Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
E-Brite B-150

Product Use
Plating Additive.

Manufacturer Information
Electrochemical Products Inc.
17000 West Lincoln Ave
New Berlin, WI 53151
Phone: 262-786-9330
Emergency Phone #: Chemtrec #800-424-9300 (CCN7498)
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 2
Hazardous to the Aquatic Environment - Chronic - Category 2

GHS Label Elements

Symbol(s)

Signal Word
Danger

Hazard Statement(s)
Causes severe skin burns and eye damage
Toxic 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
Collect spillage
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
Contains:. Cyanide compounds. Harmful if swallowed. Wash thoroughly after handling.

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

Other Hazards
Swallowing this solution can cause death. Exposure to small amount of cyanide compounds over long periods of time is reported to cause loss of appetite, headache, weakness, nausea, dizziness and symptoms of irritation of the upper respiratory tract and eyes.

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>98-99.5</td>
</tr>
<tr>
<td>1310-58-3</td>
<td>Potassium hydroxide</td>
<td>0.1-0.3</td>
</tr>
<tr>
<td>143-33-9</td>
<td>Sodium cyanide</td>
<td>0.1-0.4</td>
</tr>
</tbody>
</table>

Section 4 - FIRST AID MEASURES
Inhalation
If inhaled, immediately remove the affected person to fresh air. If symptoms persist, get medical attention.

Skin
Wash skin with soap and water. If irritation persists get medical attention.

Eyes
Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists get medical attention.

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

Note to Physicians
First aid for cyanide exposure: Actions to be taken in case of cyanide exposure should be planned in advance and practiced before working with cyanide. Cyanide poisoning requires immediate action - First aid using Amyl Nitrite and oxygen is generally given by a layman before medical help arrives. Medical treatment involves intravenous injections administered only by qualified medical personnel.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media
Suitable Extinguishing Media
Use methods for the surrounding fire.

Unsuitable Extinguishing Media
None identified.

Special Hazards Arising from the Chemical
None identified.

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

Fire Fighting Measures
Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
Wear appropriate personal protective equipment.
Methods and Materials for Containment and Cleaning Up
Isolate area. Keep unnecessary personnel away.

Environmental Precautions
Dike the spilled material, where this is possible. Wear protective equipment. For small spills absorb liquid with dirt or other absorbent material and dispose of in DOT approved waste containers. For large spills contain with soil or other absorbent material and keep spill alkaline by covering with lime. Flush area with dilute solution of Sodium or Calcium Hypochlorite. Keep out of sewers, storm drains and surface waters.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling
Wash thoroughly after handling. Do not reuse the empty container.

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

Incompatible Materials
Acids.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Exposure Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium hydroxide</td>
<td>1310-58-3</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>Sodium cyanide</td>
<td>143-33-9</td>
</tr>
<tr>
<td>ACGIH:</td>
<td>5 mg/m3 Ceiling as CN</td>
</tr>
<tr>
<td>Skin - potential significant contribution to overall exposure by the cutaneous route</td>
<td></td>
</tr>
<tr>
<td>NIOSH:</td>
<td>4.7 ppm Ceiling as CN 10 min; 5 mg/m3 Ceiling as CN 10 min</td>
</tr>
<tr>
<td>Mexico:</td>
<td>25 mg/m3IDLH as CN</td>
</tr>
<tr>
<td></td>
<td>5 mg/m3Ceiling</td>
</tr>
</tbody>
</table>
Biological limit value
There are no biological limit values for any of this product's components.

Engineering Controls
Local exhaust is suggested for use, where possible, in enclosed or confined spaces. Use adequate local exhaust to maintain emissions at point of use below applicable exposure limits when mist or spray may be generated.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection
Wear chemical goggles; face shield (if splashing is possible).

Skin Protection
Use impervious gloves. Use of protective coveralls and long sleeves is recommended. 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 respirator protection must be provided.

Glove Recommendations
Use impervious gloves.

Protective Materials
Eye wash fountain and emergency showers are recommended.

