

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

PRODUCT IDENTIFIER

Product Code **RG-4160**
 Product Name **RICH GOLD POWDER**
 Product Category **METALLIC POWDER**

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE

Recommended Use PRINTING OPERATION

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

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EMERGENCY TELEPHONE NUMBER

Chemtrec 1-613-996-6666

SECTION 2. HAZARDS IDENTIFICATION

CLASSIFICATION

| | |
|--------------------------------|----------------------|
| Flammable Solids | Category 1 - (H228) |
| Acute Toxicity (Oral) | Category 4 - (H302) |
| Serious Eye Damage/ Irritation | Category 2A - (H319) |

LABEL ELEMENTS

SIGNAL WORDS

Danger

HAZARD STATEMENT

H228 Flammable Solid
 H302 Harmful if swallowed.
 H319 Causes serious eye irritation.

PRECAUTIONARY STATEMENTS

- P210 – Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
- P240 - Ground and bond container and receiving equipment.
- P241 – Use explosion proof electrical/ ventilating/ lighting/ equipment.
- P264 – Wash face, hands and any exposed skin thoroughly after handling.
- P270 – Do not eat, drink or smoke when using the product.
- P280 – Wear protective gloves/protective clothing/eye protection/ face protection.

HAZARDS NOT OTHERWISE CLASSIFIED (HNOC)

No information available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

| Components | Weight % | C.A.S. No. | Note |
|--------------------------|----------|------------|------|
| Copper | 60-100 | 7440-50-8 | |
| Zinc Powder (stabilized) | 10-30 | 7440-66-6 | |

SECTION 4. FIRST AID MEASURES**DESCRIPTION OF FIRST AID MEASURES****General Advice**

Show this safety data sheet to the doctor in attendance.

Eye Contact

Immediately flush with plenty of water. After flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if irritation develops and persists.

Skin Contact

Wash immediately with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation such as redness, rash, blistering develops, get medical attention.

Inhalation

Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

Ingestion

Do Not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control immediately.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACCUTE AND DELAYED

Harmful if swallowed. Causes eye irritation.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT

Notes to Physician: Treat symptomatically.

SECTION 5. FIRE FIGHTING PROCEDURE**SUITABLE EXTINGUISHING MEDIA**

Special powder against metal fire, dry sand, ABC powder. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

UNSUITABLE EXTINGUISHING MEDIA:

Water; High volume water jet.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL

Thermal decomposition can lead to release of irritating gases and vapors. May emit toxic fumes under fire conditions.

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

As in any fire, wear self contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers/ tanks with water spray. Sealed containers may rupture when heated.

SECTION 6. ACCIDENTAL RELEASE MEASURE**PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES****Personal Precautions**

Remove all sources of ignition. Ventilate the area. Avoid contact with eyes, skin, and clothing. Avoid breathing dust or vapor. Evacuate personnel to safe areas. Keep people away from upwind of spill/leak.

Environmental Precautions

Prevent products from entering drains. Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches. Local authorities should be notified if significant spillages cannot be contained.

Methods and Material for Containment and Cleanup

Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Use appropriate personal protective equipment (PPE). Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust. Use only non-sparking tools. Clean contaminated surface thoroughly.

SECTION 7. HANDLING AND STORAGE**PRECAUTIONS FOR SAFE HANDLING****Handling**

Use personal protective equipment as required. Do not eat, drink, or smoke when using this product. Ensure adequate ventilation.

CONDITIONS FOR SAFE STORAGE INCLUDING ANY INCOMPATIBILITIES**Storage**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep container closed when not in use. Keep out of reach of children.

Incompatible Products

Strong acids, strong bases, strong oxidizing and reducing agents.

SECTION 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

CONTROL PARAMETERS

Exposure Limits

| Component | ACGIH TLV |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Copper 7440-50-8 | TWA: 0.2 mg/m ³ (fume) |
| Component | OSHA PEL |
| Copper 7440-50-8 | TWA: 0.1 mg/m ³ (dust, fume, mist) TWA: 1.0 mg/m ³ (dust, mist) |
| Component | Ontario TWAEV |
| Copper 7440-50-8 | TWA: 0.2 mg/m ³ (fume) TWA: 1.0 mg/m ³ (dust, mist) |
| Component | Mexico OEL (TWA) |
| Copper 7440-50-8 | TWA/LMPE-PPT: 0.2 mg/m ³ (fume) TWA/LMPE-PPT: 1.0 mg/m ³ (dust, mist) STEL/LMPE-CT: 2.0 mg/m ³ (fume) STEL/LMPE-CT: 2.0 mg/m ³ (dust and mist) |

APPROPRIATE ENGINEERING CONTROLS

Engineering Measures

Provide a good standard of general ventilation. Natural ventilation is from doors, windows, etc. Controlled ventilation means air is supplied or removed by powered fan. Users are advised to consider national Occupational Exposure Limits or other equivalent values. In case of insufficient ventilation, wear suitable respiratory equipment.

