Section 1: Company and Product Identification

Product Name: Palladium(II) trifluoroacetate

Product Code: 5080

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

Emergency 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: Warning

Hazard Category: Serious eye damage/eye irritation Cat 3
Skin corrosion/irritation Cat 3
Acute tox, oral Cat 3
Acute tox, inh. Cat 5

Hazard Statements:
H320: Causes eye irritation
H316: Causes mild skin irritation
H301: Toxic if swallowed
H333: May be harmful if inhaled

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
P308+313: IF exposed or concerned: Get medical advice/attention
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:
To the best of our knowledge the chemical, physical, and toxicological properties of this compound have not been thoroughly investigated. Avoid high temperatures. Product incompatible with reducing agents and bases. May decompose carbon monoxide, carbon dioxide, fluorine, and hydrogen fluoride vapors

Section 3: Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Hazardous substance (name)</th>
<th>Hazard Category</th>
<th>CAS#</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palladium(II) trifluoroacetate</td>
<td>Irritant</td>
<td>42196-31-6</td>
<td>99 - 100</td>
</tr>
</tbody>
</table>

Chemical Name: Trifluoroacetic acid, Palladium salt
Chemical Family: Platinum Group Metal Coordination Complex
Chemical Formula: Pd(O2CCF3)2
Section 4: First Aid Measures

**General Info:** Ensure proper ventilation.

**Notable Exposure 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:** Product is not flammable

**Extinguishing Method / Equipment:** In case of fire, use water fog, dry chemical, CO2, or “alcohol” foam.

**Hazardous Decomposition Info:** Carbon oxides, palladium oxides, Constituents associated with burning / combustion are to be considered toxic. Firefighters should wear 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.
- Small Spills: Wash 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/vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment and wash thoroughly after handling.

**Other Precautions:**

- 0.01 ppm high efficiency particulate 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.

**Recommendations for Storage:**

- Store in cool, dry area in a tightly closed product container under nitrogen away from sources of ignition or flame. Do not store directly on ground.

**Incompatibilities:**

- Air and moisture sensitive, store under inert atmosphere.
Section 8: Exposure Control / Personal Protection

**General / Local Exhaust:** Required in handling area
**Engineering Controls:** Desirable to insure concentration of material below TLV/TWA levels

**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:** Utilize organic vapor respirator if airborne levels are not maintained or if ventilation is inadequate.

**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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>Solid</td>
</tr>
<tr>
<td>Melting Point</td>
<td>220 °C</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Color</td>
<td>Brown</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>N/A</td>
</tr>
<tr>
<td>Odor</td>
<td>Acetic/Acid</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Molecular Wt.</td>
<td>332.43</td>
</tr>
<tr>
<td>Odor</td>
<td>Acetic/Acid</td>
</tr>
<tr>
<td>Flash Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Part. Coeff (n-octanol/water) Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Evaporation rate</td>
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</tr>
<tr>
<td>Flash Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Upper Flam Limits</td>
<td>N/A</td>
</tr>
<tr>
<td>Lower Flam Limits</td>
<td>N/A</td>
</tr>
<tr>
<td>VOC Content (lbs/gal)</td>
<td>N/A</td>
</tr>
<tr>
<td>Viscosity</td>
<td>N/A</td>
</tr>
<tr>
<td>Autoignition Temp</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Section 10: Stability and Reactivity

**General:** Conditions To Avoid (Stability):

- **High Temperatures:** 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.

**Incompatible materials:** Strong oxidizing agents, strong acids.

**Decomposition products:** Carbon monoxide, carbon dioxide, fluorine, and hydrogen fluoride vapors.

Section 11: Toxicological Information

**General Information:** Hydrogen fluoride is a highly toxic, severe eye, mucous membrane and skin irritant. Acute poisoning affects the brain, kidneys, cardiovascular, neuromuscular, and gastrointestinal systems. Chronic exposure may produce fluorosis of skeletal system.

**Toxicological Information (product):**

- 100 ppm/1 minute inhalation - Man TCLO; 50 ppm/30 minutes inhalation - Human LCLO; 1276 ppm/1 hour inhalation - Rat LC50; 1774/1 hour inhalation - Monkey LC50; 25 MG/KG intraperitoneal - Rat LD10; 112 MG/KG subcutaneous - Frog LDLO; Mutagenic data (RTECS); reproductive data (RTECS)

**Likely Routes of Exposure:**

- Eye Contact
- Skin Contact
- Inhalation
- Ingestion - possible, but considered unlikely.

**Toxicological Information (contained substances):**

**Carcinogenicity** or mutagenicity:

- **Sensitization:** Product is not expected to be a sensitizer.

**Other Notes:** Not applicable.
Section 12: Ecological Information

General information: Product not tested.
Aquatic toxicity: No specific data available.  Do not allow large quantities of product to reach water, ground water, water courses or sewer systems.
Degradation / Mobility info: No specific data available.
Bioaccumulative potential: No specific data available.

Section 13: Disposal Information

Product disposal: Dispose of product in accordance with local, regional, and national regulations. Consult with waste contractor.
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: None, considered non-hazardous for transport
IMO/IMDG: Non-Hazardous
IATA: See regulation for information
OTHER: Inquire for further transport information.
Comments: None

Section 15: Regulatory Information

TSCA: All ingredients of this product are listed or are excluded from listing under the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
SARA 313 This product does not contain any ingredients regulated under Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 or 40 CFR 372
Canadian DSL: All ingredients of this product comply with New Substances Notification requirements of the Canadian Environmental Protection Act (CEPA).
European Union (EU) Symbol of danger: Xi
Regulatory Indication of danger: Irritant
Information: R: 36/37/28
Risk Statements: Irritating to the eyes, respiratory system, and skin.
S: 26-37/39
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Wear suitable gloves and eye/face protection.

Section 16: Other Information

NFP Rating  
Health: 1  
Fire: 0  
Reactivity: 0
HMIS Rating  
Health: 1  
Fire: 0  
Reactivity: 0

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.

SDS Author: Dr. Ernest Addo
Version Date: 6/15/2015