Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
E-Kleen 101

Details of the supplier of the safety data sheet
Electrochemical Products Inc.
17000 West Lincoln Ave
New Berlin, WI 53151
Phone: 262-786-9330
Emergency Phone #: NCEC (#EPI-29003) +1 202 464 2554, +44 1865 407333
E-mail: us-sales@epi.com
www.epi.com
Fax: 262-786-9403

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.
Acute Toxicity - Dermal - Category 4
Skin Corrosion/Irritation - Category 1
Serious Eye Damage/Eye Irritation - Category 1
Hazardous to the Aquatic Environment - Acute - Category 2
Hazardous to the Aquatic Environment - Chronic - Category 3

GHS Label Elements

Symbol(s)

Signal Word
Danger

Hazard Statement(s)
Harmful in contact with skin
Causes severe skin burns and eye damage
Toxic to aquatic life
Harmful to aquatic life with long lasting effects

Precautionary Statement(s)
Prevention
Wear protective gloves/protective clothing/eye protection/face protection
Wash thoroughly after handling
Avoid release to the environment
Do not breathe dusts or mists

Response
IF INHALED: Remove person to fresh air and keep comfortable for breathing
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy
to do. Continue rinsing
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with
water/shower
Take off contaminated clothing and wash before reuse
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
Immediately call a POISON CENTER or doctor
Specific treatment (see label)

Storage
Store locked up

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations

Statement of Unknown Toxicity
41.5% of the mixture consists of ingredient(s) of unknown acute toxicity.

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Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS</th>
<th>Component Name</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1310-73-2</td>
<td>Sodium Hydroxide</td>
<td>33-43</td>
</tr>
<tr>
<td>497-19-8</td>
<td>Sodium carbonate</td>
<td>30-40</td>
</tr>
<tr>
<td>6834-92-0</td>
<td>Sodium metasilicate</td>
<td>18-25</td>
</tr>
<tr>
<td>68412-54-4</td>
<td>Polyethylene glycol branched nonylphenyl ether</td>
<td>1-4</td>
</tr>
</tbody>
</table>

---

Section 4 - FIRST AID MEASURES

Inhalation
If inhaled, immediately remove the affected person to fresh air. If the affected person is not breathing, apply artificial respiration. Call a physician if symptoms develop or persist.

**Skin**
Immediately flush skin with lots of running water for 30 minutes. Remove contaminated clothing and shoes. Wash before reuse. Get immediate medical attention. If skin still feels slippery, caustic maybe still present in large enough quantities to cause rash burn. Continue to wash the effective area until it does not feel slippery.

**Eyes**
Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.

**Ingestion**
If conscious, drink large quantities of water or acidic beverages like tomato or orange juice or carbonated soft drinks. If vomiting does occur administer additional water. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician immediately.

---

### Section 5 - FIRE FIGHTING MEASURES

**Extinguishing Media**

**Suitable Extinguishing Media**
Water spray, dry chemical, carbon dioxide.

**Unsuitable Extinguishing Media**
None identified.

**Special Hazards Arising from the Chemical**
None identified.

**Hazardous Combustion Products**
None known.

**Fire Fighting Measures**
Firefighters should wear full-face, self-contained breathing apparatus and impervious protective clothing. Firefighters should avoid inhaling any combustion products.

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### Section 6 - ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment and Emergency Procedures**
Isolate area. Keep unnecessary personnel away. Wear appropriate protective equipment during cleanup.

**Methods and Materials for Containment and Cleaning Up**
Avoid the generation of dusts during clean-up. Scoop up gross quantities of spilled material. Sweep up remaining material and dispose of contaminated material.

**Environmental Precautions**
If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with product. (DO NOT USE SAWDUST). Neutralize the spilled material before disposal. Avoid inhalation of dust from the spilled material. Avoid contact with skin and eyes. Neutralize with dilute acid. Flush spill area with water followed by liberal coverage of sodium bicarbonate.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling
Avoid getting this material into contact with your skin and eyes.