INDIVIDUAL PROTECTION MEASURES SUCH AS PERSONAL PROTECTIVE EQUIPMENT

Eye /Face Protection:

Wear safety glasses with side shields (or goggle). If splashes are likely to occur, wear suitable face shield. Ensure the eye wash stations and safety showers are close to the workstation location.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent contact.

Respiratory Protection:

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking or smoking. Wash contaminated clothing before reuse. Avoid contact with eyes, skin and clothing. Wear suitable gloves and eye/face protection. Regular cleaning of equipment, work area and clothing is recommended.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

| Physical State | Powder | Appearance | Gold |
|-----------------------------------------|-----------------------|-------------------|--------------------------|
| Odor | Characteristic | Odor Threshold | No information available |
| Property | Values | Remarks/ Method | |
| PH | | No Data Available | |
| Melting Point/ Freezing Point | | No Data Available | |
| Boiling Point/ Boiling Range | | Not Applicable | |
| Flash Point | | Not Applicable | |
| Evaporation Rate | | No Data Available | |
| Flammability Limit in Air | | | |
| Upper Flammability Limit (% vol) | | No Data Available | |
| Lower Flammability Limit (% vol) | | No Data Available | |
| Vapor Pressure | | No Data Available | |
| Vapor Density | | No Data Available | |
| Density | 7.6 g/cm ³ | | |
| Water Solubility | | No Data Available | |
| Solubility in Other Solvents | | No Data Available | |
| Partition Coefficient: N-Octanol/ Water | | No Data Available | |
| Auto Ignition Temperature | | No Data Available | |
| Decomposition Temperature | | No Data Available | |
| Viscosity | | No Data Available | |
| Dynamic Viscosity | | No Data Available | |
| Explosive Property | | No Data Available | |
| Oxidizing Property | | No Data Available | |

SECTION 10. STABILITY AND REACTIVITY

Reactivity

No decomposition if stored and applied as directed.

Chemical Stability

No decomposition if stored and applied as directed.

Possibility of Hazardous Reactions

None under normal processing

Conditions to Avoid

Keep away from open flames, hot surfaces and sources of ignition.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

| | |
|--------------|-----------------------------------|
| Inhalation | There is no data for this product |
| Eye Contact | There is no data for this product |
| Skin Contact | There is no data for this product |
| Ingestion | There is no data for this product |

| Component | Oral LD50 |
|-----------------------|-----------------|
| Zinc Powder 7440-66-6 | 630 mg/kg (Rat) |

Information on Toxicological Effects

Symptoms There is no data for this product.

Delayed and Immediate Effects as well as Chronic Effects from Short and Long Term Exposure.

| | |
|----------------------------|--------------------------------------------------------------------------------------------------------|
| Skin Corrosion/ Irritation | There is no data for this product. |
| Eye Damage/ Irritation | There is no data for this product. |
| Irritation | There is no data for this product. |
| Corrositivity | There is no data for this product. |
| Sensitization | There is no data for this product. |
| Mutagenic Effects | There is no data for this product. |
| Reproductive Effects | There is no data for this product. |
| STOT – Single exposure | There is no data for this product. |
| STOT- Repeated Exposure | There is no data for this product. |
| Chronic Toxicity | There is no data for this product. |
| Aspiration Hazard | There is no data for this product. |
| Carcinogenicity | This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP. |

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity: None known

| Component | Algae/ Aquatic Plants |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Copper 7440-50-8 | 96h EC50 Pseudokirchneriella subcapitata: 0.031-0.054 mg/L (static) 72h EC50 Pseudokirchneriella subcapitata: 0.0426-0.0535 mg/L (static) |
| Zinc Powder (stabilized) 7440-66-6 | 96h EC50 Pseudokirchneriella subcapitata: 0.011-0.0271 mg/L (static) 72h EC50 Pseudokirchneriella subcapitata: 0.09-0.125 mg/L (static) |

| Component | Fish |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Copper 7440-50-8 | 96h LC50 Pimephales promelas: 0.0068-0.0156 mg/L 96h LC50 Pimephales promelas: <0.3 mg/L (static) 96h LC50 Oncorhynchus mykiss: 0.052 mg/L (flow-through) 96h LC50 Poecilla reticulata: 0.112 mg/L (flow through) 06h LC50 Pimephales promelas: 0.2 mg/L (flow through) 96h LC50 Cyprinus carpio: 0.3 mg/L (semi-static) 96h LC50 Cyprinus carpio: 0.8 mg/L (static) 96h LC50 Lepomis macrochirus: 1.25 mg/L (static) |
| Zinc Powder (stabilized) 7440-66-6 | 96h LC50 Pimephales promelas: 0.211-0.269 mg/L (semi static) 96h LC50 Pimephales promelas: 2.16-3.05 mg/L (flow through) 96h LC50 Oncorhynchus mykiss: 0.24 mg/L (flow-through) 96h LC50 Oncorhynchus mykiss: 0.41 mg/L (static) 96h LC50 Oncorhynchus mykiss: 0.59 mg/L (semi static) 06h LC50 Pimephales promelas: 2.66 mg/L (static) 96h LC50 Cyprinus carpio: 0.45 mg/L (semi-static) 96h LC50 Cyprinus carpio: 7.8 mg/L (static) 96h LC50 Cyprinus carpio: 30 mg/L 96h LC50 Lepomis macrochirus: 3.5 mg/L (static) |

