SAFETY DATA SHEET

According to JIS Z 7253:2012
Revision Date 05-Jun-2018
Version 4

Section 1: PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>Palladium-Activated Carbon (Pd 5%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>167-07541, 165-07542, 163-07543</td>
</tr>
<tr>
<td>CAS No</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Manufacturer
FUJIFILM Wako Pure Chemical Corporation
1-2 Doshomachi 3-Chome
Chuo-ku, Osaka 540-8605, Japan
Phone: +81-6-6203-3741
Fax: +81-6-6203-5964

Supplier
FUJIFILM Wako Pure Chemical Corporation
1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan
Phone: +81-6-6203-3741
Fax: +81-6-6203-2029

Emergency telephone number
+81-6-6203-3741 / +81-3-3270-8571

Recommended uses and restrictions on use
For research purposes

Announcement of company name change
Company name has changed since April 1, 2018. Former name was "Wako Pure Chemical Industries, Ltd."

Section 2: HAZARDS IDENTIFICATION

GHS classification
Classification of the substance or mixture
Flammable solids Category 1

Pictograms

Signal word Danger

Hazard statements
H228 - Flammable solid

Precautionary statements-(Prevention)
• Keep away from heat/sparks/open flames/hot surfaces. — No smoking
• Ground/bond container and receiving equipment
• Use explosion-proof electrical/ventilating/lighting/equipment
• Wear protective gloves/protective clothing/eye protection/face protection

Precautionary statements-(Response)
• In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary statements-(Storage)
• Not applicable
Precautionary statements-(Disposal)

- Not applicable

Others

Other hazards

Not available

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### Single Substance or Mixture

Mixture

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Weight-%</th>
<th>Molecular weight</th>
<th>ENCS</th>
<th>ISHL No.</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>94.0-96.0</td>
<td>12.011</td>
<td>N/A</td>
<td>N/A</td>
<td>7440-44-0</td>
</tr>
<tr>
<td>Palladium</td>
<td>4.0-6.0</td>
<td>106.42</td>
<td>N/A</td>
<td>N/A</td>
<td>7440-05-3</td>
</tr>
</tbody>
</table>

Impurities and/or Additives: Water

### Section 4: FIRST AID MEASURES

**Inhalation**

Remove to fresh air. If symptoms persist, call a physician.

**Skin contact**

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

**Eye contact**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

**Ingestion**

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

**Protection of first-aiders**

Use personal protective equipment as required.

### Section 5: FIRE FIGHTING MEASURES

**Suitable extinguishing media**

Water spray (fog), Carbon dioxide (CO2), Foam, Extinguishing powder, Sand

**Unsuitable extinguishing media**

No information available

**Special extinguishing method**

No information available

**Specific hazards arising from the chemical product**

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**Protection of fire-fighters**

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

### Section 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

**Environmental precautions**

To be careful not discharged to the environment without being properly handled waste water contaminated.
Methods and materials for contaminent and methods and materials for cleaning up
Sweep up and gather scattered particles, and collect it in an empty airtight container.
Recovery, neutralization
No information available
Secondary disaster prevention measures
- Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: HANDLING AND STORAGE

Handling
Technical measures
Highly flammable. Avoid contact with high temperature objects, spark, and strong oxidizing agents. Use with local exhaust ventilation.
Precautions
Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.
Safety handling precautions
Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Storage
Safe storage conditions
Storage conditions
Keep container protect from light, store in well-ventilated place at room temperature (preferably cool). Keep container tightly closed. Packed with an inert gas.
Safe packaging material Glass
Incompatible substances Strong oxidizing agents

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls
In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits
<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>JSOH (Japan)</th>
<th>ISHL (Japan)</th>
<th>ACGIH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>0.5mg/m³</td>
<td>2.9mg/m³</td>
<td>2mg/m³</td>
</tr>
</tbody>
</table>

Personal protective equipment
Respiratory protection Dust mask
Hand protection Protective gloves
Eye protection protective eyeglasses or chemical safety goggles
Skin and body protection Long-sleeved work clothes

