

Safety Data Sheet

29 CFR 1910.1200

Section 1: Company and Product Identification

Product Name: Osmium (III) Chloride Hydrate

Product Code: 4003

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

Response: Chemtrec: 800-424-9300

World Wide - Call COLLECT to U.S: 703-527-3887

Section 2: Hazards Identification

Hazard Pictograms:



Signal Word:

Danger

Hazard Category:

Skin corrosion/irritation Cat 1
 Serious eye damage/eye irritation Cat 1
 Acute tox, oral Cat 4
 Specific target organ tox, single exp. Cat 3 (resp irrit)

Hazard Statements:

H314: Causes severe skin burns and eye damage
 H318: Causes serious eye damage
 H302: Harmful if swallowed
 H335: May cause respiratory irritation

Precautionary Statements:

P202: Do not handle until all safety precautions have been read and understood
 P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
 P264: Wash thoroughly after handling
 P280: Wear protective gloves/protective clothing/eye protection/face protection
 P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove
 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: **Conditions Aggravated By Exposure**
 Any respiratory condition such as asthma will be aggravated.

Conditions Aggravated By Overexposure

Potential kidney damage.
 To the best of our knowledge the chemical, physical, and toxicological properties have not been thoroughly investigated. Avoid elevated temperatures. Product incompatible with oxidizers. Can decompose at elevated temperatures to emit Cl₂ and OsO₄ gases.

Section 3: Composition / Information on Ingredients

Hazardous substance (name)	Hazard Category	CAS#	Weight %
Osmium (III) Chloride	Irritant - Harmful	13444-93-4	100
Chemical Name: Osmium Trichloride/Osmium (III) Chemical Family: Platinum Group Metal Salts Chemical Formula: OsCl ₃ /OsCl ₃ .3H ₂ O			

Section 4: First Aid Measures

General Info: Ensure proper ventilation.

Notable Exposure symptoms: 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 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: Flash Point: NA °C

Autoignition Point: N/A

Flammability Class: NA

Fire And Explosion Hazards

Emits toxic fumes under fire conditions.

Extinguishing Method / Equipment: Water spray or carbon dioxide. Do not use organics.

Method / Equipment:

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

Decomposition Info: 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 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, avoid generating dust. Soak or sweep up or cover spill with dry sand or vermiculite and mix well. Collect material and dispose

Small Spills: Sweep and collect to waste receptacles.

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

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

Incompatibilities: Strong acids, oxidizers, bases.

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

Other: Handle in a glove box under a dry inert atmosphere to prevent oxidation

Safety shower and eyewash

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: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) 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 powder	Melting Point: 500 °C	Freezing Point: N/A
Color: Black	Boiling Point/Range: N/A	pH: N/A
Molecular Wt. 296.55	Odor: Sharp Chlorine like	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 Density: 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. **Conditions To Avoid (Stability):** Elevated temperatures

Incompatible materials: Strong oxidizing agents

Decomposition products: Hydrogen chloride gas

Section 11: Toxicological Information

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

Miscellaneous Toxicological Information:

- Osmium Tetroxide - LD₅₀ = 1 mg/m³
- TLV = 0.0016 mg/m³

Section 12: Ecological Information

Aquatic toxicity: No specific data available. Do not allow large quantities of product to reach water, ground water, water courses or sewer systems.

Section 13: Disposal Information

Product disposal: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

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: UN/ID no UN3288
 Hazard Class 6.1
 Packing Group II
 Proper shipping name Toxic solid, inorganic, n.o.s.
 Description UN3288, Toxic solid, inorganic, n.o.s., 6.1, II, POISON

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Section 15: Regulatory Information

TSCA/RCRA: OsO4 is a listed EPA Hazardous Waste - P087

SARA SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard No
 Chronic Health Hazard No
 Fire hazard No
 Sudden release of pressure hazard No
 Reactive hazard No

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

DSL: No
 NDSL: No

European Union Symbol of Danger: T

(EU) Regulatory Indication of Danger: Toxic

Information: R: 23/24/25-36/37/38

Toxic by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin.

S: 26-36/37/39-45

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Section 16: Other Information

NFPA Rating

Health: 3
 Fire: 0
 Reactivity: 0

HMIS Rating

Health: 3
 Fire: 0
 Reactivity: 0
 Personal
 Protection: J

Precautionary Label

Irritant

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 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.

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