| Component | Crustacea |
|---------------------------------------|---------------------------------------------------|
| Copper 7440-50-8 | 48h EC50 Daphnia magna: 0.03 mg/L (static) |
| Zinc Powder (stabilized) 7440-66-6 | 48h EC50 Daphnia magna: 0.139-0.908 mg/L (static) |

Persistence and Degradability

No information available

Bioaccumulation

No information available

Other Adverse Effects: No information available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Treatments Methods

Waste Disposal Methods Contain and dispose of waste according to local regulations.
 Contaminated Packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

DOT

UN/ID No. UN3089
 Proper Shipping name: Metal Powder, Flammable N.O.S (Gold Bronze Powder, Copper Metal Powder)
 Class: 4.1
 Packing Group: II
 Label: Flammable Solid

ICAO/ IATA/ IMDG/ IMO

UN/ID No. UN3089
 Proper Shipping name: Metal Powder, Flammable N.O.S (Gold Bronze Powder, Copper Metal Powder)
 Class: 4.1
 Packing Group: II
 Label: Flammable Solid

SECTION 15. REGULATORY INFORMATION

International Inventories

All components are listed on the TSCA Inventory. For further information, please contact: Supplier (manufacturer/importer/ downstream user/ distributor.

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

| Component | CAS NO. | Weight % | SARA 313 Threshold Values |
|--------------------------|-----------|----------|---------------------------|
| Copper | 7440-50-8 | 60-100 | 1.0 |
| Zinc Powder (stabilized) | 7440-66-6 | 10-30 | 1.0 |

Note: Zinc is reportable under SARA 313 only if it is in a fume or dust form. Fume or dust refers to dry forms but does not refer to "wet" forms such as use in solution or slurry.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPS) (see 40 CFR 61)

This product does not contain air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

U.S. State Regulations

| Component | CAS NO. | Massachusetts Right to Know |
|--------------------------|-----------|-----------------------------|
| Copper | 7440-50-8 | X |
| Zinc Powder (stabilized) | 7440-66-6 | X |

| Component | CAS NO. | Minnesota Right to Know |
|--------------------------|-----------|-------------------------|
| Copper | 7440-50-8 | X |
| Zinc Powder (stabilized) | 7440-66-6 | X |

| Component | CAS NO. | New Jersey Right to Know |
|--------------------------|-----------|--------------------------|
| Copper | 7440-50-8 | X |
| Zinc Powder (stabilized) | 7440-66-6 | X |

| Component | CAS NO. | Pennsylvania Right to Know |
|--------------------------|-----------|----------------------------|
| Copper | 7440-50-8 | X |
| Zinc Powder (stabilized) | 7440-66-6 | X |

California Prop. 65

This product does not contain any chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Canada

| Component | NPRI – National Pollutant Release Inventory |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Copper 7440-50-8 | Part 1, Group A Substance total of the pure element and the equivalent weight Of the element contained in any compound, alloy or mixture. |
| Zinc Powder (stabilized) 7440-66-6 | Part 1, Group A Substance total of the pure element and the equivalent weight Of the element contained in any compound, alloy or mixture. |

Pursuant to NOM018-STPS-2015

This information which is considered but is not exhaustive and will be used for guidance only, which is based on the current knowledge of the substance or mixture and is applicable to the appropriate safety precautions for the product.

SECTION 16. OTHER INFORMATION

| | | | | |
|-------------|--------------|-------------------|-----------------|--------------------------|
| HMIS | Health 1* | Flammability 3 | Reactivity 3 | Personal Protection x |
|-------------|--------------|-------------------|-----------------|--------------------------|

Key or legend to abbreviations and acronyms used in safety data sheet.

Legend – Section 8: Exposure Controls/Personal Protection

TWA Time Weighted Average
 STEL Short Term Average
 Ceiling Maximum Limit Value

ACGIH American Conference of Governmental Industrial Hygienist
 A1 Known Human Carcinogen
 A2 Suspended Human Carcinogen
 A3 Animal Carcinogen

IARC International Agency for Research on Cancer
 Group 1 Carcinogenic to Humans
 Group 2A Probably Carcinogenic to Humans
 Group 2B Possibly Carcinogenic to Human

NTP National Toxicity Program
 Known Known Carcinogen
 Reasonably Anticipated to be a Human Carcinogen

OSHA Occupational Health and Safety Administration
 X Present

Date Feb. 15, 2019

DISCLAIMER

This information provided in this Safety Data sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of SDS