


# MATERIAL SAFETY DATA SHEET

## Ruthenium Powder

<b>NFPA</b>	<b>HMIS</b>								
	<table border="1"><tr><td>HEALTH</td><td style="text-align: center;">1</td></tr><tr><td>FLAMMABILITY</td><td style="text-align: center;">2</td></tr><tr><td>REACTIVITY</td><td style="text-align: center;">1</td></tr><tr><td>PERSONAL PROTECTION</td><td style="text-align: center;">J</td></tr></table>	HEALTH	1	FLAMMABILITY	2	REACTIVITY	1	PERSONAL PROTECTION	J
HEALTH	1								
FLAMMABILITY	2								
REACTIVITY	1								
PERSONAL PROTECTION	J								

### 1. Product And Company Identification

**Supplier**

Colonial Metals, Inc.  
Building 20  
505 Blue Ball Road  
Elkton, MD 21921 United States

**Company Contact:** Joseph Fittos III  
**Telephone Number:** 410-398-7200  
**FAX Number:** 410-398-2918  
**E-Mail:** jfittos@colonialmetals.com  
**Web Site:** colonialmetals.com

**Manufacturer**

Colonial Metals, Inc.  
Building 20  
505 Blue Ball Road  
Elkton, MD 21921 United States

**Company Contact:** Joseph Fittos III  
**Telephone Number:** 410-398-7200  
**FAX Number:** 410-398-2918  
**E-Mail:** jfittos@colonialmetals.com  
**Web Site:** colonialmetals.com

**Supplier Emergency Contacts & Phone Number**

**Chemtrac:** 800-424-9300  
**World Wide - Call COLLECT to U.S:** 703-527-3887

**Manufacturer Emergency Contacts & Phone Number**

**Chemtrac:** 800-424-9300  
**World Wide - Call COLLECT to U.S:** 703-527-3887

**Issue Date:** 08/29/2007

**Product Name:** Ruthenium Powder  
**Chemical Name:** Ruthenium Sponge  
**CAS Number:** 7440-18-8  
**Chemical Family:** Platinum Group Metal  
**Chemical Formula:** Ru  
**MSDS Number:** 8000  
**Product Code:** 8000

### 2. Composition/Information On Ingredients

Ingredient Name	CAS Number	Percent Of Total Weight
Ruthenium Powder	7440-18-8	100

### EMERGENCY OVERVIEW

To the best of our knowledge the chemical, physical, and toxicological properties have not been thoroughly investigated. Avoid organics. Product incompatible with organics, especially acetone and alcohol. Highly flammable.

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## Ruthenium Powder

### Hazards Identification (Pictograms)



### 3. Hazards Identification

#### Primary Routes(s) Of Entry

Skin: Likley  
Eyes: Likley  
Inhalation: Likely  
Ingestion: Likely

#### Eye Hazards

May cause eye Irritation.

#### Skin Hazards

May cause skin Irritation.

#### Ingestion Hazards

Irritation; poison is unlikely on a single exposure. Does not cause serious toxic manifestations.

#### Inhalation Hazards

May cause respiratory tract and mucous membrane Irritation. The toxicological properties of this substance have not been fully investigated.

#### Chronic/Carcinogenicity Effects

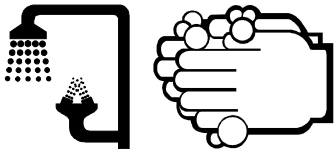
Not Available.

#### Conditions Aggravated By Exposure

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

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

### First Aid (Pictograms)



### 4. First Aid Measures

#### Eye

Flush for 15 minutes with plenty of water. If discomfort occurs or persists, contact a physician.

#### Skin

Immediately wash with soap and water. If discomfort occurs or persists, contact a physician. Remove contaminated clothing and shoes and wash before reuse.

#### Ingestion

Seek medical attention immediately.

#### Inhalation

Remove to fresh air immediately. If victim is not breathing provide artificial respiration. Keep victim warm. Contact a physician immediately.

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## Ruthenium Powder

### Fire Fighting (Pictograms)



### 5. Fire Fighting Measures

**Flash Point Method:** NA

**Flammability Class:** NA

#### Fire And Explosion Hazards

Use proper safety equipment. Can ignite by spontaneous combustion in the presence of alcohols or organics.  
Can release metal oxide fume.

#### Extinguishing Media

Use special powder for metal fires. DO NOT use water.

#### Fire Fighting Instructions

Use NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.

### 6. Accidental Release Measures

General Information: Use proper personal protective equipment as indicated.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Remove all sources of ignition.  
Use a spark-proof tool.

### Handling & Storage (Pictograms)



### 7. Handling And Storage

#### Handling Precautions

Ensure good ventilation. Avoid contact with eyes, prolonged or repeated contact with skin. Avoid breathing dust.  
Use compatible chemical resistant gloves. Wash hands thoroughly after handling. Use spark proof tools and explosion proof equipment.

