SECTION 1. IDENTIFICATION

Product Name: Bright Palladium Solution
Product Code: BPL32
Recommended use: Electroplating bath or brush plating solution; for industrial use only.
Supplier:
Gold Plating Services
378 N. Main Street #112
Layton, UT 84041
Telephone no: 801-546-6200
Emergency no: P.E.R.S. In US #: (800) 633-8253 Outside US #: 1 (801) 629-0667

SECTION 2. HAZARD IDENTIFICATION

Classification:
Eye Damage/Irritation, Category 2B

Label elements and precautionary statements:

Signal word: Warning

Pictogram(s): No pictogram

Hazards not otherwise classified: None

Hazard statement(s):
Causes eye irritation

Precautionary statement(s):
Wash hands thoroughly after handling.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
SECTION 3. COMPOSITION AND INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS Number</th>
<th>EINECS Number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palladium ethylenediamine sulfate</td>
<td>27910-90-3</td>
<td>None assigned</td>
<td>0.8%</td>
</tr>
</tbody>
</table>

The chemical identity and concentration of one or more ingredients of this product are withheld as a trade secret under the provisions of paragraph (i) of 29 CFR 1910.1200. This information will be made available to health professionals and others in accordance with the applicable provisions of this paragraph.

SECTION 4. FIRST AID MEASURES

**Inhalation:**
Remove patient to fresh air. Support breathing if required. Obtain medical treatment for dizziness, unconsciousness or irritation or difficulty in breathing.

**Skin contact:**
Remove contaminated clothing and wash affected area thoroughly with soap and water. Launder clothing before rewearing. Seek medical attention for prolonged skin irritation.

**Eye contact:**
Flush with water, including under lids, for fifteen minutes. Obtain immediate medical attention.

**Ingestion:**
If patient is conscious, rinse mouth and drink at least two large glasses of water. DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Obtain immediate medical attention.

SECTION 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media:** Use media appropriate for surrounding fire such as foam, extinguishing powder, carbon dioxide or water spray. In case of fire, cool endangered containers with water spray.

**Unsuitable extinguishing media:** High pressure water jet.

**Specific hazards in case of fire:** May release ammonia fumes when heated to dryness.

**Special protective equipment and precaution for fire fighters:** For fires in enclosed areas, wear self-contained breathing apparatus and full protective gear. Do not inhale combustion gases.
SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
Wear appropriate skin, eye and respiratory protection. Do not eat, drink or smoke while cleaning up. Ensure adequate ventilation.

Methods and materials for containment and cleaning up:
Wear appropriate personal protective gear including eye, skin and respiratory protection. Contain spilled material and collect by absorption or other suitable method. Flush spill area with water. Do not allow this material or its rinsings to enter storm or sanitary sewers or other waterways. (See also Section 13).

Environmental precautions:
Prevent spills and rinsings from entering storm or sanitary sewers or other waterways and contact with soil.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:
Avoid contact with eyes. Avoid prolonged repeated skin contact and breathing mists or vapors. Use in well-ventilated area. Do not empty waste into sanitary drains.

Conditions for safe storage, including incompatibilities:
Store in a cool, dry area. Use with adequate ventilation. Keep container tightly closed when not in use. Store only in the original container.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are no exposure limits established for the ingredients in this material.

Appropriate engineering controls:
Use in well-ventilated area with local exhaust.

Respiratory protection:
Wear appropriate, approved respiratory protection when ventilation is inadequate.

Eye protection:
Chemical splash goggles or safety glasses with side shields must be worn.

Skin protection:
Wear rubber or neoprene gloves. Wear rubber apron and long sleeves to prevent skin contact. Wash hands thoroughly with soap and water after handling and before eating or smoking.
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Clear, pale pink
Odor: Slightly ammoniacal
Odor threshold: Not available
pH: 5.5 – 6.5
Melting/freezing point: Not determined
Initial boiling point: Not determined
Flash point: Not applicable
Evaporation rate: Not available
Flammability (solid, gas): Not applicable
Upper/lower explosion limits: Non-explosive
Vapor pressure: Not determined
Vapor density: Not determined
Relative density (H₂O = 1) @25 °C: 1.07 +/- 0.05
Solubility: Completely soluble in water at 20 °C
Partition coefficient octanol/water: Not determined
Auto-ignition temperature: Not applicable
Decomposition temperature: Not available
Viscosity: Similar to water

SECTION 10. STABILITY AND REACTIVITY

Reactivity: Stable, non-reactive when stored and used according to recommendations.
Chemical stability: No decomposition if used according to specifications.
Possibility of hazardous reactions: None are known.
Conditions to avoid: None reported.
Incompatible materials: Strong acids and oxidizers.
Hazardous decomposition products: Ammonia fumes.

SECTION 11. TOXICOLOGICAL INFORMATION

Routes of Exposure and Symptoms
Inhalation: Vapor and mist may cause irritation of nasal and respiratory passages.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea.
Skin Contact: Prolonged contact may cause mild, temporary irritation.
Eye Contact: Causes temporary irritation with possible burning sensation.

Acute and Chronic Effects from Short- and Long-term Exposure:
See Routes of Exposure and Symptoms above.

Acute Oral Toxicity: No applicable information available.
Acute Dermal Toxicity: No applicable information available.
Acute Inhalation Toxicity: No applicable information available.
Acute Eye Irritation: No applicable information available.
Dermal Irritation: No applicable information available.
Carcinogen Listings:

<table>
<thead>
<tr>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Reproductive Effects: No applicable information available.
Target Organ Effects: No applicable information available.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity: There are no data reported for this material; however, this product may be harmful to aquatic life.

Persistence and degradability: There are no data reported for this material; however, this product may be harmful to aquatic life.

Bio-accumulative potential: There is no evidence to suggest bioaccumulation will occur.

Mobility in soil: Accidental spillage may lead to penetration in the soil and groundwater. However, there is no evidence that this would cause adverse ecological effects. Improper handling and disposal of this material may cause environmental damage.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal:
Disposal of this material is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

SECTION 14. TRANSPORT INFORMATION

Not regulated by DOT (road, rail), IMDG (sea) or IATA/ICAO (air)

Marine Pollutant: No
SECTION 15. REGULATORY INFORMATION

Inventory Status:
All components are on TSCA, EINECS/ELINCS, AICS, and DSL.

U.S. Regulations:

U.S. Superfund Amendments and Reauthorization Act (SARA) Title III:

SARA (311/312) HAZARD CATEGORIES:

___None ___Immediate ___Delayed ___Fire ___Reactive ___Pressure generating

SARA 313: This product contains the following SARA 313 Toxic Release Chemicals.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following product components are cited on the lists below:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>List Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td>California Proposition 65 List</td>
</tr>
</tbody>
</table>

SECTION 16. OTHER INFORMATION

VOC (Volatile Organic Compounds): None

HMIS Ratings:

| Health: 2 | Flammability: 0 | Reactivity: 0 | Personal Protection: C |

Prepared by: Allan H. Reed

SDS Preparation date: November 15, 2016   Supersedes previous version: April 15, 2015.

This SDS contains revisions in the following section(s): 9.

The information contained herein is accurate to the best of our knowledge. Gold Plating Services makes no warranty of any kind, express or implied, concerning the safe use of this material in any process or in combination with other substances.

End of Safety Data Sheet