

# Gold Plating Services

## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

**Product Name:** Gold Replenisher

**Product Code:** RPG

**Recommended use:** Electroplating bath component; for industrial use only.

**Supplier:**

Gold Plating Services  
378 N Main St  
Layton, UT 84041 USA

**Current SDS preparation date:** January 31, 2022

**Original SDS preparation date:** September 8, 2021

**Telephone no:** (801) 546-6200

**Emergency no:** PERS 800-633-8253, Outside the USA and Canada 801-629-0667

### SECTION 2. HAZARD IDENTIFICATION

**Classification:**

Acute Toxicity - Oral, Category 4  
Skin Corrosion/Irritation, Category 2  
Eye Damage/Irritation, Category 2B  
Chronic Aquatic Toxicity, Category 3

**Label elements and precautionary statements:**

**Signal word:** WARNING

**Pictogram(s):**



**Hazards not otherwise classified:** None

**Hazard statement(s):**

H302 Harmful if swallowed  
H315 Causes skin irritation  
H413 May cause long lasting harmful effects to aquatic life

**Precautionary statement(s):**

P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P280 Wear protective gloves, clothing and eye and face protection.  
P260 Do not breathe dust, fume, gas, mist, vapors or spray.  
P301\_330\_331 If swallowed: Rinse mouth. DO NOT induce vomiting.  
P310 Immediately call a poison center or doctor/physician.  
P303\_361\_353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
P305\_351\_338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P304\_340 If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P363 Wash contaminated clothing before reuse.  
P273 Avoid release to the environment.  
P391 Collect spillage.  
P501 Dispose of contents and container in accordance with local, state and federal regulations.

### SECTION 3. COMPOSITION AND INFORMATION ON INGREDIENTS

<b>Chemical name</b>	<b>CAS Number</b>	<b>EINECS Number</b>	<b>Concentration</b>
Potassium aurocyanide	13967-50-5	237-748-4	4.87%
Potassium cyanide	151-50-8	205-792-3	0.004%
Water (demineralised)	7732-18-5	231-791-2	~95.13%

### SECTION 4. FIRST AID MEASURES

**Inhalation:**

Remove patient to fresh air. Immediately call a first response, trained rescue squad. If patient is not breathing, administer artificial respiration. If breathing is difficult, administer oxygen.

**Skin contact:**

Remove all contaminated clothing and shoes. Wash affected skin areas with plenty of soap and water. Obtain immediate medical attention.

**Eye contact:**

Flush eyes including under the eyelids with plenty of water for at least fifteen minutes while keeping eyes wide open. Do not rub affected areas. Obtain immediate medical attention.

**Ingestion:**

Remove patient to fresh air. Immediately call a first response, trained rescue squad. Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person.

### 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:** Releases toxic fumes under fire conditions.

**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 for recovery by sweeping or other suitable method without raising dust. 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:**

<b><u>Ingredient</u></b>	<b><u>ACGIH TLV</u></b>	<b><u>OSHA PEL</u></b>	<b><u>Other Limits</u></b>
Potassium aurocyanide	5 mg/m <sup>3</sup> (CN) STEL/C	5 mg/m <sup>3</sup> (CN)	5 mg/m <sup>3</sup> (CN) NIOSH REL
Potassium cyanide	5 mg/m <sup>3</sup> (CN) STEL/C	5 mg/m <sup>3</sup> (CN)	5 mg/m <sup>3</sup> (CN) NIOSH REL

### **Appropriate engineering controls:**

Use in well-ventilated area with local exhaust.

### **Respiratory protection:**

Wear appropriate, approved respiratory protection when ventilation is inadequate to meet exposure limits.

