

Safety Data Sheet

29 CFR 1910.1200

Section 1: Company and Product Identification

Product Name: Tris (2,2' Bityridyl) Ruthenium (II) Chloride Hexahydrate

Product Code: 8067

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



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

Hazard Pictograms:



Signal Word: Warning

Hazard Category: Non-classified
 Skin corrosion/irritation Cat 3

Hazard Statements: Not Applicable

Precautionary Statements: P281: Use personal protective equipment as required
 P280: Wear protective gloves/protective clothing/eye protection/face protection
 P308+313: IF exposed or concerned: Get medical advice/attention

Hazards not otherwise classified: This products contains no hazardous ingredients when evaluated by criteria established in the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Section 3: Composition / Information on Ingredients

Hazardous substance (name)	Hazard Category	CAS#	Weight %
Tris (2,2' Bityridyl) Ruthenium (II) Chloride Hexahydrate	Not Classified	50525-27-4	
Chemical Formula: C30H24Cl2N6Ru • 6H2O			
Synonyms: Ruthenium-tris(2,2'-bipyridyl) dichloride. Tris(2,2'-bipyridyl)dichlororuthenium(II) hexahydrate			

Section 4: First Aid Measures

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

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 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: Fire Fighting Measures

General Info: Use proper safety equipment. Can decompose to emit toxic ammonia and chlorine vapors

Extinguishing In case of fire, use water fog, dry chemical, CO₂, or "alcohol resistant" foam.

Method / Equipment:

Hazardous Constituents associated with burning / combustion are to be considered toxic. Firefighters should

Decomposition Info: wear self-contained breathing apparatus and full protective gear. Carbon oxides, nitrogen oxides (NO_x), Hydrogen chloride gas, Ruthenium oxide

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 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: Avoid dust formation. Avoid breathing vapors, mist or gas. Do not let product enter drains. Sweep up and shovel. Keep in suitable, closed containers for disposal

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: Keep container tightly closed in a dry and well-ventilated place. Keep in a dry place.

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

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

Controls: 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 Protection: Respiratory protection is not required. Where protection from nuisance levels of dusts are desired,

Protection: use type N95 (US) or type P1 (EN 143) dust masks. 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: > 300 °C (> 572 °F) - lit	Freezing Point: N/A
Color: Dark Red	Boiling Point/Range: N/A	pH: N/A
Molecular Wt.: 640.54 (748.62)	Odor: N/A	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

Section 10: Stability and Reactivity

General: This product is stable and non-reactive under normal conditions of use.

Incompatible materials: Strong oxidizing agents.

Decomposition products: Carbon oxides, nitrogen oxides (NO_x), Hydrogen chloride gas, Ruthenium oxide

Section 11: Toxicological Information

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

Toxicological Acute toxicity:

Information (product): LD50 Intravenous - mouse - 1.999 mg/kg

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

Section 12: Ecological Information

General information: No 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.

Section 14: Transport Information

DOT: Proper Shipping Name:

None

Hazard Class:

Non-hazardous for shipping

IMO/IMDG: No data available

IATA: IATA: Non-hazardous for shipping. Consult IATA regulations before shipping.

Section 15: Regulatory Information

SARA 313 Does not require reporting under SARA Title 313

Right to Know Massachusetts Right To Know Components

Components: No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Tris(2,2'-bipyridyl)dichloro-ruthenium(II)hexahydrate

CAS-No. 50525-27-4 Revision Date

New Jersey Right To Know Components

Tris(2,2'-bipyridyl)dichloro-ruthenium(II)hexahydrate

CAS-No. 50525-27-4 Revision Date

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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 believed to be correct; however, you (the customer), should perform 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.

Version Date:

6/9/2016