Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
Insta Blak SS-370

Product Use
Blackening Solution.

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.
Acute Toxicity - Oral - Category 4
Acute Toxicity - Inhalation - Vapor - Category 3
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)
Harmful if swallowed
Toxic if inhaled
Causes severe skin burns and eye damage
Harmful to aquatic life with long lasting effects

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
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 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

---

**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>85-95</td>
</tr>
<tr>
<td>7647-01-0</td>
<td>Hydrogen chloride</td>
<td>15-20</td>
</tr>
<tr>
<td>7783-00-8</td>
<td>Selenous acid</td>
<td>1-4</td>
</tr>
<tr>
<td>7758-99-8</td>
<td>Copper</td>
<td>0-3</td>
</tr>
<tr>
<td>7664-38-2</td>
<td>Phosphoric acid</td>
<td>1-4</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.

**Environmental Precautions**
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.

---

**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
Keep the container tightly closed and in a cool, well-ventilated place.

**Incompatible Materials**
None known.

---

**Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Component Exposure Limits**

<table>
<thead>
<tr>
<th>Component</th>
<th>Limit</th>
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</thead>
<tbody>
<tr>
<td>Hydrogen chloride</td>
<td>7647-01-0</td>
</tr>
<tr>
<td>ACGIH:</td>
<td>2 ppm Ceiling</td>
</tr>
<tr>
<td>NIOSH:</td>
<td>5 ppm Ceiling; 7 mg/m3 Ceiling</td>
</tr>
<tr>
<td></td>
<td>50 ppmIDLH</td>
</tr>
<tr>
<td>Europe:</td>
<td>5 ppm TWA; 8 mg/m3 TWA</td>
</tr>
<tr>
<td></td>
<td>10 ppm STEL; 15 mg/m3 STEL</td>
</tr>
</tbody>
</table>
### 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.

<table>
<thead>
<tr>
<th>Substance</th>
<th>OSHA (US)</th>
<th>Mexico: 5 ppm Ceiling; 7 mg/m³ Ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>7758-99-8</td>
<td></td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>7664-38-2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>ACGIH: 1 mg/m³ TWA</th>
<th>NIOSH: 1 mg/m³ TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid</td>
<td>3 mg/m³ STEL</td>
<td>3 mg/m³ STEL</td>
</tr>
<tr>
<td></td>
<td>1000 mg/m³ IDLH</td>
<td></td>
</tr>
<tr>
<td>Europe:</td>
<td>1 mg/m³ TWA</td>
<td>2 mg/m³ STEL</td>
</tr>
<tr>
<td>OSHA (US):</td>
<td>1 mg/m³ TWA</td>
<td>3 mg/m³ STEL [LMPE-CT]</td>
</tr>
<tr>
<td>Mexico:</td>
<td>1 mg/m³ TWA LMPE-PPT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 mg/m³ STEL</td>
<td></td>
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</tbody>
</table>
Protective Materials
Eye wash fountain and emergency showers are recommended.