#### Storage Precautions

Store in a tightly sealed container in a cool, dry place away from ignition sources and acids. Protect against electrostatic charges.

#### Work/Hygienic Practices

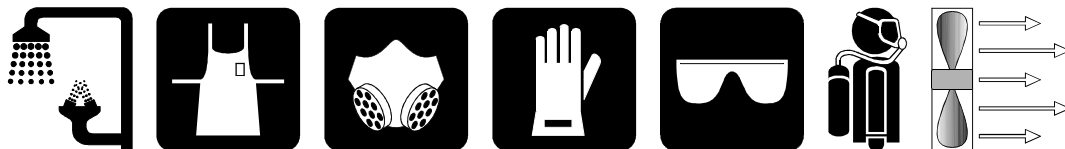
Use good personal hygiene. Wash thoroughly with soap and water after handling.  
Fumes can combine with the air to form an explosive mixture.

# MATERIAL SAFETY DATA SHEET

## Ruthenium Powder

### 7. Handling And Storage - Continued

#### Protective Clothing (Pictograms)



### 8. Exposure Controls/Personal Protection

#### Engineering Controls

Ventilation: Local Exhaust: Required in handling area  
Mechanical: Desirable to insure concentration of material below TLV/TWA levels  
Other: Closed Ventilation system - Dust (Laboratory Fume Hood)

Safety shower and eyewash

#### Eye/Face Protection

ANSI approved safety glasses/goggles

#### Skin Protection

Rubber/Neoprene (use compatible chemical-resistant gloves).

#### Respiratory Protection

NIOSH approved chemical cartridge respirator for dust/mist/fume/radionuclide or self-contained breathing apparatus with full face shield.

#### Other/General Protection

Lab coat/apron, flame and chemical resistant protective clothing, eye wash, safety shower, and hygiene facilities for washing.

### 9. Physical And Chemical Properties

#### Appearance

Bluish-gray powder

#### Odor

Odorless

**Chemical Type:** Mixture

**Physical State:** Solid

**Melting Point:** 4233 °F 2334 °C

**Boiling Point:** 7502 °F 4150 °C

**Specific Gravity:** 12.3

**Molecular Weight:** 101.07

**Vapor Pressure:** NA

**Vapor Density:** NA

**pH Factor:** NA

**Solubility:** Insoluble

**Evaporation Rate:** NA

### 10. Stability And Reactivity

**Stability:** Stable

**Hazardous Polymerization:** Will not occur

# MATERIAL SAFETY DATA SHEET

## Ruthenium Powder

### 10. Stability And Reactivity - Continued

#### **Conditions To Avoid (Stability)**

Stable under normal temperatures and pressures.

#### **Incompatible Materials**

Strong oxidizing agents, acids.

#### **Hazardous Decomposition Products**

Metal oxide fume.

#### **Conditions To Avoid (Polymerization)**

Will not occur.

### 11. Toxicological Information

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

### 12. Ecological Information

No Data Available...

### 13. Disposal Considerations

Place in 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.

#### **RCRA Information**

NL

### 14. Transport Information

#### **Proper Shipping Name**

DOT regulated -small quantity provisions apply (see 49CFR173.4)

#### **Hazard Class**

NA

#### **Additional Shipping Paper Description**

IATA: This product follows the same requirements as DOT 49 CFR. See IATA regulation before shipping.

### 15. Regulatory Information

#### **U.S. Regulatory Information**

TSCA

CAS# 7440-18-8 is listed on the TSCA inventory.

#### **SARA Section 313 Notification**

No chemicals are reportable under Section 313.

#### **Canadian Regulatory Information**

CAS# 7440-18-8 is listed on Canada's DSL List. CAS# 7440-18-8 is listed on Canada's DSL List.

WHMIS: Not available.

CAS# 7440-18-8 is not listed on Canada's Ingredient Disclosure List.

#### **European Union (EU) Regulatory Information**

Hazard Symbols:

F

Risk Phrases:

R 11 Highly flammable.

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## Ruthenium Powder

### 15. Regulatory Information - Continued

#### European Union (EU) Regulatory Information - Continued

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 29 Do not empty into drains.

S 33 Take precautionary measures against static discharges.

S 9 Keep container in a well-ventilated place.

#### DSCL - Europe (Pictograms)



### 16. Other Information

#### NFPA Rating

Health: 1

Fire: 3

Reactivity: 1

#### HMIS Rating

Health: 1

Fire: 2

Reactivity: 1

Personal Protection: J

#### Revision/Preparer Information

MSDS Preparer: Joseph J. Fittos III

MSDS Preparer Phone Number: 410-398-7200

#### 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.