Material Name: E-Strip 922-B

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
E-Strip 922-B

Product Use
Copper Stripper.

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.
Oxidizing Liquids - Category 2
Acute Toxicity - Oral - Category 4
Acute Toxicity - Dermal - Category 3
Acute Toxicity - Inhalation - Vapor - Category 2
Skin Corrosion/Irritation - Category 1
Serious Eye Damage/Eye Irritation - Category 1
Hazardous to the Aquatic Environment - Acute - Category 1
Hazardous to the Aquatic Environment - Chronic - Category 1

GHS Label Elements
Symbol(s)

 Signal Word
Danger

Hazard Statement(s)
May intensify fire; oxidizer.
Harmful if swallowed.
Toxic in contact with skin.
Fatal if inhaled.
Causes severe skin burns and eye damage.
Very toxic to aquatic life with long lasting effects.

Precautionary Statement(s)
Prevention
Keep away from heat/sparks/open flame/hot surfaces - No smoking.
Keep/Store away from clothing/combustible materials.
Take any precaution to avoid mixing with combustibles.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear respiratory protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid release to the environment.

Response
In case of fire: Use appropriate media to extinguish.
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.
Take off immediately all contaminated clothing and wash it before reuse.
Wash contaminated clothing before reuse.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Immediately call a POISON CENTER or doctor.
Specific treatment is urgent (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.

Other Hazards
MAJOR HEALTH HAZARDS: Corrosive. Harmful or fatal if swallowed. May cause permanent eye damage.
Causes burns to the respiratory tract, skin, eyes and gastrointestinal tract. PHYSICAL HAZARDS: Dried material can ignite upon contact with combustibles.

### 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>60-75</td>
</tr>
<tr>
<td>7758-19-2</td>
<td>Sodium chlorite</td>
<td>25-35</td>
</tr>
</tbody>
</table>

### Section 4 - FIRST AID MEASURES

Inhalation
INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing.
If breathing is difficult, oxygen should be administered by qualified personnel. If respiration or pulse has stopped,
have a trained person administer Basic Life Support (Cardio-Pulmonary Resuscitation/Automatic External Defibrillator) and CALL FOR EMERGENCY SERVICES IMMEDIATELY.

**Skin**
Immediately flush skin with lots of running water for 15 minutes. Remove contaminated clothing and shoes. Wash before reuse. Get immediate medical attention.

**Eyes**
Object is to flush material out immediately then seek medical attention. Washing eyes within one (1) minute is essential to achieve maximum effectiveness. Immediately flush with lots of running water for 30 minutes, lifting the upper and lower eye lids occasionally. Get immediate medical attention.

**Ingestion**
If swallowed, get immediate medical attention! DO NOT INDUCE VOMITING! Give large quantities of water. Never give anything by mouth to an unconscious person. Aspiration hazard: If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

**Note to Physicians**
Chlorine dioxide vapors are emitted when this product contacts acids or chlorine. If these vapors are inhaled, monitor patient closely for delayed development of pulmonary edema which may occur up to 48-72 hours post-inhalation. Following ingestion, neutralization and use of activated charcoal is not indicated.

### Section 5 - FIRE FIGHTING MEASURES

**Extinguishing Media**
**Suitable Extinguishing Media**
Use methods suitable for surrounding fire.

**Unsuitable Extinguishing Media**
None identified.

**Special Hazards Arising from the Chemical**
Negligible fire hazard. Avoid evaporation to dryness. Dried material can ignite upon contact with combustibles. This product may represent an explosion hazard if it contacts acids, chlorine or organic materials (Refer to Section 10).

**Hazardous Combustion Products**
Thermal decomposition products or combustion: chlorine, oxides of sodium.

**Advice for firefighters**
None identified.

**Fire Fighting Measures**
Use methods suitable to fight surrounding fire. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. If possible, firefighters should control runoff water to prevent environmental contamination. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

### Section 6 - ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment and Emergency Procedures**
Wear protective gloves and eye/face protection. Isolate area. Keep unnecessary personnel away.

**Methods and Materials for Containment and Cleaning Up**
Every attempt should be made to avoid mixing spilled material with other chemicals or debris when cleaning up. Keep collected material damp and put into drums. Dispose promptly.

**Environmental Precautions**
Dike and contain the spill with sand and earth. Sweep up and shovel into suitable containers for disposal. Do not flush to sewer. Every attempt should be made to avoid mixing spilled material with other chemicals or debris when cleaning up. Keep collected material damp and put into drums. Dispose promptly.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling
Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of the material from eyes, skin and clothing. Keep in closed container in a dry well-ventilated area away from incompatible materials. Wash thoroughly after handling. This product is a strong oxidizing agent and is a serious fire and explosion risk. Do not permit contact with combustible, organic or other oxidizable materials.

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

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)
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 a NIOSH-approved respirator if exposure limits are exceeded.

Individual Protection Measures, such as Personal Protective Equipment
Eye/face protection
Wear chemical goggles and / or face shield. It is generally recommended that contact lenses should not be worn when working with chemicals because they may contribute to the severity of an eye injury.

Skin Protection
Wear rubber gloves, long sleeved shirt and trousers. Use body protection appropriate for task (e.g., Tyvek suit, rubber apron).

