

Bright Gold Solution

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 01/15/2022

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Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: 24K Bright Gold, 24K Bright Gold Replenisher, 18K Bright Gold, 14K Bright Gold

1.2. Intended Use of the Product

Use of the Substance/Mixture: Electroplating solution.

1.3. Name, Address, and Telephone of the Responsible Party

Company

Gold Plating Services

378 North Main #112 Layton, UT 84041

T: (801) 546 6200

www.GoldPlating.com

1.4. Emergency Telephone Number

Emergency Number : PERS (801) 629-0667 or (800) 633-8253

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US classification

Acute Tox. 4 (Oral) H302

Acute Tox. 4 (Dermal) H312

Eye Irrit. 2A H319

Resp. Sens. 1 H334

Skin Sens. 1 H317

Muta. 2 H341

Carc. 2 H351

Repr. 1A H360

Aquatic Acute 3 H402

Aquatic Chronic 3 H412

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H302+H312 - Harmful if swallowed or in contact with skin.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341 - Suspected of causing genetic defects.
H351 - Suspected of causing cancer.
H360 - May damage fertility or the unborn child.
H402 - Harmful to aquatic life.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary Statements (GHS-US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing vapors, mist, or spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, eye protection, face protection, protective clothing.
P284 - In case of inadequate ventilation wear respiratory protection.
P301+P330+P312 - If swallowed: Rinse mouth. Call a poison center or doctor if you

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feel unwell.
P302+P352+P362+P364 - If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse.
P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P342+P311 - If experiencing respiratory symptoms: Call a poison center or doctor.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%	GHS-US classification
Water	(CAS No) 7732-18-5	82.9	Not classified
Citric acid	(CAS No) 77-92-9	12.5	Comb. Dust, H232 Eye Irrit. 2A, H319
1,2,3-Propanetricarboxylic acid, 2-hydroxy-, tripotassium salt	(CAS No) 866-84-2	2.3	Not classified
Cobaltate(2-), [[N,N'-1,2-ethanediylbis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']-, (OC-6-21)-	(CAS No) 14931-83-0	1	Acute Tox. 4 (Oral), H302 Resp. Sens. 1, H334 Skin Sens. 1, H317 Muta. 2, H341 Repr. 1A, H360 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Phosphoric acid, potassium salt (1:1)	(CAS No) 7778-77-0	0.8	Not classified
Aurate(1-), bis(cyano-C)-, potassium	(CAS No) 13967-50-5	0.4	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Nickelate(1-), [N,N-bis(carboxymethyl)glycinato(3-)-N,O,O',O'']-, hydrogen, (T-4)-	(CAS No) 34831-03-3	0.1	Acute Tox. 4 (Oral), H302 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

First-aid Measures After Inhalation: Keep at rest and in a position comfortable for breathing. Seek medical attention. Symptoms may be delayed.

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First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water or soap and water for at least 15 minutes. Wash contaminated clothing before reuse. Obtain medical attention if irritation develops or persists.

First-aid Measures After Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Obtain medical attention if irritation persists.

First-aid Measures After Ingestion: Rinse mouth thoroughly with water. Do NOT induce vomiting. Seek medical attention immediately.

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

Symptoms/Injuries: Harmful if swallowed or in contact with skin. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause cancer (oral and dermal). Suspected of causing genetic defects. May damage fertility or the unborn child. Causes serious eye irritation.

Symptoms/Injuries After Inhalation: May cause allergy or asthma symptoms or breathing difficulties if inhaled. Symptoms may include: Sore throat. Cough. Burning sensation.

Symptoms/Injuries After Skin Contact: Harmful in contact with skin. May cause an allergic skin reaction. Symptoms may include: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Symptoms/Injuries After Eye Contact: Causes serious eye irritation. Symptoms may include: Redness, pain, swelling, itching, burning, tearing, and blurred vision.

Symptoms/Injuries After Ingestion: Harmful if swallowed. Symptoms may include: Gastrointestinal irritation. Abdominal pain. Diarrhea. Nausea. Vomiting.

Chronic Symptoms: Suspected of causing genetic defects. May damage fertility or the unborn child. Suspected of causing cancer (oral and dermal).

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If you feel unwell, seek medical advice (show the label where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Firefighters must use full bunker gear including NIOSH-approved positive-pressure self-contained breathing apparatus to protect against potential hazardous combustion and decomposition products.

Other Information: Do not allow the product to be released into the environment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not get in eyes, on skin, or on clothing. Do not breathe vapor, mist or spray.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel. Keep upwind.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. Environmental Precautions

Avoid release to the environment.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Collect absorbed material and place into a sealed, labeled container for proper disposal. Practice good housekeeping - spillage can be slippery on smooth surface either wet or dry.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

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SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Precautions for Safe Handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Always wash your hands immediately after handling this product, and once again before leaving the workplace. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke in areas where product is used.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Observe all regulations and local requirements regarding storage of containers.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Store locked up.

Incompatible Products: Strong acids.

7.3. Specific End Use(s)

Electroplating solution.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment

: Protective clothing. Gloves. Protective goggles. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

: Chemically resistant materials and fabrics.

Hand Protection

: Wear chemically resistant protective gloves.

Eye Protection

: Chemical safety goggles.

Skin and Body Protection

: Wear appropriate personal protective equipment.

Respiratory Protection

: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Environmental Exposure Controls

: Do not allow the product to be released into the environment.