General hygiene considerations
Handle in accordance with good industrial hygiene and safety practice.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form
Color black
Appearance powder
Odor Odorless
pH No data available
Melting point/freezing point No data available
Boiling point, initial boiling point and boiling range: No data available
Flash point: No data available
Evaporation rate: No data available
Flammability (solid, gas): No data available
Upper/lower flammability or explosive limits:
  Upper: No data available
  Lower: No data available
Vapour pressure: No data available
Vapour density: No data available
Specific Gravity / Relative density: No data available
Solubilities: Water: practically insoluble, or insoluble.
n-Octanol/water partition coefficient: (log Pow) No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity (coefficient of viscosity) No data available
Dynamic viscosity: No data available

Section 10: STABILITY AND REACTIVITY

Stability
  Stability: May be altered by light.
  Reactivity: No data available
Hazardous reactions:
  None under normal processing
Conditions to avoid:
  Extremes of temperature and direct sunlight, Heat, flames and sparks, static electricity, spark
Incompatible materials:
  Strong oxidizing agents
Hazardous decomposition products:
  Carbon monooxide (CO), Carbon dioxide (CO2), Metal oxides

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Skin irritation/corrosion: No data available
Serious eye damage/irritation: No data available
Respiratory or skin sensitization: No data available
Reproductive cell mutagenicity: No data available
Carcinogenicity: No data available
Reproductive toxicity: No data available
STOT-single exposure: No data available
STOT-repeated exposure: No data available
Aspiration hazard: No data available

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity:
  No information available

Other data:
  No data available
Persistence and degradability: No information available
Bioaccumulative potential: No information available
Mobility in soil: No information available
Hazard to the ozone layer: No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste from residues
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated container and contaminated packaging
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: TRANSPORT INFORMATION

ADR/RID
UN number: UN3178
Proper shipping name: Flammable solid, inorganic, n.o.s. (Palladium-Activated Carbon)
UN classification: 4.1
Subsidiary hazard class: II
Marine pollutant: Not applicable

IMDG
UN number: UN3178
Proper shipping name: Flammable solid, inorganic, n.o.s. (Palladium-Activated Carbon)
UN classification: 4.1
Subsidiary hazard class: II
Marine pollutant (Sea): Not applicable
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: No information available

IATA
UN number: UN3178
Proper shipping name: Flammable solid, inorganic, n.o.s. (Palladium-Activated Carbon)
UN classification: 4.1
Subsidiary hazard class: II
Environmentally Hazardous Substance: Not applicable

Section 15: REGULATORY INFORMATION

International Inventories
EINECS/ELINCS: -
TSCA: -

Japanese regulations
Fire Service Act: Category II, inclusion of metal powders, dangerous grade 2
Poisonous and Deleterious Substances Control Law: Not applicable
Industrial Safety and Health Act: Working Environment Evaluation Standards, Administrative Control Levels (Law Art.65-2, Para.1)
Regulations for the carriage and transport of dangerous goods: Flammable Solids - Flammable Solids (Ordinance Art.3, Ministry of Transportation)
<table>
<thead>
<tr>
<th><strong>storage of dangerous goods in ship</strong></th>
<th>Ordinance Regarding Transport by Ship and Storage, Attached Table 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Civil Aeronautics Law</strong></td>
<td>Flammable Solids (Ordinance Art.194, MITL Notification for Air Transportation of Explosives etc., Attached Table 1)</td>
</tr>
<tr>
<td><strong>Pollutant Release and Transfer Register Law</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Export Trade Control Order</strong></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

### Section 16: OTHER INFORMATION

**Key literature references and sources for data etc.**
- NITE: National Institute of Technology and Evaluation (JAPAN)
- IATA dangerous Goods Regulations
- RTECS: Registry of Toxic Effects of Chemical Substances
- Japan Industrial Safety and Health Association GHS Model SDS
- Chemical Dictionary, Kyoritsu Publishing Co., Ltd.
- etc

**Disclaimer**
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GHS Classification is according to JIS Z7252(2014). *JIS: Japanese Industrial Standards*

**Product information**
You might get a product which indicates a former company name, during the period of transition.

End of Safety Data Sheet