Product# 2014

# Safety Data Sheet
**29 CFR 1910.1200**

## Section 1: Company and Product Identification

**Product Name:** Gold (III) Nitrate Solution

**Product Code:** 2014

**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

www.colonialmetals.com

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

## Section 2: Hazards Identification

GHS03 GHS05 BLANK BLANK

**Hazard Pictograms:**

**Signal Word:** Warning

**Hazard Category:**
Acute tox, oral Cat 4
Skin corrosion/irritation Cat 2
Serious eye damage/eye irritation Cat 3
Aspiration hazard Cat 2

**Hazard Statements:**
H302: Harmful if swallowed
H315: Causes skin irritation
H320: Causes eye irritation
H305: May be harmful if swallowed and enters airways

P264: Wash thoroughly after handling
P280: Wear protective gloves/protective clothing/eye protection/face protection
P308+313: IF exposed or concerned: Get medical advice/attention
P402+404: Store in a dry place. Store in a closed container

P501: Dispose of contents/container in accordance with local/national/international rules.

**Hazards not otherwise classified:** None known

## Section 3: Composition / Information on Ingredients

| Hazardous substance (name) | Hazard Category | CAS# | Weight % |
|---|---|---|---|
| Gold | Irritant | 7440-57-5 | 1-5 |
| Nitric Acid | Corrosive | 7697-37-2 | 60-65 |
| Water | | 7732-18-5 | 30-35 |

**Chemical Family:** Group 1B Metal Salt Solution
**Chemical Formula:** HAu(NO3)4 in Nitric Acid Solution
**Synonyms**: Gold (III) Nitrate Solution

## Section 4: First Aid Measures

**General Info:** Ensure proper ventilation.

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

**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 immediately.

**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 if irritation develops or persists.

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

**Additional Info:** Observe for any symptoms for several hours after exposure. Follow up with medical attention if symptoms develop.

## Section 5: Fire Fighting Measures

**General Info:** Use proper safety equipment. This substance is an oxidizer and it's heat of reaction with reducing agents or combustibles may cause ignition. Can decompose to emit toxic nitrous oxide (NOX) gases.

**Extinguishing Method / Equipment:** Use water spray, foam, dry chemical, carbon dioxide or medium for primary source.

**Hazardous Decomposition Info:** Constituents associated with burning / combustion are to be considered toxic. Firefighters should wear self-contained breathing apparatus and full protective gear.
Use NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.
EMITS TOXIC FUMES UNDER FIRE CONDITIONS. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. MAY ACCELERATE COMBUSTION.

## Section 6: Accidental Release Measures

**Personal precautions, protective equipment and procedures:** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). 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 Equipment and Procedures:** Large Spills: Dike major spills. Neutralize with slaked lime or sodium bicarbonate solution, soak up and place in a sealed container. Collect material and dispose

Small Spills: Collect material and dispose.

**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 Precautions:** 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** KEEP AWAY FROM COMBUSTIBLE MATERIALS, HEAT, SPARKS,FLAMMABLES, REDUCING AGENTS, AND OPEN FLAME. MAY REACT WITH ORGANICS AND INORGANICS

**Recommendations for Storage:** Store in cool, dry area in a tightly closed product container away from sources of ignition or flame.

**Other Precautions:** 0.01 ppm high efficiency particular respirator/supplied air respirator/self-contained breathing apparatus; 0.2 ppm same as above with full face piece; 1 ppm powdered air purifying respirator with high efficiency filter/type C supplied air respirator operated in pressure demand mode. Store in a sealed container, plastic or plastic liner, in a cool, well ventilated, dry area away from volatile acids.

## Section 8: Exposure Control / Personal Protection

**General / Engineering Controls:** Ventilation: Local Exhaust: Required in handling area
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.

**Additional Information:** Ingredient(s) - Exposure Limits

Nitric Acid

ACGIH- 2 ppm TWA; 4 ppm STEL
NIOSH - 2 ppm TWA; 5mg/m3 TWA 25 ppm IDLH
OSHA -Final PELs - 2 ppm TWA; 5 mg/m3 TWA

## Section 9: Physical and Chemical Properties

| | | | | | |
|---|---|---|---|---|---|
| **State:** | Liquid | **Melting Point:** | N/A | **Freezing Point:** | N/A |
| **Color:** | Yellow Solution | **Boiling Point/Range:** | N/A | **pH** | N/A |
| **Molecular Wt.** | N/A | **Odor:** | Acidic | **Water Solubility:** | N/A |
| **Evaporation rate:** | N/A | **Flash Point:** | N/A | **Part. Coeff (n-octanol/water** | N/A |
| **Upper Flam Limits:** | N/A | **Lower Flam Limits:** | N/A | **Vapor Pressure:** | N/A |
| **VOC Content (lbs/gal):** | N/A | **Viscosity:** | N/A | **Autoignition Temp:** | N/A |

**Specific Gravity:** N/A

## 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) Elevated temperature.

**Incompatible materials:** REDUCING AGENTS, EASILY OXIDIZED MATERIALS, INORGANICS, ALKALI METALS, FLAMMABLES ALKALINE EARTH METALS AIR, ORGANIC MATERIALS, FINELY POWDERED METALS.

**Decomposition products:** Nitrous oxide (NOx) gases

## Section 11: Toxicological Information

**General Information:**

**Toxicological Information (product):** **Acute Studies**

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

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

**Likely Routes of Exposure:** Eye Contact
Skin Contact
Inhalation
Ingestion - possible, but considered unlikely.

**Toxicological Information (contained substances)**

**Carcinogenicity or mutagenicity:** No data available

**Sensitization:** Product is not expected to be a sensitizer.

## Section 12: Ecological Information

**General information:** This product is manufactured in accordance to and in compliance with all aspects of the Toxic Substances Control Act (TSCA) and that all compounds are on the TSCA inventory; This product is also in compliance with the New Substances Notification Regulations (NSNR) and all ingredients are on the DSL/NDSL.

**Aquatic toxicity:** Acute Toxicity - Fish And Invertebrates
Nitric Acid - 1DLH = 100 ppm

**Degradation / Mobility info:** No specific data available.

**Bioaccumulative potential:** No specific data available.

## Section 13: Disposal Information

**Product disposal:** Consult Federal EPA, State and local regulations for proper disposal/recycle/reclamation

**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:** Proper Shipping Name
Oxidizing Liquid, Corrosive, N.O.S (contains nitric acid)
(gold (III) nitrate solution)
Hazard Class
5.1
Secondary Hazard Class
NA
DOT Identification Number
3098
DOT Shipping Label
Oxidizing Agent, Corrosive
Freight Class
NA
Packaging Exceptions
Refer to DOT 49 CFR
Packaging Requirements
PG II
Additional Shipping Paper Description
Same as 49 CFR (DOT) regulation. Refer to IATA regulations for further shipping regulations.

**IMO/IMDG:** Inquire for further transport information.

**IATA:** Inquire for further transport information.

**OTHER:** Inquire for further transport information.

## Section 15: Regulatory Information

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

**SARA Section 313 Notification:** THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS - NITRATE COMPOUNDS (WATER DISSOCIABLE)

## Section 16: Other Information

| | |
|---|---|
| Health: 3 | **HMIS Rating** |
| Fire: 0 | Health: 2 |
| Reactivity: 0 | Fire: 0 |
| Other: OX | Reactivity: 1 |
| | Personal Protection: J |

***Disclaimer:*** *In compliance with the OSHA Hazard communication Standard, 2.9 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