Safety Data Sheet 115-3821/115-3824

CircuitMedic, 22 Parkridge Road, Haverhill, MA 01835 USA
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Section 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1. Product Identifier

Product Name: Plating Solution, Gold

Product Number: 1 oz: 115-3821, 4 oz: 115-3824

1.2 Relevant identified uses of the substance or mixture and uses advised against

This is an electroplating soluition, for industrial use only.

1.3 Details of the supplier of the safety data sheet

CircuitMedic
22 Parkridge Road, Haverhill, MA 01835 USA
PHONE: 978-373-1600, FAX: 978-372-5700

1.4 Emergency telephone number

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 CCN4877
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

Section 2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Classification of the chemical in accordance with CFR 1910.1200(d)(f):
Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830
Skin Corrosion/Irritation, Category 1B, Acute Toxicity - Oral, Category 4
Eye Damage/Irritation, Category 1, Carcinogenicity, Category 2
Acute Aquatic Toxicity, Category 1, Chronic Aquatic Toxicity, Category 1

2.2 Label Elements

Hazard pictograms:

Signal Words: Danger

GHS Class: No information available.

Hazard Statements:
Causes severe skin burns and eye damage.
Harmful if swallowed.
Suspected of causing cancer.
Very toxic to aquatic life with long lasting effects.

Precautionary Statements:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Do not breathe dust, fume, gas, mist, vapors or spray.
Wear protective gloves, clothing and eye and face protection.
If swallowed: Call a poison center or doctor/physician if you feel unwell.
Rinse mouth, do not swallow.
If on skin (or hair): Take off immediately all contaminated clothing.
Rinse skin with water.
If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Avoid release to the environment.
Wash contaminated clothing before reuse.
Collect spillage.
Dispose of contents and container in accordance with local, state and federal regulations.

2.3 Other Hazards

None.

Section 3. COMPOSITION, INFORMATION OR INGREDIENTS

3.1. Substance

Not applicable

3.2 Mixtures

Chemical Name	C.A.S. Number	EINECS Number	Concentration
Potassium aurocyanide	13967-50-5	237-748-4	4.3%
Cobalt ethylenediamine tetraacetate	14931-83-0	239-001-8	0.9%

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

4.1 Description of first aid measures

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 and possibly treatment. Continue rinsing the eyes during transport to the hospital.

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.

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.

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 an 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.

4.2. Most important symptoms and effects, both acute and delayed

No additional information.

4.3 Indication of any immediate medical attention and special treatment needed

No additional information.

Section 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

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 Media: High pressure water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous Combustion Byproducts: May release toxic hydrogen cyanide fumes upon heating to dryness.

Unusual Fire Hazards: No additional information.

5.3 Advice for firefighters

Fire Fighting Instructions: For fires in enclosed areas, wear self-contained breathing apparatus and full protective gear. Do not inhale combustion gases.

Protective Equipment: As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personnel Precautions: Wear appropriate skin, eye and respiratory protection. Do not eat, drink or smoke while cleaning up. Ensure adequate ventilation.

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

Methods for Containment: Wear appropriate personal protective gear including eye, skin and respiratory protection. Contain spilled material and collect for gold recovery 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).

Methods for Cleanup: Wear appropriate personal protective gear including eye, skin and respiratory protection. Contain spilled material and collect for gold recovery 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).

Other Spill Precautions: No information available.

6.4 Reference to other sections

Use proper personal protective equipment as listed in Section 8.

Section 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

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.

Special Handling: No information available.

Hygiene Practices: Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using restroom facilities. Promptly remove contaminated clothing and launder thoroughly before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Storage: Store in a cool, dry area. Use with adequate ventilation. Keep container tightly closed when not in use. Store only in the original container..

7.3. Specific end use(s)

No additional information.

Section 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Control parameters

Use in well-ventilated area with local exhaust.

8.2 Exposure controls

Engineering Controls: No information available.

Individual protection measures

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.

Respiratory Protection: Wear appropriate, approved respirator when ventilation is inadequate to meet exposure limits.

Other Protective: No information available.

Hygiene Practices: Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using restroom facilities. Promptly remove contaminated clothing and launder thoroughly before reuse.

8.3 Exposure Limits

Ingredient	ACGIH TLV	OSHA PEL	Other Limits
Potassium aurocyanide	5 mg/m3 (CN) STEL/C	5 mg/m3 (CN)	5 mg/m3 (CN) NIOSH REL
Cobalt ethylenediamine tetraacetate	0.02 mg/m3 (Co) TWA	0.1 mg/m3 (Co)	0.05 mg/m3 (Co) NIOSH REL

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid

Color: Clear, purple

Odor: Slight cyanide

Odor threshold: Not available

pH: 4.0-6.0

Melting/freezing point: Not determined

Initial boiling point: 100 °C (212 °F)

Flash point: Not applicable

Evaporation rate: Not available

Flammability (solid, gas): Not applicable

Upper/lower explosion limits: Non-explosive

Vapor density: Not determined

Relative density (H2O = 1) @25 °C: 1.13+/-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

10.1 Reactivity

Reactivity: Stable, non-reactive when stored and used as recommended.

10.2 Chemical Stability

Chemical Stability: No decomposition if used according to specifications.

10.3 Possibility of hazardous reactions

Hazardous Polymerization: None are known.

10.4 Conditions To Avoid

Conditions To Avoid: Avoid contact with incompatible materials.

10.5 Incompatible Materials

Incompatible Materials: Acids and oxidizers.

10.6 Hazardous decomposition products

May release toxic hydrogen cyanide fumes upon heating to dryness.

Section 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

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 with 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: LD50: 29 mg/kg (rat, potassium aurocyanide)

Acute Dermal Toxicity: No applicable information available.

Acute Inhalation Toxicity: No applicable information available.

Acute Eye Irritation: Known to be an eye irritant.

Dermal Irritation: Known to be a skin irritant.

Carcinogen Listings: IARC: Yes (Group 2B, Cobalt compounds)
NTP: No

OSHA: No

Reproductive Effects: No applicable information available.

Target Organ Effects: No applicable information available.

Section 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Ecotoxicity: No information available.

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

12.2 Persistence and degradability

Environmental Fate: There are no data reported for this material; however, this product is harmful to aquatic life.

12.3 Bioaccumulative potential

There is no evidence to suggest bioaccumulation will occur.

12.4 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

13.1 Waste treatment methods

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):

UN proper shipping name::	Toxic Liquid, Inorganic, N.O.S. (Potassium Metallic Cyanide Mixture)
UN number:	UN3287
Transport hazard class:	6.1
Packing group:	II
Marine Pollutant	Yes (Cyanide mixtures)

Section 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU legislation:

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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

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

SARA (311/312) HAZARD CATEGORIES:
__None _x_Immediate _x_Delayed __Fire __Reactive __Pressure generating

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

Chemical Name	C.A.S. Number	EINECS Number	Concentration
Potassium aurocyanide	13967-50-5	237-748-4	4.3%
Cobalt ethylenediamine tetraacetate	14931-83-0	239-001-8	0.9%

California Proposition 65:
California Proposition 65 List.

Section 16. OTHER INFORMATION

Issue Date: May 1, 2013

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HMIS:

Health	3
Flammability	0
Reactivity	0
PPE	C

NFPA

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