Consumer Exposure Controls

: Do not eat, drink or smoke during use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Purple liquid
Odor	: Odorless
Odor Threshold	: No data available
pH	: 4.5 - 5
Evaporation Rate	: No data available
Melting Point	: No data available
Freezing Point	: ≈ 30 °F (-1.11 °C) at standard pressure
Boiling Point	: No data available
Flash Point	: No data available
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: No data available
Relative Vapor Density at 20 °C	: No data available

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Relative Density	: No data available
Specific Gravity	: 1.1 g/cm ³
Solubility	: Water: Soluble
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available
Explosive Properties	: Product is not explosive.

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, open flames, sources of ignition and incompatible materials.
- 10.5. Incompatible Materials:** Strong acids.
- 10.6. Hazardous Decomposition Products:** Hydrogen cyanide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Oral: Harmful if swallowed. Dermal: Harmful in contact with skin.

24K Bright Gold Solution	
ATE (Oral)	1,216.55 mg/kg body weight
ATE (Dermal)	1,250.00 mg/kg body weight
Cobaltate(2-), [[N,N'-1,2-ethanediylbis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']-, (OC-6-21)- (14931-83-0)	
ATE (Oral)	500.00 mg/kg body weight
Nickelate(1-), [N,N-bis(carboxymethyl)glycinato(3-)-N,O,O',O"]-, hydrogen, (T-4)- (34831-03-3)	
ATE (Oral)	500.00 mg/kg body weight
Citric acid (77-92-9)	
LD50 Oral Rat	5400 mg/kg
LD50 Dermal Rat	> 2000 mg/kg
Aurate(1-), bis(cyano-C)-, potassium (13967-50-5)	
ATE (Oral)	5.00 mg/kg body weight
ATE (Dermal)	5.00 mg/kg body weight
ATE (Gases)	100.00 ppmV/4h
ATE (Vapors)	0.50 mg/l/4h
ATE (Dust/Mist)	0.05 mg/l/4h

Skin Corrosion/Irritation: Not classified

pH: 4.5 - 5

Serious Eye Damage/Irritation: Causes serious eye irritation.

pH: 4.5 - 5

Respiratory or Skin Sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ Cell Mutagenicity: Suspected of causing genetic defects.

Carcinogenicity: Suspected of causing cancer.

Reproductive Toxicity: May damage fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: May cause allergy or asthma symptoms or breathing difficulties if inhaled. Symptoms may include: Sore throat. Cough. Burning sensation.

Symptoms/Injuries After Skin Contact: Harmful in contact with skin. May cause an allergic skin reaction. Symptoms may include: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Symptoms/Injuries After Eye Contact: Causes serious eye irritation. Symptoms may include: Redness, pain, swelling, itching, burning, tearing, and blurred vision.

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Symptoms/Injuries After Ingestion: Harmful if swallowed. Symptoms may include: Gastrointestinal irritation. Abdominal pain. Diarrhea. Nausea. Vomiting.

Chronic Symptoms: Suspected of causing genetic defects. May damage fertility or the unborn child. Suspected of causing cancer (oral and dermal).

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Citric acid (77-92-9)

LC50 Fish 1 1516 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

12.2. Persistence and Degradability

Citric acid (77-92-9)

Persistence and Degradability Readily biodegradable in water.

12.3. Bioaccumulative Potential

Citric acid (77-92-9)

Log Pow -1.72 (at 20 °C)

12.4. Mobility in Soil No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Sewage Disposal Recommendations: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT Not regulated for transport

14.2. In Accordance with IMDG Not regulated for transport

14.3. In Accordance with IATA Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

24K Bright Gold Solution

SARA Section 311/312 Hazard Classes Immediate (acute) health hazard
Delayed (chronic) health hazard

Water (7732-18-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Cobaltate(2-), [[N,N'-1,2-ethanediylbis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']-, (OC-6-21)- (14931-83-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Nickelate(1-), [N,N-bis(carboxymethyl)glycinato(3-)-N,O,O',O"]-, hydrogen, (T-4)- (34831-03-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

1,2,3-Propanetricarboxylic acid, 2-hydroxy-, tripotassium salt (866-84-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Citric acid (77-92-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

SARA Section 311/312 Hazard Classes Immediate (acute) health hazard

Phosphoric acid, potassium salt (1:1) (7778-77-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Aurate(1-), bis(cyano-C)-, potassium (13967-50-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2 US State Regulations Neither this product nor its chemical components appear on any US state lists.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 02/15/2016

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

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GHS Full Text Phrases:

Acute Tox. 1 (Dermal)	Acute toxicity (dermal) Category 1
Acute Tox. 2 (Inhalation)	Acute toxicity (inhalation) Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral) Category 2
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Carc. 2	Carcinogenicity Category 2
Comb. Dust	Combustible Dust
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Muta. 2	Germ cell mutagenicity Category 2
Repr. 1A	Reproductive toxicity Category 1A
Resp. Sens. 1	Respiratory sensitisation Category 1
Skin Sens. 1	Skin sensitization Category 1
H232	May form combustible dust concentrations in air
H300	Fatal if swallowed
H302	Harmful if swallowed
H310	Fatal in contact with skin
H312	Harmful in contact with skin
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H330	Fatal if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H341	Suspected of causing genetic defects
H351	Suspected of causing cancer
H360	May damage fertility or the unborn child
H400	Very toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)