Conditions for Safe Storage, Including any Incompatibilities
Store locked up
Keep in a cool, well-ventilated place away from acids. Keep container tightly closed.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Exposure Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>1310-73-2</td>
</tr>
<tr>
<td>ACGIH:</td>
<td>2 mg/m3 Ceiling</td>
</tr>
<tr>
<td>NIOSH:</td>
<td>2 mg/m3 Ceiling</td>
</tr>
<tr>
<td></td>
<td>10 mg/m3 IDLH</td>
</tr>
<tr>
<td>OSHA (US):</td>
<td>2 mg/m3 TWA</td>
</tr>
<tr>
<td>Mexico:</td>
<td>2 mg/m3 Ceiling</td>
</tr>
</tbody>
</table>

Biological limit value
There are no biological limit values for any of this product's components.

Engineering Controls
Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection
Wear chemical goggles and face shield.

Skin Protection
Use of protective coveralls and long sleeves is recommended to prevent skin contact. Use of an impervious apron is 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.
Glove Recommendations
Use of impervious gloves is recommended.

Protective Materials
Eye wash fountain and emergency showers are recommended.

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### Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Light Tan to Brown Powder</td>
</tr>
<tr>
<td>Physical State</td>
<td>Powder</td>
</tr>
<tr>
<td>Odor</td>
<td>Not available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point Range</td>
<td>Not available</td>
</tr>
<tr>
<td>Autoignition</td>
<td>Not available</td>
</tr>
<tr>
<td>Lower Explosive Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Upper Explosive Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Density (air=1)</td>
<td>Not available</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Completely</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Density</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific Gravity (water=1)</td>
<td>Not available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility (Other)</td>
<td>Not available</td>
</tr>
<tr>
<td>VOC</td>
<td>0</td>
</tr>
</tbody>
</table>

---

### Section 10 - STABILITY AND REACTIVITY

Reactivity
Contact with some metals, particularly magnesium, aluminum, zinc (galvanized) can rapidly generate hydrogen which can be explosive.

**Chemical Stability**
Stable under normal conditions.

**Possibility of Hazardous Reactions**
Will not occur.

**Conditions to Avoid**
Avoid contact with extreme heat.

**Incompatible Materials**
This product may react with strong acids.

**Hazardous decomposition products**

**Thermal decomposition products**
Upon thermal decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

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**Section 11 - TOXICOLOGICAL INFORMATION**

**Acute and Chronic Toxicity**

**Component Analysis - LD50/LC50**
The components of this material have been reviewed in various sources and the following selected endpoints are published:
- Sodium Hydroxide (1310-73-2)
- Dermal LD50 Rabbit 1350 mg/kg
- Sodium carbonate (497-19-8)
- Oral LD50 Rat 4090 mg/kg
- Dermal LD50 Mouse 2210 mg/kg
- Inhalation LC50 Rat 2300 mg/m³ 2 h
- Sodium metasilicate (6834-92-0)
- Oral LD50 Rat 1153 mg/kg
- Polyethylene glycol branched nonylphenyl ether (68412-54-4)
- Oral LD50 Rat 2590 mg/kg (related to Nonylphenol ethoxylates)
- Dermal LD50 Rabbit 1780 µL/kg (related to Nonylphenol ethoxylates)

**Immediate Effects**
No information on significant adverse effects.

**Delayed Effects**
No information on significant adverse effects.

**Irritation/Corrosivity Data**
No data available.

**Respiratory Sensitization**
No data available.

**Dermal Sensitization**
No data available.

**Component Carcinogenicity**
None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

**Germ Cell Mutagenicity**
No data available.

**Tumorigenic Data**
No data available.

**Reproductive Toxicity**
No data available.

**Specific Target Organ Toxicity - Single Exposure**
No data available.

**Specific Target Organ Toxicity - Repeated Exposure**
No data available.

**Aspiration hazard**
No data available.

**Medical Conditions Aggravated by Exposure**
No data available.

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**Section 12 - ECOLOGICAL INFORMATION**