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
Wear rubber gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Slight. cloudy.</th>
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</thead>
<tbody>
<tr>
<td>Odor</td>
<td>Slight chlorine smell.</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td></td>
<td>Color</td>
</tr>
<tr>
<td></td>
<td>Yellow.</td>
</tr>
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</table>
Safety Data Sheet

Material Name: E-Strip 922-B

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Odor Threshold</td>
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<tr>
<td>pH</td>
<td>10.2 - 13.5</td>
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<tr>
<td>Melting Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point Range</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
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<tr>
<td>Evaporation Rate</td>
<td>(Approx. equal to water)</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Lower Explosive Limit</td>
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</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Upper Explosive Limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Pressure</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>1.19 - 1.35</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Completely</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
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</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
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<tr>
<td>Kinematic viscosity</td>
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</tr>
<tr>
<td>Solubility (Other)</td>
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<tr>
<td>Density</td>
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<td>VOC</td>
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<tr>
<td>Molecular Weight</td>
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</table>

**Section 10 - STABILITY AND REACTIVITY**

**Reactivity**
Stable under normal temperatures and pressures.

**Chemical Stability**
This is a stable material.

**Possibility of Hazardous Reactions**
Hazardous polymerization will not occur.

**Conditions to Avoid**
Do not store in sunlight. Do not store above 120°F (49°C). Avoid heat, flames, sparks and other sources of ignition. Avoid evaporation to dryness. Dried material can ignite upon contact with combustibles. Avoid contamination with foreign materials. Avoid exposure to sunlight or ultraviolet light.

**Incompatible Materials**
Acids, reducing agents, combustible materials, oxidizing materials, hypochlorite, organic solvents and compounds, garbage, dirt, organic matter, household products, chemicals, soap products, paint products, vinegar, beverages, oils, pine oil, dirty rags, sulfur-containing rubber, or any other foreign matter.

**Hazardous decomposition products**
Decomposition products on contact with acids: chlorine dioxide gas. Thermal decomposition products or combustion: chlorine, oxides of sodium.
Thermal decomposition products
Thermal decomposition products or combustion: chlorine, oxides of sodium.

Section 11 - TOXICOLOGICAL INFORMATION

Acute and Chronic Toxicity
Mists may cause severe irritation of the respiratory tract with coughing, choking, pain and possibly burns of the mucous membranes. In some cases, pulmonary edema may develop.

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 chlorite (7758-19-2)**
  - Oral LD50 Rat 165 mg/kg
  - Dermal LD50 Rabbit 107.2 mg/kg
  - Inhalation LC50 Rat 230 mg/m3 4 h

Product Toxicity Data

Acute Toxicity Estimate
No data available.

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

<table>
<thead>
<tr>
<th>Component</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium chlorite</td>
<td>7758-19-2</td>
</tr>
</tbody>
</table>

- IARC: Monograph 52 [1991] (Group 3 (not classifiable))

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

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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 chlorite</td>
<td>7758-19-2</td>
</tr>
<tr>
<td>Fish:</td>
<td>LC50 96 h Brachydanio rerio 100 - 500 mg/L [static ]; LC50 96 h Lepomis macrochirus &gt;100 mg/L [static ]; LC50 96 h Oncorhynchus mykiss &gt;100 mg/L [static ]</td>
</tr>
<tr>
<td>Invertebrate:</td>
<td>EC50 48 h Daphnia magna 0.026 mg/L IUCLID ; EC50 48 h Daphnia magna 0.25 - 0.33 mg/L [Flow through ] EPA ; EC50 48 h Daphnia magna 0.012 - 0.018 mg/L [Static ] EPA</td>
</tr>
</tbody>
</table>

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. Do not allow this material to drain into sewers/water supplies. Transport waste material to an authorized waste location, or incinerate under controlled conditions.

Component Waste Numbers
The U.S. EPA has not published waste numbers for this product's components.

Section 14 - TRANSPORT INFORMATION

US DOT Information:
Shipping Name: Chlorite Solution
Hazard Class: 8
UN/NA #: 1908
Packing Group: II
Required Label(s): Corrosive
Marine pollutant

TDG Information:
Shipping Name: Chlorite Solution
Hazard Class: 8
UN#: 1908
Packing Group: II
Required Label(s): Corrosive
Marine pollutant

International Bulk Chemical Code
This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Section 15 - REGULATORY INFORMATION
U.S. Federal Regulations
None of this product's components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan. All components are on the U.S. EPA TSCA Inventory List. Supplier(s) of proprietary component(s) have stated that their components appear on the Canadian DSL/NDSL.

SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories
Oxidizer; Acute toxicity; Skin Corrosion/Irritation; Serious Eye Damage/Eye Irritation

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 chlorite</td>
<td>7758-19-2</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)
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 chlorite</td>
<td>7758-19-2</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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

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</thead>
<tbody>
<tr>
<td>Yes</td>
<td>DS L</td>
<td>EIN</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
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<td>Yes</td>
<td>Yes</td>
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Sodium chlorite (7758-19-2)

<table>
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<tbody>
<tr>
<td>Yes</td>
<td>DS L</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>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
Section 16 - OTHER INFORMATION

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

NFPA Ratings
Health: 3 Fire: 0 Reactivity: 1
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; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); 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; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); 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; F - Background (for Venezuela Biological Exposure Indices); 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; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECl Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECl Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) ; KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOEL - List Of Limits™ - ChemADVISOR’s Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; Ne- Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL – Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; 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; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

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.