Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
E-Kleen 173

Product Use
Soak and Electrocleaner.

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 - Oral - Category 4
Acute Toxicity - Dermal - Category 4
Acute Toxicity - Inhalation - Dust/Mist - Category 3
Skin Corrosion/Irritation - Category 1
Serious Eye Damage/Eye Irritation - Category 1

GHS Label Elements
Symbol(s)

Signal Word
Danger

Hazard Statement(s)
Harmful if swallowed.
Harmful in contact with skin.
Toxic if inhaled.  
Causes severe skin burns and eye damage.

**Precautionary Statement(s)**

**Prevention**
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
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 in a well-ventilated place. Keep container tightly closed.  
Store locked up.

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

**Statement of Unknown Toxicity**
0% of the mixture consists of ingredient(s) of unknown acute toxicity.

**Other Hazards**
This product may produce corrosive damage to the gastrointestinal tract if it is swallowed. If swallowed can cause complete tissue perforation of mucous membranes of the mouth, throat, esophagus and stomach.

---

**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>21-25</td>
</tr>
<tr>
<td>6834-92-0</td>
<td>Sodium metasilicate</td>
<td>37-40</td>
</tr>
<tr>
<td>497-19-8</td>
<td>Disodium carbonate</td>
<td>30-35</td>
</tr>
</tbody>
</table>
Section 4 - FIRST AID MEASURES

Inhalation
If inhaled, immediately remove the affected person to fresh air. If breathing is irregular or stopped, administer artificial respiration.

Skin
For skin contact flush with large amounts of water while removing contaminated clothing.

Eyes
Flush immediately with water for at least 15 minutes. Do not rub eyes. If irritation persists, get medical attention.

Ingestion
If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Most Important Symptoms/Effects
Acute
Breathing dust, mist or spray of this product may cause damage to the upper respiratory tract and lung tissue which can cause chemical pneumonia, depending on the severity of exposure.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

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

Unsuitable Extinguishing Media
None known.

Hazardous Combustion Products
Decomposition of this product may emit oxides of nitrogen and carbon monoxide.

Fire Fighting Measures
Firefighters should wear full protective clothing including self contained breathing apparatus.

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
Wear appropriate protective equipment and clothing during clean-up. Material is corrosive; avoid contact during clean 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. After containment, it should be shoveled up or removed by vacuum truck (if liquid) to chemical waste area. Neutralize residue with dilute acid. Flush spill area with water followed by liberal coverage of Sodium Bicarbonate.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling
Wash thoroughly after handling.

Conditions for Safe Storage, Including any Incompatibilities
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
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>EU:</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>

EU - Occupational Exposure (98/24/EC) - Binding Biological Limit Values and Health Surveillance Measures
There are no biological limit values for any this product's components.

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)
There are no biological limit values for any 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 safety glasses with side shields or chemical goggles.

Skin Protection
Use of protective coveralls and long sleeves is recommended.

Respiratory Protection
If ventilation is not sufficient to effectively prevent buildup of vapors, wear appropriate respiratory protection.

Glove Recommendations
Wear impervious gloves.

Protective Materials
Eye wash fountain and emergency showers are recommended. Use good industrial hygiene practices in handling this material.

---

**Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White to Yellow Powder</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</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>NA</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>Physical State</td>
<td>solid</td>
</tr>
<tr>
<td>Odor</td>
<td>Color</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>pH</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Boiling Point</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Evaporation Rate</td>
</tr>
<tr>
<td>Boiling Point Range</td>
<td>Flammability (solid, gas)</td>
</tr>
<tr>
<td>Autoignition</td>
<td>Flash Point</td>
</tr>
<tr>
<td>Lower Explosive Limit</td>
<td>Decomposition</td>
</tr>
<tr>
<td>Upper Explosive Limit</td>
<td>Vapor Pressure</td>
</tr>
<tr>
<td>Vapor Density (air=1)</td>
<td>Specific Gravity (water=1)</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Partition coefficient: n-octanol/water</td>
</tr>
<tr>
<td>Odor</td>
<td>White or yellow</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>12, conc: 0.05 % (solution)</td>
</tr>
<tr>
<td>Melting Point</td>
<td>NA</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>NA</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Not available</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 acids.

Incompatible Materials
This product may react with strong acids.

Hazardous decomposition products

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 metasilicate (6834-92-0)
Oral LD50 Rat 1153 mg/kg
Disodium carbonate (497-19-8)
Oral LD50 Rat 4090 mg/kg
Dermal LD50 Mouse 2210 mg/kg
Inhalation LC50 Rat 2300 mg/m3 2 h
Trisodium phosphate (7601-54-9)
Oral LD50 Rat >2000 mg/kg
Dermal LD50 Rabbit >300 mg/kg
Inhalation LC50 Rat >2.16 mg/L 1 h
Amines, C12-14-tert-alkyl, ethoxylated (73138-27-9)
Oral LD50 Rat 1850 mg/kg

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.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

| Sodium Hydroxide | 1310-73-2 |
Safety Data Sheet

Material Name: E-Kleen 173

Fish:
- LC50 96 h Oncorhynchus mykiss 45.4 mg/L [static]
- LC50 96 h Brachydanio rerio 210 mg/L [semi-static]; LC50 96 h Brachydanio rerio 210 mg/L
- LC50 96 h Lepomis macrochirus 300 mg/L [static]; LC50 96 h Pimephales promelas 310 - 1220 mg/L [static]
- EC50 48 h Daphnia magna 265 mg/L IUCLID

Sodium metasilicate: 6834-92-0

Disodium carbonate: 497-19-8

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose of waste material in accordance with all applicable Federal, State or provincial and local environmental regulations. See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

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>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>
<tr>
<td>CERCLA:</td>
<td>1000 lb final RQ; 454 kg final RQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trisodium phosphate</td>
<td>7601-54-9</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>CERCLA:</td>
<td>5000 lb final RQ; 2270 kg final RQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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>
<tr>
<td>Trisodium phosphate</td>
<td>7601-54-9</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

Canada Regulations
This material is a controlled product under Canadian WHMIS regulations.

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>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>1 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium metasilicate</td>
<td>6834-92-0</td>
<td>1 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disodium carbonate</td>
<td>497-19-8</td>
<td>1 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Component Analysis - Inventory
Sodium Hydroxide (1310-73-2)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<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>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Sodium metasilicate (6834-92-0)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<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>

Disodium carbonate (497-19-8)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<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>

Trisodium phosphate (7601-54-9)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<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>No</td>
</tr>
</tbody>
</table>

Amines, C12-14-tert-alkyl, ethoxylated (73138-27-9)

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

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 -
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.