Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
Insta Blak 333 GEL

Product Use
Blackening Gel.

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.
Corrosive to Metals - Category 1
Acute Toxicity - Inhalation - Vapor - Category 3
Skin Corrosion/Irritation - Category 2
Serious Eye Damage/Eye Irritation - Category 2A
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)
Safety Data Sheet

Material Name: Insta Blak 333 GEL

May be corrosive to metals
Toxic if inhaled
Causes skin irritation
Causes serious eye irritation
Harmful to aquatic life with long lasting effects

Precautionary Statement(s)

Prevention
Keep only in original container
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapours/spray
Wash thoroughly after handling
Avoid release to the environment

Response
Absorb spillage to prevent material damage
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: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
Call a POISON CENTER or doctor
Specific treatment (see label)

Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up
Store in corrosive resistant container with a resistant inner liner

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

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>96-98</td>
</tr>
<tr>
<td>7783-00-8</td>
<td>Selenious acid</td>
<td>1-2</td>
</tr>
<tr>
<td>7758-99-8</td>
<td>Copper</td>
<td>0.2-0.5</td>
</tr>
<tr>
<td>7664-38-2</td>
<td>Phosphoric acid</td>
<td>0.3-0.7</td>
</tr>
</tbody>
</table>
Section 4 - FIRST AID MEASURES

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Give artificial respiration if not breathing. Seek medical attention.

Skin
Immediately flush skin with lots of running water for 30 minutes. Remove contaminated clothing and shoes. Wash before reuse. Get immediate medical attention.

Eyes
In case of contact, immediately flush eyes with large amounts of water, continuing to flush for 30 minutes. Get immediate medical attention.

Ingestion
Give several glasses of water. 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. Call a physician immediately.

Indication of any immediate medical attention and special treatment needed
Ingestion will result in metallic taste, garlic odor to breath, nausea. Breathing mists can cause nose and throat irritation. Garlic odor to breath, headaches, dizziness, difficulty breathing.

Note to Physicians
Ingestion will result in metallic taste, garlic odor to breath, nausea. Breathing mists can cause nose and throat irritation. Garlic odor to breath, headaches, dizziness, difficulty breathing.

Antidote
Not Applicable.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media
Dry chemical, foam, carbon dioxide, water fog.

Unsuitable Extinguishing Media
None known.

Special Hazards Arising from the Chemical
None known.

Hazardous Combustion Products
May produce toxic selenous fumes.
Special Protective Equipment and Precautions for Firefighters
Not available.

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

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
Wear appropriate protective equipment and clothing during clean-up. Avoid contact with skin and eyes.

Methods and Materials for Containment and Cleaning Up
Isolate area. Keep unnecessary personnel away. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps.

Environmental Precautions
Block any potential routes to water systems.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling
Wash thoroughly after handling. Keep container tightly closed.

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

Incompatible Materials
This product may react with alkalis, strong reducing agents, organic compounds and cyanides.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Exposure Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>7758-99-8</td>
</tr>
<tr>
<td>ACGIH:</td>
<td>1 mg/m³TWA as Cudust and mist (related to Copper compounds)</td>
</tr>
<tr>
<td>NIOSH:</td>
<td>1 mg/m³TWA as Cudust and mist (related to Copper compounds)</td>
</tr>
<tr>
<td></td>
<td>100 mg/m³IDLH as Cudust and mist (related to Copper compounds)</td>
</tr>
</tbody>
</table>
Phosphoric acid 7664-38-2

ACGIH: 1 mg/m3 TWA
3 mg/m3 STEL

NIOSH: 1 mg/m3 TWA
3 mg/m3 STEL
1000 mg/m3 IDLH

Europe: 1 mg/m3 TWA
2 mg/m3 STEL

OSHA (US): 1 mg/m3 TWA

Mexico: 1 mg/m3 TWA LMPE-PPT
3 mg/m3 STEL [LMPE-CT]

Nitric acid 7697-37-2

ACGIH: 2 ppm TWA
4 ppm STEL

NIOSH: 2 ppm TWA; 5 mg/m3 TWA
4 ppm STEL; 10 mg/m3 STEL
25 ppm IDLH

Europe: 1 ppm STEL; 2.6 mg/m3 STEL

OSHA (US): 2 ppm TWA; 5 mg/m3 TWA

Mexico: 2 ppm TWA LMPE-PPT; 5 mg/m3 TWA LMPE-PPT
4 ppm STEL [LMPE-CT]; 10 mg/m3 STEL [LMPE-CT]

**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 safety glasses with side shields or chemical goggles.
Skin Protection
Use of an impervious apron is recommended. Use of protective coveralls and long sleeves 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>Blue to Green Gel</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic</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>32 °F (0 °C)</td>
</tr>
<tr>
<td>Boiling Point Range</td>
<td>Not available</td>
</tr>
<tr>
<td>Autopletion</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>(Approx. equal to water)</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>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Blue/Green</td>
</tr>
<tr>
<td>pH</td>
<td>0 - 1.5</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>228 °F (109 °C)</td>
</tr>
<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>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>0.8 - 1.016</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
Will not occur.

