Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
E-Prep 280 NCZ

Product Use
Zincate.

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.
Skin Corrosion/Irritation - Category 1
Serious Eye Damage/Eye Irritation - Category 1
Hazardous to the Aquatic Environment - Acute - Category 3
Hazardous to the Aquatic Environment - Chronic - Category 3

GHS Label Elements

Symbol(s)

Signal Word
Danger

Hazard Statement(s)
Causes severe skin burns and eye damage.
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.
Wash contaminated clothing 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.

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>7732-18-5</td>
<td>Water</td>
<td>50-70</td>
</tr>
<tr>
<td>1310-73-2</td>
<td>Sodium Hydroxide</td>
<td>30-40</td>
</tr>
<tr>
<td>1314-13-2</td>
<td>Zinc oxide</td>
<td>3-7</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.
Safety Data Sheet

Material Name: E-Prep 280 NCZ

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
None known.

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
Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps. Block any potential routes to water systems. Neutralize with dilute acid. Flush spill area with water followed by liberal coverage of sodium bicarbonate. Incinerate spent absorbent material in an approved incinerator.

Environmental Precautions
Do not allow to enter sewers or waterways.
Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling
Wash thoroughly after handling.

Conditions for Safe Storage, Including any Incompatibilities
Store locked up.
Keep container tightly closed.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Exposure Limits</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>
<tr>
<td>Zinc oxide</td>
<td>1314-13-2</td>
</tr>
<tr>
<td>ACGIH:</td>
<td>2 mg/m3 TWA respirable fraction</td>
</tr>
<tr>
<td></td>
<td>10 mg/m3 STEL respirable fraction</td>
</tr>
<tr>
<td>NIOSH:</td>
<td>5 mg/m3 TWA dust and fume</td>
</tr>
<tr>
<td></td>
<td>10 mg/m3 STEL fume</td>
</tr>
<tr>
<td></td>
<td>15 mg/m3 Ceiling dust</td>
</tr>
<tr>
<td></td>
<td>500 mg/m3 IDLH</td>
</tr>
<tr>
<td>OSHA (US):</td>
<td>5 mg/m3 TWA fume; 15 mg/m3 TWA total dust; 5 mg/m3 TWA respirable fraction</td>
</tr>
<tr>
<td>Mexico:</td>
<td>5 mg/m3 TWA LMPE-PPT fume; 10 mg/m3 TWA LMPE-PPT dust</td>
</tr>
<tr>
<td></td>
<td>10 mg/m3 STEL [LMPE-CT] fume</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 of this product's components.

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)
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 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.

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**Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Slightly Amber viscous solution</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Odorless</td>
</tr>
<tr>
<td><strong>Odor Threshold</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Melting Point</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Freezing Point</strong></td>
<td>45 - 50 °F (7.22-10 °C)</td>
</tr>
<tr>
<td><strong>Boiling Point Range</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Autoignition</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Lower Explosive Limit</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Upper Explosive Limit</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Physical State</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Amber</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>11.5 - 13.5</td>
</tr>
<tr>
<td><strong>Boiling Point</strong></td>
<td>&gt;240 °F (115 °C)</td>
</tr>
<tr>
<td><strong>Evaporation Rate</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Decomposition</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Vapor Pressure</strong></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

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

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:
- Water (7732-18-5)
- Oral LD50 Rat >90 mL/kg
- Sodium Hydroxide (1310-73-2)
- Dermal LD50 Rabbit 1350 mg/kg
Zinc oxide (1314-13-2)
Oral LD50 Rat >5000 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.

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Section 12 - ECOLOGICAL INFORMATION

**Component Analysis - Aquatic Toxicity**

<table>
<thead>
<tr>
<th>Component</th>
<th>Aquatic Toxicity</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>
</tbody>
</table>
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, solution  
Hazard Class: 8  
UN/NA #: UN1824  
Packing Group: II  
Required Label(s): Corrosive

TDG Information:
Shipping Name: Sodium hydroxide, solution  
Hazard Class: 8  
UN#: UN1824  
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>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></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CERCLA:</td>
<td>1000 lb final RQ; 454 kg final RQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</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>Zinc oxide</td>
<td>1314-13-2</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

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></th>
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<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Zinc oxide</td>
<td>1314-13-2</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Section 16 - OTHER INFORMATION

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

NFPA Ratings
Health: 2 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 
Liststm - 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; 
SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TCCA – 
Korea Toxic Chemicals Control Act.; TDG - Transportation of Dangerous Goods; TSCA - Toxic 
Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; 
US - United States.

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.