### 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>Light Blue Solution</td>
</tr>
<tr>
<td><strong>Physical State</strong></td>
<td>Liquid</td>
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<tr>
<td><strong>Odor</strong></td>
<td>Characteristic</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Not available</td>
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<tr>
<td><strong>Odor Threshold</strong></td>
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<tr>
<td><strong>pH</strong></td>
<td>&lt;1</td>
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<tr>
<td><strong>Melting Point</strong></td>
<td>Not available</td>
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<tr>
<td><strong>Boiling Point</strong></td>
<td>228 °F (109 °C)</td>
</tr>
<tr>
<td><strong>Freezing point</strong></td>
<td>32 °F (0 °C)</td>
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<tr>
<td><strong>Evaporation Rate</strong></td>
<td>(Approx. equal to Water)</td>
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<tr>
<td><strong>Boiling Point Range</strong></td>
<td>Not available</td>
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<tr>
<td><strong>Flammability (solid, gas)</strong></td>
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<tr>
<td><strong>Autoignition</strong></td>
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<tr>
<td><strong>Flash Point</strong></td>
<td>Not available</td>
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<tr>
<td><strong>Lower Explosive Limit</strong></td>
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<tr>
<td><strong>Decomposition</strong></td>
<td>Not available</td>
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<tr>
<td><strong>Upper Explosive Limit</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Vapor Pressure</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Vapor Density (air=1)</strong></td>
<td>(Approx. equal to water)</td>
</tr>
<tr>
<td><strong>Specific Gravity (water=1)</strong></td>
<td>1.05 - 1.07</td>
</tr>
<tr>
<td><strong>Water Solubility</strong></td>
<td>Completely</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Solubility (Other)</strong></td>
<td>Not available</td>
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<tr>
<td><strong>Density</strong></td>
<td>Not available</td>
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<tr>
<td><strong>VOC</strong></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 LD50Rat >90 mL/kg
Hydrogen chloride (7647-01-0)
Oral LD50Rat 238 - 277 mg/kg
Dermal LD50Rabbit >5010 mg/kg
Inhalation LC50Rat 1.68 mg/L 1 h
Copper (7758-99-8)
Oral LD50Rat 960 mg/kg
Phosphoric acid (7664-38-2)
Oral LD50Rat 1530 mg/kg
Dermal LD50Rabbit 2740 mg/kg
Inhalation LC50Rat >850 mg/m3 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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen chloride</td>
<td>7647-01-0</td>
</tr>
</tbody>
</table>

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 54 [1992](Group 3 (not classifiable))

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>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>7758-99-8</td>
</tr>
</tbody>
</table>

Fish:
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]

Invertebrate:
EC50 48 h Daphnia magna 0.147 - 0.227 mg/L [static] EPA
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: (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>Chemical</th>
<th>SARA 302</th>
<th>SARA 313</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen chloride</td>
<td>7647-01-0</td>
<td>1 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)</td>
</tr>
<tr>
<td>SARA 302:</td>
<td>500 lb TPQ gas only</td>
<td></td>
</tr>
</tbody>
</table>
### CERCLA:
5000 lb final RQ; 2270 kg final RQ

### OSHA (safety):
5000 lb TQ; 5000 lb TQ anhydrous

### SARA 304:
5000 lb EPCRA RQ gas only

### Selenous acid
7783-00-8

### SARA 302:
1000 lb lower TPQ; 10000 lb upper TPQ

### CERCLA:
10 lb final RQ; 4.54 kg final RQ

### SARA 304:
10 lb EPCRA RQ

### 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

**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>Hydrogen chloride</td>
<td>7647-01-0</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Selenous acid</td>
<td>7783-00-8</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Copper</td>
<td>7758-99-8</td>
<td>Yes</td>
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</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>
</tbody>
</table>

**Not listed under California Proposition 65**

**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.
Material Name: Insta Blak SS-370  

<table>
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</thead>
<tbody>
<tr>
<td>Hydrogen chloride</td>
<td>7647-01-0</td>
<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>
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<td>Selenous acid</td>
<td>7783-00-8</td>
<td>Yes</td>
<td>DSL</td>
<td>EIN</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Copper</td>
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<td>Yes</td>
<td>DSL</td>
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<td>Yes</td>
<td>Yes</td>
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<td>Yes</td>
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<tr>
<td>Phosphoric acid</td>
<td>7664-38-2</td>
<td>Yes</td>
<td>DSL</td>
<td>EIN</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>Yes</td>
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Component Analysis - Inventory
Water (7732-18-5)

<table>
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<tr>
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<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>
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Hydrogen chloride (7647-01-0)

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<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>
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Selenous acid (7783-00-8)

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<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>
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Copper (7758-99-8)

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<td>No</td>
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</table>

Phosphoric acid (7664-38-2)

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</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

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

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