

## SAFETY DATA SHEET

### 1. IDENTIFICATION

**Product Name :** Potassium Gold Cyanide –  $\text{KAu}(\text{CN})_2$  - PGC 68%

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

**Supplier:** Reliable Silver Corporation  
302 Platts Mill Rd  
Naugatuck, CT 06770

**Current SDS preparation date:** May 13, 2013

**Original SDS preparation date:** October 22, 2012

**Telephone no:** 203-574-7732

**Emergency no:** ChemTrec 800-424-9300, Outside the USA and Canada: 703-527-3887

### 2. HAZARD IDENTIFICATION

**Classification:**

Acute Toxicity – Oral, Category 2  
Skin Corrosion/Irritation – Category 1B  
Eye Damage/Irritation – Category 1  
Chronic Aquatic Toxicity – Category 1

**Label elements and precautionary statements:**

Signal Word: Danger

Pictograms:



**Hazards not otherwise classified:** None

**Hazard statement(s):**

Fatal if swallowed  
Causes severe skin burns and eye damage  
Very toxic to aquatic life with long lasting effects

**Precautionary statement(s):**

Wash hands thoroughly after handling.

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

### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	EINECS Number	Concentration
Potassium aurocyanide	13968-50-5	237-748-4	99.5%
Potassium cyanide	151-50-8	205-792-3	0.5%

### 4. FIRST AID MEASURES

**Inhalation:**

Have someone contact a physician or poison control center immediately. If conscious but symptoms (nausea, difficult breathing, dizziness, etc.) are evident, first responders may give oxygen. If consciousness is impaired or patient is unconscious, oxygen and amyl nitrite should be administered by trained qualified medical squads. Amyl nitrite is given by breaking an ampoule in a gauze pad and inserting into the lip of the oxygen resuscitator mask for 15 seconds and then taking it away for 15 seconds. Repeat this 5 or 6 times. If necessary, use a fresh ampoule every 3 minutes until the patient regains consciousness (usually 1-4 ampoules). Administer oxygen continuously. Guard against the ampoule entering the patient's mouth. Move the patient to an uncontaminated area. Keep the patient warm and calm.

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### **Skin Contact:**

Have someone contact a physician or poison control center immediately. Immediately flush with large quantities of water for up to 5 minutes after contact and completely remove all contaminated clothing including shoes and boots. Flushing with water for up to 5 minutes is generally sufficient to effectively remove cyanide from the patient's skin. Rescue workers should protect themselves against exposure.

### **Eye Contact:**

Have someone contact a physician or poison control center immediately. Immediately flush eyes with copious amounts of water for up to 5 minutes while holding the eyelids apart. Eye contact will require further evaluation

### **Ingestion:**

Have someone call a physician or poison control center immediately. If conscious but symptoms (nausea, difficult breathing, dizziness, etc.) are evident, first responders may give oxygen. If consciousness is impaired, administer oxygen and amyl nitrite as directed under inhalation section. Never give anything by mouth to unconscious person. Do not induce vomiting as this could interfere with resuscitator use. If the patient is conscious, trained, qualified medical squads may give activated charcoal slurry. (50 grams of activated carbon slurried in 400 mL of water). Give 5 mL/1 kg. of wt. – about 350 mL for an average adult.

## 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 water:** 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.

## 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.

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**Methods and materials for containment and cleaning up:** Wear appropriate personal protective gear including eye 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.

### 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.

### 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

#### Exposure Limits:

<u>Ingredient</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>Other Limits</u>
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 adequate 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 handling and before eating or smoking.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Solid, powder  
**Color:** White  
**Odor:** Slight cyanide odor  
**Odor threshold:** Not available  
**pH:** Not applicable  
**Melting/Freezing point:** Not determined  
**Initial boiling point:** Not applicable  
**Flash point:** Not applicable  
**Evaporation rate:** Not applicable  
**Flammability (solid, gas):** Not applicable  
**Upper/Lower explosion limits:** Non-explosive  
**Vapor pressure:** Not applicable  
**Vapor density:** Not applicable  
**Relative density (H<sub>2</sub>O = 1) @ 25 °C:** Not applicable  
**Solubility:** Readily soluble in water at 20 °C  
**Partition coefficient octanol/water:** Not determined  
**Auto-ignition temperature:** Not applicable  
**Decomposition temperature:** Not available  
**Viscosity:** Not applicable

### 10. STABILITY AND REACTIVITY

**Reactivity:** Reacts with acids to release toxic hydrogen cyanide 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 hydrogen cyanide fumes upon heating to dryness

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11. TOXICOLOGICAL INFORMATION

**Routes of Exposure and Symptoms:**

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

**Ingestion:** Very poisonous. Ingestion may cause death or permanent injury from small quantities. Ingestion may cause an increase in the depth and rate of respiration. Cardiac irregularities often occur. Death is due to respiratory arrest of central origin. Signs are blue lips, lowered blood pressure, unconsciousness, and convulsions. Other signs may include salivation, nausea without vomiting, anxiety, confusion, vertigo, giddiness, lower-jaw stiffness, opisthotonos, paralysis, coma and bradycardia.

**Skin Contact:** May cause "cyanide rash" with itching macular, papular, and vesicular eruptions. There is often 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:** LOSO:29 mg.kg (rat, potassium aurocyanide)  
LOSO: 5 mg/kg (rat, potassium cyanide)

**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.

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### 12. ECOLOGICAL INFORMATION

Aquatic Toxicity: ECSO: 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.

### 13. DISPOSABLE 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.

### 14. TRANSPORT INFORMATION

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

**UN proper shipping name:** Toxic solid, Inorganic, N.O.S. (Potassium Metallic Cyanide Mixture)

**UN number:** UN3288

**Transport hazard class:** 6.1

**Packing Group:** II

**Marine Pollutant:** Yes (Cyanide, inorganic, n.o.s)

### 15. REGULATORY INFORMATION

**Inventory Status:**

All components are TSCA, EINECS/ELINCS, AICS and DSL.

**U.S. Regulations:**

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

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**SARAS (311/312) HAZARD CATEGORIES**

NONE     Immediate     Delayed     Fire     Reactive     Pressure Generating

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

<b>Chemical Name</b>	<b>CAS Number</b>	<b>Concentration</b>
Potassium aurocyanide	13967-50-5	99.5%
Potassium cyanide	151-50-8	0.5%

The following product components are cited on the lists below:

<b>Chemical Name</b>	<b>CAS Number</b>	<b>List Citations</b>
None		California Proposition 65 List

**16. OTHER INFORMATION**

VOC (Volatile Organic Compounds): None

HMIS Ratings:

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

Prepared By: Allan H. Reed

SDS Preparation Date: May 13, 2013                      Supersedes previous version: October 22, 2012

This SDS contains revisions in the following section(s): 1,8,11,12.

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