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**Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Colorless to yellow/green liquid</th>
<th>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor</td>
<td>Characteristic odor, Cyanide compounds</td>
<td>Color</td>
<td>Colorless to yellow/green liquid</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available</td>
<td>pH</td>
<td>12.4 - 13</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not available</td>
<td>Boiling Point</td>
<td>218 °F (103 °C)</td>
</tr>
<tr>
<td>Freezing point</td>
<td>32 °F (0 °C)</td>
<td>Evaporation Rate</td>
<td>(Approx. equal to Water)</td>
</tr>
<tr>
<td>Boiling Point Range</td>
<td>Not available</td>
<td>Flammability (solid, gas)</td>
<td>Not available</td>
</tr>
<tr>
<td>Autoignition</td>
<td>Not available</td>
<td>Flash Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Lower Explosive Limit</td>
<td>Not available</td>
<td>Decomposition</td>
<td>Not available</td>
</tr>
</tbody>
</table>
Safety Data Sheet

Material Name: E-Brite B-150

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Explosive Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Density (air=1)</td>
<td>(Approx. equal to water)</td>
</tr>
<tr>
<td>Specific Gravity (water=1)</td>
<td>0.998 - 1.01</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Completely</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility (Other)</td>
<td>Not available</td>
</tr>
<tr>
<td>Density</td>
<td>Not available</td>
</tr>
<tr>
<td>VOC</td>
<td>0</td>
</tr>
</tbody>
</table>

Section 10 - STABILITY AND REACTIVITY

Reactivity
Will not occur.

Chemical Stability
This is a stable material.

Possibility of Hazardous Reactions
Hazardous polymerization will not occur.

Conditions to Avoid
None.

Incompatible Materials
This product may react with strong acids or oxidizing agents.

Hazardous decomposition products
Poisonous Hydrogen Cyanide and Ammonia gasses.

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 LD50Rat >90 mL/kg
Potassium hydroxide (1310-58-3)
Oral LD50Rat 284 mg/kg
Sodium cyanide (143-33-9)
Oral LD50 Rat 5.733 mg/kg  
Dermal LD50 Rabbit 14.602 mg/kg  
Inhalation LC50 Rat 0.16 mg/L 1 h

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.

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

<table>
<thead>
<tr>
<th>Sodium cyanide</th>
<th>143-33-9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish:</td>
<td>LC50 96 h Lepomis macrochirus 0.066 - 0.0852 mg/L [flow-through]; LC50 96 h Lepomis macrochirus 0.15 mg/L [static]; LC50 96 h Oncorhynchus mykiss 0.0391 - 0.0548 mg/L [static]; LC50 96 h Oncorhynchus mykiss 0.0558 - 0.0586 mg/L [flow-through]; LC50 96 h</td>
</tr>
</tbody>
</table>
Pimephales promelas 0.0712 - 0.0936 mg/L [flow-through]; LC50 96 h Pimephales promelas 0.17 mg/L [static]

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods
Waste must be handled in accordance with all federal, state, provincial, and local regulations. 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: Environmentally hazardous substances, Liquid NOS, (Contains:Sodium Cyanide Solution)
Hazard Class: 9
UN/NA #: 3082
Packing Group: III
Required Label(s): Environmental

TDG Information:

Shipping Name: Environmentally hazardous substances, Liquid NOS, (Contains:Sodium Cyanide Solution)
Hazard Class: 9
UN#: 3082
Packing Group: III
Required Label(s): Environmental

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>UN/NA Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium hydroxide</td>
<td>1310-58-3</td>
</tr>
</tbody>
</table>
Material Name: E-Brite B-150

CERCLA: 1000 lb final RQ; 454 kg final RQ
Sodium cyanide 143-33-9
SARA 302: 100 lb TPQ This material is a reactive solid. The TPQ does not default to 10000 pounds for non-powder, non-molten, non-solution form
CERCLA: 10 lb final RQ; 4.54 kg final RQ
SARA 304: 10 lb EPCRA RQ

All components are on the U.S. EPA TSCA Inventory List. This product is in compliance with TSCA.

SARA Section 311/312 (40 CFR 370 Subparts B and C)
Acute Health: no Chronic Health: no Fire: no Pressure: no Reactivity: no

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>Potassium hydroxide</td>
<td>1310-58-3</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sodium cyanide</td>
<td>143-33-9</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 product is not WHMIS controlled.

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>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium hydroxide</td>
<td>1310-58-3</td>
</tr>
</tbody>
</table>

1 %

Component Analysis - Inventory
Water (7732-18-5)

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

Potassium hydroxide (1310-58-3)

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>DSL</td>
<td>EIN</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</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; 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; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of L1sts™ - ChemADVISOR’s Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; 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; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.