**Material Safety Data Sheet**

Material Name: TURCO 4181 GL  
ID: 239708DLP55G / IDH No. 841603

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**Section 1 - Chemical Product and Company Identification**

Product Trade Name  TURCO 4181 GL  
Manufacturer Information  
Henkel Technologies  
Henkel Corporation  
32100 Stephenson Highway  
Madison Heights, MI 48071  
Contact Phone: (248) 583-9300  
Chemtrec Emergency # (800) 424-9300

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

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Component</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1310-73-2</td>
<td>Sodium hydroxide</td>
<td>30-60</td>
</tr>
</tbody>
</table>

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**Section 3 - Hazards Identification**

Emergency Overview:  
DANGER -- CORROSIVE! Contact with this material will cause burns to the skin, eyes and mucous membranes.

Eye Contact:  
This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Skin Contact:  
Contact with the skin or mucous membranes will cause severe burns and possible ulceration.

Ingestion:  
This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Inhalation:  
Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract.

Medical Conditions Aggravated by Exposure:  
Pre-existing eye, skin and respiratory disorders.

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**Section 4 - First Aid Measures**

Eye Contact:  
In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Skin Contact:  
Immediately take off all contaminated clothing. For skin contact, flush with large amounts of water. Seek immediate medical attention.

Ingestion:  
If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:  
If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist. If symptoms persist, get medical attention.

First Aid: Notes to Physician  
If the product is ingested, probable mucosal damage may contraindicate the use of gastric lavage. Treat the affected person appropriately.

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**Section 5 - Fire Fighting Measures**
Fire & Explosion Hazards:
This product is an aqueous mixture which will not burn.

Extinguishing Media:
Use any media suitable for the surrounding fires.

Fire-Fighting Instructions:
Firefighters should wear full protective clothing including self contained breathing apparatus.

*** Section 6 - Accidental Release Measures ***

Containment Procedures:
Stop the flow of material, if this is without risk. Block any potential routes to water systems. Wear appropriate protective equipment and clothing during clean-up.

Clean-Up Procedures:
Collect spilled material with an inert absorbent such as sand or vermiculite. Place in properly labeled closed container. Dispose of collected material according to regulation.

*** Section 7 - Handling and Storage ***

Handling Procedures:
Do not get this material in your eyes, on your skin, or on your clothing. Wash thoroughly after handling.

Storage Procedures:
Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. Manufacturer recommends storing above 40 ºF. Thaw and mix thoroughly if frozen.

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

Exposure Guidelines:
A: General Product Information
Follow all applicable exposure limits.

B: Component Exposure Limits
Sodium hydroxide (1310-73-2)
- ACGIH: 2 mg/m³ Ceiling
- OSHA: 2 mg/m³ TWA
- NIOSH: 2 mg/m³ Ceiling

Engineering Controls:
Ventilation should effectively remove and prevent buildup of any vapor or mist generated from the handling of this product.

PERSONAL PROTECTIVE EQUIPMENT
As prescribed in the OSHA Standard for Personal Protective Equipment (29 CFR 1910.132), employers must perform a Hazard Assessment of all workplaces to determine the need for, and selection of, proper protective equipment for each task performed.

Eyes/Face Protective Equipment:
Wear chemical goggles; face shield (if splashing is possible).

Skin Protection:
Use impervious gloves. Gloves should be tested to determine suitability for prolonged contact. Use of impervious apron and boots are recommended.

Respiratory Protection:
If ventilation is not sufficient to effectively prevent buildup of vapor/mist/fume/dust, appropriate NIOSH/MSHA respiratory protection must be provided.
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Work Practices:
Eyewash fountains and emergency showers are required.

*** Section 9 - Physical & Chemical Properties ***

<table>
<thead>
<tr>
<th>Physical State:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor:</td>
<td>Bland</td>
</tr>
<tr>
<td>Vapor Density:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>1.45 - 1.55</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Solubility Water:</td>
<td>Complete</td>
</tr>
<tr>
<td>Percent Volatile:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Appearance:</td>
<td>Clear, colorless to pale yellow</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>&gt; 212 °F</td>
</tr>
<tr>
<td>pH:</td>
<td>&gt; 13.5</td>
</tr>
<tr>
<td>VOC:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Percent Solids:</td>
<td>45-50%</td>
</tr>
</tbody>
</table>

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

Chemical Stability:
Stable under normal conditions.

Incompatibility:
This product reacts with acids. Adding water to this product may cause localized overheating and splattering.

Decomposition Products:
Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Hazardous Polymerization:
Will not occur.

*** Section 11 - Toxicological Information ***

Acute Toxicity:
A: General Product Information
Sodium hydroxide is an alkaline corrosive that results in severe irritation and burns to the eyes, skin, respiratory system, and gastrointestinal system. Sodium hydroxide has been implicated as a cause of cancer in humans. However, this may be a secondary effect of the tissue destruction and scar formation caused by sodium hydroxide. Embryotoxicity in rats may be attributed to an alteration of pH in the amniotic fluid rather than the sodium hydroxide itself.

B: Component Analysis - LD50/LC50
Sodium hydroxide (1310-73-2)
Dermal LD50 Rabbit: 1350 mg/kg

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

B: Component Carcinogenicity
None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Chronic Toxicity
No information available for the product.

Epidemiology:
No information available for the product.

Neurotoxicity:
No information available for the product.

Mutagenicity:
No information available for the product.

Teratogenicity:
No information available for the product.
Other Toxicological Information:
None available.

*** Section 12 - Ecological Information ***

Ecotoxicity:
A: General Product Information
No data available for this product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity
Sodium hydroxide (1310-73-2)  
Test & Species: Conditions  
96 Hr LC50 Oncorhynchus mykiss: 45.4 mg/L [static]

Environmental Fate:
No data is available concerning the environmental fate, biodegradation or bioconcentration for this product.

*** Section 13 - Disposal Considerations ***

US EPA Waste Numbers & Descriptions:
A: General Product Information
This product, if discarded directly, would be a characteristic RCRA corrosive waste (D002).

B: Component Waste Numbers
No EPA Waste Numbers are applicable for this product’s components.

Disposal Instructions:
Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

*** Section 14 - Transportation Information ***

US DOT Information  
Shipping Name: Please refer to the container label for transportation information.

*** Section 15 - Regulatory Information ***

US Federal Regulations  
A: General Product Information
This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

B: Component Analysis
This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).
Sodium hydroxide (1310-73-2)  
CERCLA: 1000 lb final RQ; 454 kg final RQ

SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No Reactive: Yes

State Regulations  
A: General Product Information
No additional information available.

B: Component Analysis - State
The following components appear on one or more of the following state hazardous substances lists:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>CA</th>
<th>FL</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Other Regulations  
A: General Product Information
All components are on the U.S. EPA TSCA Inventory List.
B: Component Analysis - Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>TSCA</th>
<th>DSL</th>
<th>EINECS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

C: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Minimum Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>1 %</td>
</tr>
</tbody>
</table>

*** Section 16 - Other Information ***

NFPA Ratings: Health: 3 Fire: 0 Reactivity: 1
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

HMIS Ratings: Health: 3 Fire: 0 Reactivity: 1
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Key/Legend

* = Chronic hazard

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; NFPA = National Fire Protection Association; HMIS = Hazardous Material Identification System; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; SARA = Superfund Amendments and Reauthorization Act

The information presented herein is believed to be factual as it has been derived from the works and opinions of persons believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty or representation for which Henkel Surface Technologies bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.

Contact: Product Safety and Regulatory Affairs
Contact Phone: (248) 583-9300

This is the end of MSDS # 239708DLP55G / IDH No. 841603