

MATERIAL SAFETY DATA SHEET



Perrhenic Acid Solution

Ru
Rh
Pd
Ag
Re
Os
Ir
Pt
Au

| | | | | | | | | | | |
|---------------------|-------------|---|--------|---|--------------|---|------------|---|---------------------|---|
| NFPA | HMIS | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #00b0f0; color: white; padding: 2px;">HEALTH</td> <td style="text-align: center; padding: 2px;">3</td> </tr> <tr> <td style="background-color: #ff0000; color: white; padding: 2px;">FLAMMABILITY</td> <td style="text-align: center; padding: 2px;">0</td> </tr> <tr> <td style="background-color: #ffff00; padding: 2px;">REACTIVITY</td> <td style="text-align: center; padding: 2px;">0</td> </tr> <tr> <td style="padding: 2px;">PERSONAL PROTECTION</td> <td style="text-align: center; padding: 2px;">J</td> </tr> </table> | HEALTH | 3 | FLAMMABILITY | 0 | REACTIVITY | 0 | PERSONAL PROTECTION | J |
| HEALTH | 3 | | | | | | | | | |
| 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: 12/30/2010

Product Name: Perrhenic Acid Solution
Chemical Name: Perrhenic Acid
CAS Number: 13768-11-1
Chemical Family: Group 7B Metal
Chemical Formula: HReO₄xH₂O
MSDS Number: 1002
Product Code: 1000-2-S, 2-S-A, 2-S-B

2. Composition/Information On Ingredients

| Ingredient Name | CAS Number | Percent Of Total Weight |
|-----------------|------------|-------------------------|
| Perrhenic Acid | 13768-11-1 | 51 - 56 |
| Water | 7732-18-5 | 27 - 53 |

This Product can contain:

1. 18-22% Rhenium Metal
2. 38-42% Rhenium Metal.

EMERGENCY OVERVIEW

To the best of our knowledge the chemical, physical, and toxicological properties have not been thoroughly investigated. Avoid high temperatures. Product incompatible with strong reducers, metals, and bases. May decompose oxidation products of Rhenium. This product is corrosive and can cause burns.

Hazards Identification (Pictograms)



3. Hazards Identification

Primary Routes(s) Of Entry

Eye: Likely
 Inhalation: Likely
 Skin: Likely
 Ingestion: Likely

Eye Hazards

Causes eye burns.

Skin Hazards

Causes severe skin burns. May be harmful if absorbed through the skin.

Ingestion Hazards

May be harmful if swallowed.

Inhalation Hazards

May be harmful if inhaled. Extremely destructive to the upper respiratory tract and mucous membranes.

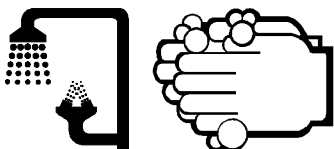
Conditions Aggravated By Exposure

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, physical, and toxicological properties of this compound 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 immediately.

4. First Aid Measures - Continued

Skin

Flush area for 15 minutes with copious amounts of water. If discomfort occurs or persists, contact a physician immediately. Remove contaminated clothing and shoes and wash before reuse.

Ingestion

Not expected to be a problem in industry; however if swallowed wash out mouth with water provided victim is conscious, never give anything by mouth to an unconscious person. DO NOT induce vomiting. Contact a physician immediately.

Inhalation

Remove to fresh air immediately. If required provide artificial respiration. If breathing is difficult give oxygen. Contact a physician immediately.

Fire Fighting (Pictograms)



5. Fire Fighting Measures

Flash Point Method: NA

Flammability Class: NA

Fire And Explosion Hazards

Use proper safety equipment. Emits toxic fumes under fire conditions.

Extinguishing Media

Dry chemical powder.

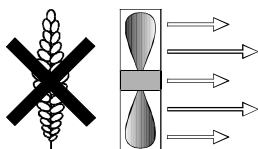
Fire Fighting Instructions

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

6. Accidental Release Measures

Soak up (neutralize with sodium carbonate or an absorbant such as vermiculite) and place in a sealed acid proof container. Person protected with full face shield and NIOSH approved respirator cartlidge for ammonia vapor and dust. Ventilate area and wash spill site after pick up is complete.

Handling & Storage (Pictograms)



7. Handling And Storage

Handling Precautions

Do not breathe vapor. Do not get into eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

7. Handling And Storage - Continued

Storage Precautions

Keep tightly closed container.

Work/Hygienic Practices

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

Other Precautions

0.01 ppm high efficiency particular respirator/supplied air respirator/self-contained breathing apparatus; 0.2 ppm same as above with full face piece; 1 ppm 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.

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 (Laboratory fume hood)

Safety shower and eyewash

Eye/Face Protection

ANSI approved safety glasses/goggles, full face shield

Skin Protection

Rubber/Neoprene (use compatible chemical-resistant gloves)

Respiratory Protection

NIOSH approved chemical cartridge respirator for particulates and dust, if there is potential for airborne exposure to exceed established treshold values, 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

Light yellow liquid

Chemical Type: Mixture

Physical State: Liquid

Melting Point: NA °C

Boiling Point: ~100 °C

Specific Gravity: 2.16 g/cm3

9. Physical And Chemical Properties - Continued

Molecular Weight: 251.2
Vapor Pressure: NE
Vapor Density: NE
pH Factor: <1
Solubility: Soluble
Evaporation Rate: NE

10. Stability And Reactivity

Stability: Stable
Hazardous Polymerization: Will not occur

Conditions To Avoid (Stability)

High temperatures.

Incompatible Materials

Strong bases.

Hazardous Decomposition Products

CO and CO₂.

Conditions To Avoid (Polymerization)

Will not occur.

11. Toxicological Information**Acute Studies**

No data available

Chronic/Carcinogenicity

NONE

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

12. Ecological Information

No Data Available...

13. Disposal Considerations

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**

Corrosive liquid, acidic, inorganic, n.o.s.

Hazard Class

8

14. Transport Information - Continued**Secondary Hazard Class**

NL

DOT Identification Number

3264

DOT Shipping Label

Corrosive

Freight Class

See 49 CFR

Packaging Exceptions

See 49 CFR

Packaging Requirements

II

Additional Shipping Paper Description

IATA same as DOT, always consult IATA manual before shipping.

DOT (Pictograms)**ADR - Europe (Pictograms)****TDG - Canada (Pictograms)****15. Regulatory Information****U.S. Regulatory Information**

This chemical is TSCA listed.

Canadian Regulatory Information

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.

European Union (EU) Regulatory Information

Symbol of Danger: C

Indication of Danger: Corrosive

15. Regulatory Information - Continued**European Union (EU) Regulatory Information - Continued**

R: 34

Risk Phrase: Causes burns.

S: 26 36/37/39 45

Safety Phrase: 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)

Other International Regulations

US Classification and Label Text

Indication of Danger: Corrosive

Risk Phrase: Causes burns.

Safety Phrase: 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)

WHMIS - Canada (Pictograms)**16. Other Information****NFPA Rating**

Health: 3

Fire: 0

Reactivity: 0

Other: COR

HMIS Rating

Health: 3

Fire: 0

Reactivity: 0

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, 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.

MATERIAL SAFETY DATA SHEET



Perrhenic Acid Solution

Ru Rh Pd Ag Re Os Ir Pt Au

Disclaimer - Continued

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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