Chemical Stability
This is a stable material.

Possibility of Hazardous Reactions
Will not occur.

Conditions to Avoid
Avoid contact with extreme heat.

Incompatible Materials
This product may react with strong acids. This product may react with strong reducing agents. Organic compounds and cyanides.

Hazardous decomposition products
May produce volatile organoselenides or hydrogen selenide.

Section 11 - TOXICOLOGICAL INFORMATION

Acute and Chronic Toxicity
Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath headache, nausea, and vomiting. It causes conjunctivitis leading eventually to an allergic type of reaction of the eyes. Acute selenium poisoning produces central nervous system effects, which include nervousness, convulsions, and drowsiness. Other signs of gastrointestinal distress, teeth that are discolored or decayed, odorous (garlic-like) breath, and partial loss of hair and nails. Chronic exposure by inhalation can produce symptoms that include pallor, coating of the tongue, anemia, irritation of the mucosa, lumbar pain, liver and spleen damage, as well as any of the other previously mentioned symptoms.

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
  Copper (7758-99-8)
  Oral LD50 Rat 960 mg/kg
- Phosphoric acid (7664-38-2)
  Oral LD50 Rat 1530 mg/kg
- Dermal LD50 Rabbit 2740 mg/kg
- Inhalation LC50 Rat >850 mg/m3 1 h
- Nitric acid (7697-37-2)
  Inhalation LC50 Rat 67 ppm 4 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>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>7758-99-8</td>
</tr>
<tr>
<td>Fish:</td>
<td>LC50 96 h Lepomis macrochirus 0.66 - 1.15 mg/L [semi-static]; LC50 96 h Lepomis macrochirus 0.96 - 1.8 mg/L [static]; LC50 96 h Oncorhynchus mykiss 0.1478 - 0.165 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 0.09 - 0.19 mg/L [static]; LC50 96 h Pimephales promelas 0.6752 mg/L [static]</td>
</tr>
<tr>
<td>Invertebrate:</td>
<td>EC50 48 h Daphnia magna 0.147 - 0.227 mg/L [static] EPA</td>
</tr>
</tbody>
</table>
Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods
Waste must be handled in accordance with all federal, state, provincial, and local regulations. Transport waste material to an authorized waste location, or incinerate under controlled conditions. Do not allow this material to drain into sewers/water supplies. 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: Corrosive Liquid N.O.S., (Contains: Phosphoric Acid, Selenous Acid)
Hazard Class: 8
UN/NA #: UN1760
Packing Group: II
Required Label(s): Corrosive

TDG Information:

Shipping Name: Corrosive Liquid N.O.S., (Contains: Phosphoric Acid, Selenous Acid)
Hazard Class: 8
UN#: UN1760
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>Selenious acid</th>
<th>7783-00-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARA 302:</td>
<td>1000 lb lower TPQ; 10000 lb upper TPQ</td>
</tr>
<tr>
<td>CERCLA:</td>
<td>10 lbfinal RQ; 4.54 kgfinal RQ</td>
</tr>
<tr>
<td>SARA 304:</td>
<td>10 lb EPCRA RQ</td>
</tr>
</tbody>
</table>
Copper  7758-99-8

SARA 313: 1 % de minimis concentration (This category does not include CAS numbers 147-14-8, 1328-53-6, or 14302-13-7, or copper phthalocyanine compounds that are substituted with only hydrogen and/or chlorine and/or bromine) (related to Copper compounds)

Phosphoric acid  7664-38-2

CERCLA: 5000 lb final RQ; 2270 kg final RQ

Nitric acid  7697-37-2

SARA 302: 1000 lb TPQ

SARA 313: 1 % de minimis concentration

CERCLA: 1000 lb final RQ; 454 kg final RQ

OSHA (safety): 500 lb TQ >=94.5% by weight

SARA 304: 1000 lb EPCRA RQ

**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>Selenious acid</td>
<td>7783-00-8</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Copper</td>
<td>7758-99-8</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>7664-38-2</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Nitric acid</td>
<td>7697-37-2</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>Component</th>
<th>CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selenious acid</td>
<td>7783-00-8</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
</tr>
<tr>
<td>Water</td>
<td>Yes</td>
</tr>
<tr>
<td>Selenious acid</td>
<td>Yes</td>
</tr>
<tr>
<td>Copper</td>
<td>No</td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>Yes</td>
</tr>
<tr>
<td>Nitric acid</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 LIsts™ - 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.

Other Information
Disclaimer:
Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. Disclaimer: Supplier gives no warranty of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser will make his own tests to determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental and/or consequential property damage arising out of the use of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights. Read the Material Safety Data Sheet before handling product. The
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