-5, Not Listed

### Environment

#### Canada - CEPA - Priority Substances List

- Sodium hydroxide: 1310-73-2, Not Listed
- Sodium chloride: 7647-14-5, Not Listed

### United States

#### Labor

- **U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals**
  - Sodium hydroxide: 1310-73-2, Not Listed
  - Sodium chloride: 7647-14-5, Not Listed

- **U.S. - OSHA - Specifically Regulated Chemicals**
  - Sodium hydroxide: 1310-73-2, Not Listed
  - Sodium chloride: 7647-14-5, Not Listed

#### Environment

- **U.S. - CAAA (Clean Air Act) - 1990 Hazardous Air Pollutants**
  - Sodium hydroxide: 1310-73-2, Not Listed
  - Sodium chloride: 7647-14-5, Not Listed

- **U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities**
  - Sodium hydroxide: 1310-73-2, 1000 lb final RQ; 454 kg final RQ
  - Sodium chloride: 7647-14-5, Not Listed

- **U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities**
  - Sodium hydroxide: 1310-73-2, Not Listed
  - Sodium chloride: 7647-14-5, Not Listed

- **U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs**
  - Sodium hydroxide: 1310-73-2, Not Listed
  - Sodium chloride: 7647-14-5, Not Listed

- **U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs**
  - Sodium hydroxide: 1310-73-2, Not Listed
  - Sodium chloride: 7647-14-5, Not Listed

- **U.S. - CERCLA/SARA - Section 313 - Emission Reporting**
  - Sodium hydroxide: 1310-73-2, Not Listed
  - Sodium chloride: 7647-14-5, Not Listed

- **U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing**
  - Sodium hydroxide: 1310-73-2, Not Listed
  - Sodium chloride: 7647-14-5, Not Listed

### United States - California

#### Environment

- **U.S. - California - Proposition 65 - Carcinogens List**
### 15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

### Section 16 - Other Information

<table>
<thead>
<tr>
<th>Relevant Phrases (code &amp; full text)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H314 - Causes severe skin burns and eye damage.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Revision Date</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>04/August/2015</td>
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<th>Preparation Date</th>
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<tr>
<td>01/May/2013</td>
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<table>
<thead>
<tr>
<th>Disclaimer/Statement of Liability</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Microchrome Technology, Inc. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Microchrome Technology, Inc. has been advised of the possibility of such damages.</td>
<td></td>
</tr>
</tbody>
</table>

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NDA = No data available