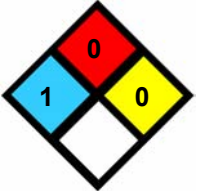




MATERIAL SAFETY DATA SHEET

Palladium (II) Oxide

| | | | | | | | | | |
|--|--|--------|---|--------------|---|------------|---|---------------------|---|
| <p>NFPA</p>  | <p>HMIS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #00b0f0; color: white;">HEALTH</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="background-color: #ff0000; color: white;">FLAMMABILITY</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="background-color: #ffff00;">REACTIVITY</td> <td style="text-align: center;">0</td> </tr> <tr> <td>PERSONAL PROTECTION</td> <td style="text-align: center;">J</td> </tr> </table> | HEALTH | 1 | FLAMMABILITY | 0 | REACTIVITY | 0 | PERSONAL PROTECTION | J |
| HEALTH | 1 | | | | | | | | |
| FLAMMABILITY | 0 | | | | | | | | |
| REACTIVITY | 0 | | | | | | | | |
| PERSONAL PROTECTION | J | | | | | | | | |

1. Product And Company Identification

| | |
|--|--|
| <p>Supplier Colonial Metals, Inc. Building 20 505 Blue Ball Road Elkton, MD 21921 United States</p> <p>Company Contact: Wayne Sher Telephone Number: 410-398-7200 FAX Number: 410-398-2918 E-Mail: wsher@colonialmetals.com Web Site: colonialmetals.com</p> | <p>Manufacturer Colonial Metals, Inc. Building 20 505 Blue Ball Road Elkton, MD 21921 United States</p> <p>Company Contact: Wayne Sher Telephone Number: 410-398-7200 FAX Number: 410-398-2918 E-Mail: wsher@colonialmetals.com Web Site: colonialmetals.com</p> |
| <p>Supplier Emergency Contacts & Phone Number Chemtrac: 800-424-9300 World Wide - Call COLLECT to U.S: 703-527-3887</p> | <p>Manufacturer Emergency Contacts & Phone Number Chemtrac: 800-424-9300 World Wide - Call COLLECT to U.S: 703-527-3887</p> |

Issue Date: 03/29/2005

Product Name: Palladium (II) Oxide
Chemical Name: Palladium Oxide
CAS Number: 1314-08-5
Chemical Family: Metal Oxide
Chemical Formula: PdO
MSDS Number: 5005
Product Code: 5005

Synonyms
Palladium monoxide

2. Composition/Information On Ingredients

| Ingredient Name | CAS Number | Percent Of Total Weight |
|-----------------|------------|-------------------------|
| Palladium Oxide | 1314-08-5 | 100 |

EMERGENCY OVERVIEW

The dust may irritate the eyes, skin and respiratory system.



MATERIAL SAFETY DATA SHEET

Palladium (II) Oxide

3. Hazards Identification

Primary Routes(s) Of Entry

Eyes: Likely
Inhalation: Likely

Eye Hazards

Causes eye irritation.

Skin Hazards

May cause skin irritation.

Ingestion Hazards

None expected, except from discomfort. Does not cause serious toxic manifestations.

Inhalation Hazards

Causes respiratory tract irritation. May cause nose, throat, and lung irritation.

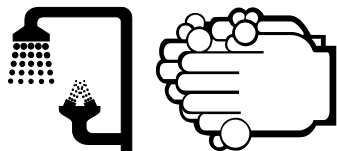
Conditions Aggravated By Exposure

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

Conditions Aggravated By Overexposure

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

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.

Ingestion

Not expected to be a problem in industry. However if swallowed and discomfort occurs, contact a physician.

Inhalation

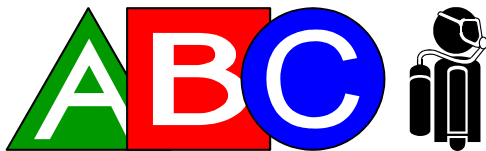
Remove to fresh air immediately. If discomfort occurs or persists, contact a physician.



MATERIAL SAFETY DATA SHEET

Palladium (II) Oxide

Fire Fighting (Pictograms)



5. Fire Fighting Measures

Flash Point Method: NA

Flammability Class: NA

Fire And Explosion Hazards

Use proper safety equipment to fight fire

Extinguishing Media

Use water spray, foam, dry chemical, carbon dioxide or medium for primary source.

Fire Fighting Instructions

If metal suspension residue self ignites, use CO2 or dry powder extinguisher. Use NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.

6. Accidental Release Measures

Sweep up (avoid dusting) or soak up with a wet paper towel or rag and place in a sealed container. Person protected with full face shield and proper respirator for dust. Ventilate area and wash spill site after pick up is complete.

Handling & Storage (Pictograms)



7. Handling And Storage

Handling And Storage Precautions

Avoid contact with eyes, prolonged or repeated contact with skin. Avoid breathing dust. Use compatible chemical-resistant gloves. Wash hands thoroughly after handling.

Handling Precautions

Avoid breathing dust or vapor. Avoid creating dust. Do not get in eyes.

Storage Precautions

Do not store directly on ground. Store in a dry place.

Work/Hygienic Practices

Use good personal hygiene. Wash thoroughly after handling. Wash thoroughly with soap and water after handling.

Other Precautions

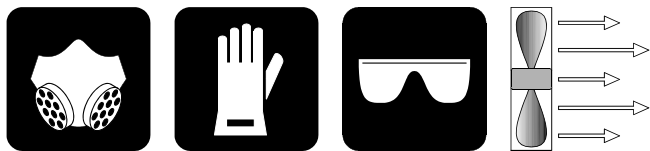
0.01 mg/m² high efficiency particular respirator/supplied air respirator/self-contained breathing apparatus; 0.2 mg/m² same as above with full face piece; 1 mg/m³ powdered air purifying respirator with high efficiency filter/type C supplied air respirator operated in pressure demand mode. Store in a sealed container, plastic or plastic liner, in a cool, well ventilated, dry area away from volatile acids.



MATERIAL SAFETY DATA SHEET

Palladium (II) Oxide

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: Desirable

Eye/Face Protection

ANSI approved safety glasses/goggles

Skin Protection

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

Respiratory Protection

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

Gray to black powder

Odor

Slight process odor

Chemical Type: Mixture

Physical State: Solid

Melting Point: Decomposes °C

Boiling Point: NA °C

Specific Gravity: 8.7

Molecular Weight: 122.4

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

Palladium (II) Oxide

10. Stability And Reactivity - Continued

Conditions To Avoid (Stability)

Temperature above 1000oC (2120oF)

Incompatible Materials

Alkalies, hydrogen bromide, bromine, and hydrobromic acid.

Hazardous Decomposition Products

None

11. Toxicological Information

No Data Available...

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.

14. Transport Information

Proper Shipping Name

Non-Hazardous

Additional Shipping Paper Description

IATA: Same as DOT 49 CFR Regulation. Consult ATA regulation for further information.

15. Regulatory Information

U.S. Regulatory Information

This product is TSCA Listed.

Canadian Regulatory Information

16. Other Information

NFPA Rating

Health: 1

Fire: 0

Reactivity: 0

HMIS Rating

Health: 1

Fire: 0

Reactivity: 0

Personal Protection: J

Revision/Preparer Information

MSDS Preparer: Wayne Sher

MSDS Preparer Phone Number: 410-398-7200



MATERIAL SAFETY DATA SHEET

Palladium (II) Oxide

16. Other Information - Continued

Revision/Preparer Information - Continued

This MSDS Supersedes A Previous MSDS Dated: 03/15/1998

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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