Section 1: Company and Product Identification

Product Name: Chlorotriphenyolphosphine Gold (I)
Product Code: 2023

Company: Colonial Metals, Inc.
Building 20
505 Blue Ball Road
Elkton, MD 21921 United States
Company Contact: EHS Director
Telephone Number: 410-398-7200
FAX Number: 410-398-2918
E-Mail: info@colonialmetals.com
Web Site: www.colonialmetals.com

Emergency Response:
Support Emergency Contacts & Phone Number
Chemtrec: 800-424-9300
World Wide - Call COLLECT to U.S: 703-527-3887

Section 2: Hazards Identification

Hazard Pictograms:

Signal Word: Warning

Hazard Category:
Acute tox, oral Cat 5
Skin corrosion/irritation Cat 2
Serious eye damage/eye irritation Cat 2
Specific target organ tox, single exp. Cat 3 (resp irrit)

Hazard Statements:
H303: May be harmful if swallowed
H315: Causes skin irritation
H319: Causes serious eye irritation
H335: May cause respiratory irritation

P261: Avoid breathing dust/fume/gas/mist/vapors/spray
P264: Wash thoroughly after handling
P270: Do not eat, drink or smoke when using this product
P271: Use only outdoors or in a well-ventilated area
P280: Wear protective gloves/protective clothing/eye protection/face protection
P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P302+352: IF ON SKIN: Wash with soap and water
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do -- continue rinsing
P312: Call a POISON CENTER or doctor/physician if you feel unwell
P313: Specific treatment (see … on this label)
P330: Rinse mouth
P332+313: If skin irritation occurs: Get medical advice/attention
P337+313: If eye irritation persists get medical advice/attention
P362: Take off contaminated clothing and wash before reuse
P403+233: Store in a well ventilated place. Keep container tightly closed
P405: Store locked up
P501: Dispose of contents/container in accordance with

Section 3: Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Hazardous substance (name)</th>
<th>Hazard Category</th>
<th>CAS#</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorotriphenyolphosphine Gold (I)</td>
<td>Irritant</td>
<td>14243-64-2</td>
<td>0-99</td>
</tr>
</tbody>
</table>

Chemical Family: Group 1B Metal Salts
Chemical Formula: C18H15PClAu
Synonyms: Chlorotriphenyolphosphine gold (I)
Section 4: First Aid Measures

General Info: Ensure proper ventilation.

Notable Exposure: Irritation to skin, eyes and areas of contact.

Symptoms:

If ingested: Rinse mouth. Seek immediate medical attention. Clear the airway and administer artificial respiration if not breathing. If swallowed, do not induce vomiting unless directed to do so by medical personnel.

If inhaled: Remove the victim from the contaminated area while protecting yourself from exposure by wearing an appropriate respirator. Put a similar respirator on the victim if possible. Get medical attention.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Get medical attention.

Skin contact: Take off immediately all contaminated clothing. Rinse with water thoroughly. Get medical advice if irritation develops or persists.

Ingestion: Wash out mouth with water provided victim is conscious. Never give anything by mouth to an unconscious person. Contact a physician.

Section 5: Fire Fighting Measures

General Info: Use proper safety equipment. This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Can decompose to emit toxic sulfur oxide gases.

Extinguishing Method / Equipment:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

Hazardous Constituents associated with burning / combustion are to be considered toxic. Firefighters should wear self-contained breathing apparatus and full protective gear.

Decomposition Info: Use NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.

Section 6: Accidental Release Measures

Personal precautions, protective equipment, and procedures: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment (SCBA) and clothing during clean-up. Avoid breathing vapor. Ventilate area if easy to do so and wash spill site after clean up is complete. Contact local authorities if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Containment: Sweep or soak up and place in sealed container; take care to avoid dusting.

Equipment and Procedures:

Cleanup Procedures: Collect all contaminated media, or other cleanup materials into a waste receptacle. If cleaning surface is necessary, utilize vacuum cleaner, provided adequate ventilation is available.

Section 7: Handling and Storage

Safe Handling: Do not handle until all safety precautions have been read and understood. Keep containers tightly closed. Ensure adequate ventilation. Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment and wash thoroughly after handling.

