


# MATERIAL SAFETY DATA SHEET

## Tetraamminepalladium (II) Nitrite Solution

<b>NFPA</b> 	<b>HMIS</b> <table border="1"><tr><td>HEALTH</td><td style="text-align: center;">2</td></tr><tr><td>FLAMMABILITY</td><td style="text-align: center;">0</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	2	FLAMMABILITY	0	REACTIVITY	1	PERSONAL PROTECTION	J
HEALTH	2								
FLAMMABILITY	0								
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:** 07/23/2007

**Product Name:** Tetraamminepalladium (II) Nitrite Solution

**Chemical Name:** Diamminepalladium (II) nitrite

**CAS Number:** 28068-05-5

**Chemical Family:** Platinum Group Metal

**Chemical Formula:** (NH<sub>3</sub>)<sub>2</sub> Pd(NO<sub>2</sub>)<sub>2</sub>

**MSDS Number:** 50151

**Product Code:** 5015-S

### 2. Composition/Information On Ingredients

Ingredient Name	CAS Number	Percent Of Total Weight
Ammonium Hydroxide	1336-21-6	0 - 5
Diaamminepalladium (II) Nitrite	28068-05-5	0 - 5

### EMERGENCY OVERVIEW

**Irritant. Corrosive.** To the best of our knowledge the chemical, physical, and toxicological properties of this compound have not been thoroughly investigated. Avoid elevated temperature. Product incompatible with mineral acids and organic reducing agents. Can decompose nitrous oxide (NO<sub>x</sub>) vapors and ammonia.

### 3. Hazards Identification

**Primary Routes(s) Of Entry**

Eye: Likely  
Inhalation: Likely

# MATERIAL SAFETY DATA SHEET

## Tetraamminepalladium (II) Nitrite Solution

### 3. Hazards Identification - Continued

#### Primary Routes(s) Of Entry - Continued

Skin: Likely  
Ingestion: Likely

#### Eye Hazards

Irritation and strong corrosive effect.

#### Skin Hazards

Irritation and corrosive effect.

#### Ingestion Hazards

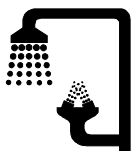
Strong corrosive effect on mouth, throat; danger of perforation of esophagus and stomach.

#### Inhalation Hazards

Irritation and corrosive effect to respiratory tract and mucous membranes.

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 several minutes with plenty of water. Contact a physician immediately.

#### Skin

Immediately wash with soap and water and rinse thoroughly. Contact a physician immediately. Remove contaminated clothing and shoes and wash before reuse.

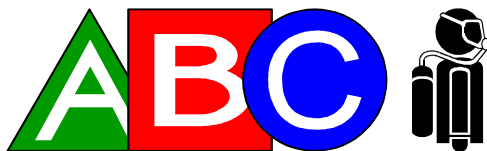
#### Ingestion

Not expected to be a problem in industry. However, if swallowed contact a physician immediately.

#### Inhalation

Remove to fresh air immediately. If victim is not breathing provide artificial respiration. Keep victim warm. 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. Can decompose to emit toxic nitrous oxide (NOx), metal oxide fume and ammonia gases. May decompose explosively at elevated temperatures.

# MATERIAL SAFETY DATA SHEET

## Tetraamminepalladium (II) Nitrite Solution

### 5. Fire Fighting Measures - Continued

#### Extinguishing Media

Use water spray or carbon dioxide, or extinguishing powder. For larger fires use water spray or alcohol resistant foam.

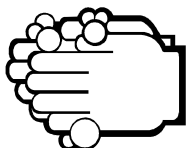
#### Fire Fighting Instructions

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

### 6. Accidental Release Measures

Absorb with liquid binding material. Use a neutralizing agent. Sweep or soak up and place in sealed container. Person protected with full face shield and NIOSH approved respirator and cartridge for dust/mist/fume, rubber/neoprene gloves and rubber apron.

### Handling & Storage (Pictograms)



### 7. Handling And Storage

#### Handling And Storage Precautions

The dry salt can be ignited by impacted friction.

#### Handling Precautions

Ensure good ventilation in workplace.

#### Storage Precautions

Store in a tightly sealed container in a cool, dry place away from acids and heat.

#### Work/Hygienic Practices

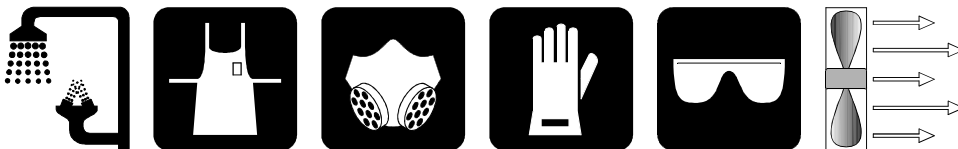
Always use good personal hygiene after handling.

#### 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.

Probable Lethal ingestion doses of ammonium hydroxide is 3-4 ML (1 ounce)

### 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

# MATERIAL SAFETY DATA SHEET

## Tetraamminepalladium (II) Nitrite Solution

### 8. Exposure Controls/Personal Protection - Continued

#### 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 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

Yellow liquid

#### Odor

ND

**Chemical Type:** Mixture

**Physical State:** Liquid

**Melting Point:** ND °C

**Boiling Point:** ND °C

**Molecular Weight:** 232.5

**Vapor Pressure:** ND

**Vapor Density:** ND

**Solubility:** Soluble

### 10. Stability And Reactivity

**Stability:** Stable

**Hazardous Polymerization:** Will not occur

#### Conditions To Avoid (Stability)

Elevated temperatures

#### Incompatible Materials

Acids

#### Hazardous Decomposition Products

Nitrous oxide (NO<sub>x</sub>) vapors, metal oxide fume, and ammonia.

### 11. Toxicological Information

LD/ LC50 values relevant for classification:

Oral- human LDLo: 43 mg/kg (solutions 12-44% NH<sub>3</sub>)

Oral- rat LD50: 350 mg/kg (solutions 12-44% NH<sub>3</sub>)

Inhalation- human LCLo: 5000ppm (solutions 12-44% NH<sub>3</sub>)

Eye- rabbit: 44 UG: SEV (solutions 12-44% NH<sub>3</sub>)

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

# MATERIAL SAFETY DATA SHEET

## Tetraamminepalladium (II) Nitrite Solution

### 12. Ecological Information

#### Other Environmental Information

Section 313 Supplier Notification: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the emergency planning and community right-to-know act of 1986 (40 CFR 372):

CAS#	Chemical Name	Percent of Weight
336-31-6	Ammonium Hydroxide	< 5

### 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

Ammonia Solution

#### Hazard Class

8

#### DOT Identification Number

UN2672

#### DOT Shipping Label

Corrosive 8

#### Packaging Requirements

III

#### Additional Shipping Paper Description

IATA same as DOT, always check IATA regulations before shipping.

### 15. Regulatory Information

#### U.S. Regulatory Information

All components of this product are TSCA listed.

#### Canadian Regulatory Information

All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).

#### European Union (EU) Regulatory Information

Hazard symbol:

C Corrosive

Risk phrases:

34 Causes burns.

Safety phrases:

20 When using do not eat or drink

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

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately.

60 This material and its container must be disposed of as hazardous waste.

# MATERIAL SAFETY DATA SHEET

## Tetraamminepalladium (II) Nitrite Solution

### DSCL - Europe (Pictograms)



### 16. Other Information

#### NFPA Rating

Health: 3

Fire: 0

Reactivity: 0

#### HMIS Rating

Health: 2

Fire: 0

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, 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.

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.