1. Product And Company Identification

Supplier
DF Goldsmith Chemical and Metal
909 Pitner Avenue
Evanston, IL 60202, USA

Telephone Number: 847-869-7800
FAX Number: 847-869-2531
E-mail: goldchem@aol.com
Web Site: www.dfgoldsmith.com

Manufacturer
DF Goldsmith Chemical and Metal
909 Pitner Avenue
Evanston, IL 60202, USA

Telephone Number: 847-869-7800
FAX Number: 847-869-2531
E-mail: goldchem@aol.com
Web Site: www.dfgoldsmith.com

Supplier Emergency Contacts & Phone Number
Chemtrac: 800-424-9300

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Issue Date: 04/01/2005
Product Name: Palladium on Activated Carbon 5%
Chemical Name: Palladium Supported on Carbon Catalyst
CAS Number: 7440-05-3
Chemical Family: Platinum Group Metals
Chemical Formula: Pd on C
MSDS Number: 46-012
Product Code: 46-012

2. Composition/Information On Ingredients

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS Number</th>
<th>Percent Of Total Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>7440-44-0</td>
<td>95</td>
</tr>
<tr>
<td>Palladium</td>
<td>7440-05-3</td>
<td>5</td>
</tr>
</tbody>
</table>

EMERGENCY OVERVIEW

Irritating to skin, eyes, and respiratory tract.

Hazards Identification (Pictograms)
3. Hazards Identification

Primary Routes(s) Of Entry

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

Eye Hazards
Irritation due to the particulate nature of the material; May cause hypoplasia, conjunctivitis, and inflammation of the eyelids.

Skin Hazards
Irritation due to the particulate nature of the material. Causes 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
1.) No known lasting detrimental effects
2.) Carbon - Exposure to dust for at least 5 years has been associated with an increased incidence of pneumonconiosis and fibrofocal pulmonary tuberculosis. These conditions are not attributed to carbon black alone; They are considered functions of the duration of exposure in a dusty environment. See animal reproductive effects reference in toxicity section.

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
If victim is conscious and not convulsive, immediately give 2 to 4 glasses of water, and induce vomiting by touching finger in back of throat. From sitting position, head must be lower than hips to prevent aspiration. Keep patient warm and at rest. Get medical attention immediately.

Inhalation
Remove to fresh air immediately. If discomfort occurs or persists, contact a physician.
5. Fire Fighting Measures

**Flash Point Method:** NA
**Autoignition Point:** 1652 °F 900 °C

**Fire And Explosion Hazards**
Autoignition. Avoid breathing fumes from burning material.

**Extinguishing Media**
Use water spray, dry chemical, carbon dioxide (CO2) or medium for primary source.

**Fire Fighting Instructions**
If 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.

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 creating dust. Avoid breathing dust or vapor. Avoid contact with eyes. Avoid contact with skin and clothing. Use only with adequate ventilation. Wash thoroughly after handling.

**Storage Precautions**
Do not store directly on ground. Store in a dry place. Keep away from heat, sparks, flame, and other sources of ignition....

**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.
8. Exposure Controls/Personal Protection

**Engineering Controls**
- **Ventilation:** Required in handling area
- **Local Exhaust:** Desirable to insure concentration of material below TLV/TWA levels
- **Mechanical:** NA
- **Other:** NA

**Eye/Face Protection**
ANSI approved safety glasses/goggles (splash proof or dust-resistant) and a face shield to prevent contact with substance.

**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.

**Ingredient(s) - Exposure Limits**
- **Carbon**
  - ACGIH (TWA) - 3.5 mg/m³ (As C)
  - OSHA PEL - 3.5 mg/m³ (As C)

9. Physical And Chemical Properties

**Appearance**
Black powder/ granules

**Chemical Type:** Mixture
**Physical State:** Solid
**Specific Gravity:** 2.5
**Molecular Weight:** 106.4/12.01
**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

**Incompatible Materials**
Fatty oils or sodium sulfide can undergo spontaneous heating; nitric acid reacts violently.
# Material Safety Data Sheet

## Palladium on Activated Carbon 5%

### 11. Toxicological Information

**Miscellaneous Toxicological Information**
- Carbon: 440 mg/kg intravenous-mous LD50: reproductive effects data (RTECS)

### 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.

### 14. Transport Information

**Proper Shipping Name**
- Flammable solids, inorganic N.O.S.

**Hazard Class**
- 4.1

**Secondary Hazard Class**
- NA

**DOT Identification Number**
- 3178

**DOT Shipping Label**
- Flammable Solid

**Freight Class**
- PG II

**Packaging Exceptions**
- See 49 CFR

**Packaging Requirements**
- See 49 CFR

**Additional Shipping Paper Description**
- IATA: Same as DOT 49 CFR regulation. Consult IATA regulation for further information.

**DOT (Pictograms)**

![DOT Pictogram]

**TDG - Canada (Pictograms)**

![TDG Pictogram]
15. Regulatory Information

U.S. Regulatory Information
This product 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: ES, F
Indication of Danger: Flammable Solid
R: 22, 7
Risk Phrase: Harmful by inhalation. May cause fires.
S: 36/37/39, 22, 16
Safety Phrase: Wear suitable protective clothing, gloves, and eye/face protection. Do not breathe dust. Keep away from sources of ignition - No smoking.

WHMIS - Canada (Pictograms)

16. Other Information

NFPA Rating
Health: 1
Fire: 2
Reactivity: 0

HMIS Rating
Health: 1
Fire: 2
Reactivity: 0
Personal Protection: J

Revision/Preparer Information
MSDS Preparer: DF Goldsmith Chemical and Metal
MSDS Preparer Phone Number: 847-869-7800
This MSDS Supercedes A Previous MSDS Dated: 08/17/2004
**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.

DF Goldsmith Chemical and Metal 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.