Work/Hygienic Practices:

Recommendations: Keep in a tightly sealed container in a cool dry place under nitrogen for Storage:

Other Precautions: Use good personal hygiene. Wash thoroughly with soap and water after handling.

Section 8: Exposure Control / Personal Protection

General / Ventilation: Local Exhaust: Required in handling area

Engineering Controls:

Mechanical: Desirable to insure concentration of material below TLV/TWA levels

Other: Closed ventilation system (Laboratory Fume Hood)

Work Clothing: Protective work clothing which covers skin and prevents exposures. Lab coat/ apron, flame and chemical resistant protective clothing, eye wash, safety shower, and hygiene facilities for washing.

Eye/face protection: Wear safety glasses with side shields or goggles or face shield.

Skin Protection: Wear chemical resistant gloves.

Respiratory Protection: NIOSH approved chemical cartridge respirator for acid gas/chlorine (42 CFR part 84) and self-contained breathing apparatus with full face shield.
Section 9: Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>Solid</td>
</tr>
<tr>
<td>Melting Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>N/A</td>
</tr>
<tr>
<td>Molecular Wt.</td>
<td>474.72 g/mol</td>
</tr>
<tr>
<td>Odor</td>
<td>N/A</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>N/A</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>N/A</td>
</tr>
<tr>
<td>Flash Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Part. Coeff (n-octanol/water)</td>
<td>N/A</td>
</tr>
<tr>
<td>Upper Flam Limits</td>
<td>N/A</td>
</tr>
<tr>
<td>Lower Flam Limits</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Section 10: Stability and Reactivity

General: This product is stable and non-reactive under normal conditions of use. Product is not subject to hazardous polymerization. Avoid open flame and ignition sources. Conditions To Avoid (Stability):

Decomposition should not occur if stored according to specifications

Incompatible: Strong Oxidizing Agents.

Decomposition: Carbon monoxide, carbon dioxide, hydrogen chloride gas. Thermal decomposition may produce toxic products: fumes of phosphorus oxides and/or phosphine.

Section 11: Toxicological Information

General Information: To the best of our knowledge, the chemical, physical, and toxicological properties of this compound have not been thoroughly investigated.

Section 12: Ecological Information

General Information: No specific data available.

Section 13: Disposal Information


Container disposal: Treat empty containers with extra care. Consult waste contractor.

Other considerations: NOTE: Chemical additions, processing, or otherwise altering this material may make the waste management information presented above incomplete, inaccurate, or otherwise inappropriate.

Section 14: Transport Information

DOT: Considered non-hazardous for transport.

IMO/IMDG: Inquire for further transport information.

IATA: Same as DOT. Always consult IATA manual before shipping.

Section 15: Regulatory Information

TSCA: All ingredients of this product are listed under the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

SARA Components: SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302. SARA Hazard Classes

Acute Health Hazard

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Canadian Regulatory Information:

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

DSL: No

NDSL: No

Symbol of danger: Xi

Indication of danger: Irritant

R: 36/37/38

Risk Statements: Irritating to eyes, respiratory system and skin.

S: 26-37/39

Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable gloves and eye/face protection.
Section 16: Other Information

<table>
<thead>
<tr>
<th>NFPA Rating</th>
<th>HMIS Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health: 2</td>
<td>Health: 2</td>
</tr>
<tr>
<td>Fire: 0</td>
<td>Fire: 0</td>
</tr>
<tr>
<td>Reactivity: 0</td>
<td>Reactivity: 0</td>
</tr>
<tr>
<td>Personal Protection: J</td>
<td></td>
</tr>
</tbody>
</table>

Disclaimer: In compliance with the OSHA Hazard communication Standard, 29 C.F.R 1910.1200, we are providing you with a Materials Safety Data Sheet (MSDS) for the hazardous material you are purchasing.

It is your responsibility to educate your employees on the safe use of the hazardous material. With this in mind, a copy should be forwarded to the supervisor of the user or to the user themselves, and copy should be retained in your files for future reference.

Colonial Metals, Inc. makes no presentation as to the accuracy of the information in the MSDS. The information is believe to be correct; however, you (the customer), should preform your own investigation and independent verification. If you resell the product, you are responsible to forward the information in the MSDS to your customer.

Colonial Metals, Inc.

SDS Author: John Kerchner  
Version Date: 9/8/2015