

Safety Data Sheet

29 CFR 1910.1200

Section 1: Company and Product Identification

Product Name: Hexaammine Ruthenium (II) Chloride

Product Code: 8013

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

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 4

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
 H302: Harmful if swallowed

Precautionary Statements: P201: Obtain special instructions before use
 P280: Wear protective gloves/protective clothing/eye protection/face protection
 P308+313: IF exposed or concerned: Get medical advice/attention

Hazards not otherwise classified: Not applicable, none known. The toxicological properties of this material have not been fully investigated.

Section 3: Composition / Information on Ingredients

Hazardous substance (name)	Hazard Category	CAS#	Weight %
Hexaammine Ruthenium (II) Chloride	Irritant	15305-72-3	99
Chemical Family: Platinum group metal complex Chemical Formula: H ₁₈ Cl ₂ N ₆ Ru Chemical Name: Ruthenium hexaammine dichloride			
Synonyms:			
Hexaammineruthenium(II)chloride, Hexaammineruthenium dichloride, Hexaammineruthenium(2+) dichlorid			

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.

Additional Info: Note To Physician:

Treat symptomatically and supportively

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.

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

Small Spills: Wet brush and collect to waste receptacles.

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 Do not handle until all safety precautions have been read and understood. Keep containers tightly

Precautions: 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 in a dry well ventilated place under inert atmosphere at 2-8C. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Incompatibilities: Air Sensitive - 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 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: Utilize organic vapor respirator if airborne levels are not maintained or if ventilation is inadequate. 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: N/A
Color: khaki - green - brown	Boiling Point/Range: N/A	pH: N/A
Molecular Wt.: 274.16	Odor: None	Water Solubility: Soluble
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. Product is not subject to hazardous polymerization. Avoid open flame and ignition sources.

Incompatible materials: Strong oxidizing agents. Light Sensitive, Conditions To Avoid (Stability) Incompatible materials, exposure to air.

Decomposition products: Nitrogen oxides (NOx), 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 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, the physical, and toxicological properties of this compound have not been thoroughly investigated

Sensitization: Product is not expected to be a sensitizer.

Other Notes: None

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:

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

TSCA: In the process of obtaining LVE. For research and development usage.

SARA 313 Does not require reporting under SARA Title 313

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.

DSL: No

NDSL: No

European Union (EU) Hazard Symbols: XI

Regulatory Risk Phrases:

Information: R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrase:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Other International Regulations WGK (Water Danger/Protection)

CAS # 15305-72-3:2

Canada

Section 16: Other Information

NFPA Rating

Health: 2

Fire: 0

Reactivity: 0

HMIS Rating

Health: 2

Fire: 0

Reactivity: 0

Personal

Protection: J

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.

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