### **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  
**Odor:** NONE  
**Odor threshold:** Not available  
**pH:** <10  
**Melting/freezing point:** Not determined  
**Initial boiling point:** Not determined  
**Flash point:** Does not burn  
**Evaporation rate:** Similar to water  
**Flammability (solid, gas):** Does not burn  
**Upper/lower explosion limits:** Non-explosive  
**Vapor pressure:** Not determined  
**Vapor density:** Not determined  
**Relative density (H<sub>2</sub>O = 1) @25 °C:** ~1  
**Solubility:** Not applicable  
**Partition coefficient octanol/water:** Not determined  
**Auto-ignition temperature:** Does not burn  
**Decomposition temperature:** Not determined  
**Viscosity:** Same as water

## SECTION 10. STABILITY AND REACTIVITY

**Reactivity:** Reacts with acids to release toxic gas.  
**Chemical stability:** No decomposition if used according to specifications.  
**Possibility of hazardous reactions:** None are known.  
**Conditions to avoid:** None reported.  
**Incompatible materials:** Acids and oxidizers.  
**Hazardous decomposition products:** May release toxic fumes in a fire.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Routes of Exposure and Symptoms

**Inhalation:** May cause weakness, dizziness, headache, vomiting, unconsciousness and death.

**Ingestion:** Harmful if swallowed

The mixture has not been tested; however, the oral rat LD50 for the Gold Replenisher Solution can be conservatively estimated to be in the range of 550 – 575 mg/kg using the following equation obtained from 49CFR 173.132 to determine the LD50 for the mixture:

$$CA/TA + CB/TB + CZ/TZ = 100/TM$$

Where:

C = the % concentration of A, B, ...Z in the mixture

T = the oral rat LD50 values of components A, B, ...Z

Tm= the LD50 for the mixture

This LD50 range was calculated by applying credible sources for oral rat LD50 data for the two active components of the Gold Replenisher Solution. This calculation was made using (1) the LD50 of potassium cyanide (5 mg/kg), and (2) the LD50 of potassium aurocyanide (29 mg/kg).

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**Skin Contact:** May cause "cyanide rash" with itching and macular, papular and vesicular eruption. There is often a secondary infection.

**Eye Contact:** Causes severe irritation

**Acute and Chronic Effects from Short- and Long-term Exposure:**

See Routes of Exposure and Symptoms above.

**Acute Oral Toxicity:** LD50: Estimated mixture = 561 mg/kg (rat)

**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:**

**IARC:** No

**NTP:** No

**OSHA:** No

**Reproductive Effects:** No applicable information available.

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

## SECTION 12. ECOLOGICAL INFORMATION

**Aquatic Toxicity:** EC50: 0.041 mg/l, 48 hours (daphnia magna, potassium aurocyanide)  
LC50: 0.12 mg/l, 96 hours (fathead minnow, potassium aurocyanide)  
LC50: 0.057 mg/l, 96 hours (rainbow trout, potassium aurocyanide)

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

**Bio-accumulative potential:** There are no data reported for this material.

**Mobility in soil:** Accidental spillage may lead to penetration in the soil and groundwater. 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

**Classification for shipment by road or rail, sea (IMDG) and air (IATA/ICAO):**

Although individual components of the Gold Replenisher Solution are toxic in their pure form, the concentrations of these components that are present in the shipped material are below thresholds that would require classifying the Gold Replenisher Solution as a hazardous material shipment under US DOT and IATA/ICAO transport regulations.

**UN number:** Not Regulated

**UN proper shipping name:** Not Regulated

**Transport hazard class:** Not Regulated

**Packing group:** Not Regulated

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## SECTION 15. REGULATORY INFORMATION

**Inventory Status:**

All components are on TSCA (active list), 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.

Chemical Name	CAS Number	Concentration
Potassium aurocyanide	13967-50-5	4.87%
Potassium cyanide	151-50-8	0.004%

The following product components are cited on the lists below:

Chemical Name	CAS Number	List Citations
None		

**Occupational Exposure Limits for Hazardous Agents in the Workplace GBZ2.1-2019 (China)**

Chemical Name	CAS Number	MAC	PC-TWA	PC-STEL
Potassium aurocyanide	13967-50-5	1 mg/mP <sup>3</sup> (CN)	-----	-----
Potassium cyanide	151-50-8	1 mg/mP <sup>3</sup> (CN)	-----	-----

## SECTION 16. OTHER INFORMATION

**VOC (Volatile Organic Compounds):** None

**HMIS Ratings:**

**Health:** 3 **Flammability:** 0 **Reactivity:** 0 **Personal Protection:** C

**Prepared by:** Terry Darger

**SDS Preparation date:** January 31, 2022

**Supersedes previous version:** Original

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End of Safety Data Sheet