

Safety Data Sheet

29 CFR 1910.1200

Section 1: Company and Product Identification

Product Name: Tri-ruthenium dodecacarbonyl

Product Code: 8047

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

GHS07

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Hazard Pictograms:



Signal Word: Warning

Hazard Category: Serious eye damage/eye irritation Cat 3
 Skin corrosion/irritation Cat 3
 Acute tox, inh. Cat 5
 Acute tox, dermal Cat 5
 Acute tox, oral Cat 5

Hazard Statements: H320: Causes eye irritation
 H316: Causes mild skin irritation
 H333: May be harmful if inhaled
 H313: May be harmful in contact with skin
 H303: May be harmful if swallowed

Precautionary Statements: P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
 P303+361+353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 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
 P310: Immediately call a POISON CENTER or doctor/physician
 P321: Specific treatment (see supplemental first aid instructions on this label)
 P363: Wash contaminated clothing before reuse
 P405: Store locked up
 P501: Dispose of contents/container in accordance with local/regional/national/international rules.

Conditions Aggravated By Exposure

May cause irritation of the respiratory system. Maintain housekeeping and personal hygiene to minimize exposure and prevent sensitization.

Hazards not otherwise classified:

Conditions Aggravated By Overexposure

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

Section 3: Composition / Information on Ingredients

Hazardous substance (name)	Hazard Category	CAS#	Weight %
Tri-ruthenium dodecacarbonyl	Irritant	15243-33-1	98 - 100
Chemical Family: Platinum group organometallic complex Chemical Formula: C ₁₂ O ₁₂ Ru ₃			

Harmful.

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

Section 4: First Aid Measures

General Info: Consult a Physician. Show this safety data sheet to the doctor in attendance.

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 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 immediate medical attention.

Skin contact: Flush area for 15 minutes with water and wash with soap and water. If discomfort occurs or persists, contact a physician. Remove contaminated clothing and shoes and wash before reuse.

Section 5: 5. Fire Fighting Measures

General Info: No usual fire or explosion hazards

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

Method / Equipment:

Hazardous Decomposition Info: Nitrogen Oxides (Nox), Hydrogen Chloride Gas, Ruthenium Oxide - Constituents associated with burning / combustion are to be considered toxic. Firefighters should wear self-contained breathing apparatus and full protective gear.

Section 6: 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 respiratory protective equipment and clothing during clean-up. Avoid breathing dust. Ventilate area if easy to do so, Contact local authorities if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Containment Equipment and Procedures: Large Spills: Contain actively spilling material if safe and easy to do so. Do not let product enter drains.

Procedures:

Small Spills: can be mixed with vermiculite or sodium carbonate and swept up

Cleanup Procedures: Contain spillage and then collect with an electrically protected vacuum cleaner or by wet brushing and place in container for disposal according to local regulations.

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 dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment and wash thoroughly after handling. Keep away from ignition sources.

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

Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Incompatibilities: Store away from strong acids or oxidizing agents. Refer to Section 10.

Section 8: Exposure Control / Personal Protection

General / Engineering Ventilation: Local Exhaust: Required in handling area**Controls:** Mechanical: Desirable to insure concentration of material below TLV/TWA levels
Other: Closed Ventilation system - Dust (Laboratory Fume Hood)**Work Clothing:** Protective work clothing which covers skin and prevents exposures.**Eye/face protection:** Wear safety glasses with side shields or goggles or face shield.**Skin Protection:** Wear chemical resistant gloves.**Respiratory** Utilize organic vapor respirator if airborne levels are not maintained or if ventilation is inadequate.**Protection:** Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN(EU).**Additional Information:** Observe good chemical hygiene practices. Do not smoke or eat while using this product. Wash hands or exposed skin after using the product.**Section 9: Physical and Chemical Properties**

State: Solid	Melting Point: N/A	Freezing Point: No Data Available
Color: Orange	Boiling Point/Range: N/A	pH: No Data Available
Molecular Wt. 639.34	Odor: N/A	Water Solubility: Insoluble
Specific Gravity: N/A	Flash Point: N/A	Part. Coeff (n-octanol/water): No Data Available
Upper Flam Limits: N/A	Lower Flam Limits: N/A	Vapor Pressure: No Data Available
VOC Content (lbs/gal): N/A	Viscosity: N/A	Autoignition Temp: No Data Available

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.**Stability:** No data available - May be Hygroscopic**Conditions to Avoid:** Material may absorb water from the atmosphere on prolonged exposure.**Incompatible materials:** Strong oxidizing agents.**Decomposition products:** Carbon monoxide, carbon dioxide.**Section 11: Toxicological Information**

General Information: To the best of our knowledge the chemical, physical, and toxicological effects of this compound have not been thoroughly investigated.**Toxicological Information (product):** No data available**Likely Routes of Exposure:** Eye Contact
Skin Contact
Inhalation
Ingestion - possible, but considered unlikely.**Toxicological Information (contained substances)****Carcinogenicity or mutagenicity:** To the best of our knowledge the chemical, physical, and toxicological effects of this compound have not been thoroughly investigated.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as
ACGIH: probable, possible or confirmed human carcinogen by IARC, ACGIH, NTP or OSHA.
NTP:
OSHA:

Sensitization: Product is not expected to be a sensitizer.

Section 12: Ecological Information

General information: No data available

Aquatic toxicity: No data available

Degradation / Mobility info: No specific data available.

Bioaccumulative potential: No specific data available.

Section 13: Disposal Information

Product disposal: Place in a sealed container. Consult Federal EPA, State and local regulations for proper disposal/recycle/reclamation

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

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

Other considerations: No further information.

Section 14: Transport Information

DOT: Proper Shipping Name:
 Considered non-hazardous for transport

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

Section 15: Regulatory Information

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

SARA 313 This product does not contain any ingredients regulated under Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 or 40 CFR 372.

SARA 311/312 No SARA Hazards
Hazards

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

Section 16: Other Information

NFPA Rating

Health: 0
 Fire: 0
 Reactivity: 0

HMIS Rating

Health: 0
 Fire: 0
 Reactivity: 0
 Personal
 Protection: C

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

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