**Ecotoxicity**
Because of the high pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

**Component Analysis - Aquatic Toxicity**

<table>
<thead>
<tr>
<th>Component</th>
<th>EC50 or LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>1310-73-2</td>
</tr>
<tr>
<td>Fish:</td>
<td>LC50 96 h Oncorhynchus mykiss 45.4 mg/L [static]</td>
</tr>
<tr>
<td>Sodium carbonate</td>
<td>497-19-8</td>
</tr>
<tr>
<td>Fish:</td>
<td>LC50 96 h Lepomis macrochirus 300 mg/L [static]; LC50 96 h Pimephales promelas 310 - 1220 mg/L [static]</td>
</tr>
<tr>
<td>Invertebrate:</td>
<td>EC50 48 h Daphnia magna 265 mg/L IUCLID</td>
</tr>
<tr>
<td>Sodium metasilicate</td>
<td>6834-92-0</td>
</tr>
</tbody>
</table>
Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods
As shipped, this product would be considered a D002 (corrosive) waste. The U.S. EPA has not published waste numbers for this product's components. Waste must be handled in accordance with all federal, state, provincial, and local regulations. In case of large spills, follow all facility Emergency Response Procedures. Do not allow this material to into sewers/water supplies. Do not reuse container. Dispose of container and any unused contents in accordance with Federal, State, Provincial and Local Waste Regulations.

Section 14 - TRANSPORT INFORMATION

US DOT Information:
Shipping Name: Sodium hydroxide, solid
Hazard Class: 8
UN/NA #: UN1823
Packing Group: II
Required Label(s): Corrosive

TDG Information:
Shipping Name: Sodium hydroxide, solid
Hazard Class: 8
UN#: UN1823
Packing Group: II
Required Label(s): Corrosive

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations
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), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

<table>
<thead>
<tr>
<th>Chemical</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>1310-73-2</td>
</tr>
<tr>
<td>CERCLA:</td>
<td>1000 lb final RQ; 454 kg final RQ</td>
</tr>
</tbody>
</table>
Safety Data Sheet

Material Name: E-Kleen 101
SDS ID: EPI-0049c

<table>
<thead>
<tr>
<th>Polyethylene glycol branched nonylphenyl ether</th>
<th>68412-54-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA 12b:</td>
<td>Section 5, 1 % de minimus concentration (related to Nonylphenol ethoxylates)</td>
</tr>
</tbody>
</table>

### U.S. State Regulations
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>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>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Not listed under California Proposition 65

**Canadian WHMIS Ingredient Disclosure List (IDL)**
Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL.

<table>
<thead>
<tr>
<th>Sodium Hydroxide</th>
<th>1310-73-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 %</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Sodium carbonate</th>
<th>497-19-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 %</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sodium metasilicate</th>
<th>6834-92-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 %</td>
<td></td>
</tr>
</tbody>
</table>

**Component Analysis - Inventory**

**Sodium Hydroxide (1310-73-2)**

<table>
<thead>
<tr>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>DSL</td>
<td>EIN</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Sodium carbonate (497-19-8)**

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>DSL</td>
<td>EIN</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Sodium metasilicate (6834-92-0)**
Section 16 - OTHER INFORMATION

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

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

Key / Legend
ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; JP - Japan; Kow - Octanol/water partition coefficient; KECI - Korea Existing Chemicals Inventory; KECL – Korea Existing Chemicals List; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR’s Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX – Mexico; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH-Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport;
Safety Data Sheet

Material Name: E-Kleen 101


Other Information

Disclaimer:
Reasonable care has been taken in the preparation of this information; however, the manufacturer makes no warranty whatsoever including the warranty of merchantability, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental, consequential, or other such damages resulting from its use or misuse.