SAFETY DATA SHEET

Section 1: PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>(?6-Benzene)(?5-cyclopentadienyl)iron(?) Hexafluorophosphate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>021-18521,027-18523</td>
</tr>
<tr>
<td>CAS No</td>
<td>12176-31-7</td>
</tr>
<tr>
<td>Formula</td>
<td>C11H11Fe·PF6</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>FUJIFILM Wako Pure Chemical Corporation</td>
</tr>
<tr>
<td></td>
<td>1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan</td>
</tr>
<tr>
<td></td>
<td>Phone: +81-6-6203-3741</td>
</tr>
<tr>
<td></td>
<td>Fax: +81-6-6203-5964</td>
</tr>
<tr>
<td>Supplier</td>
<td>FUJIFILM Wako Pure Chemical Corporation</td>
</tr>
<tr>
<td></td>
<td>1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan</td>
</tr>
<tr>
<td></td>
<td>Phone: +81-6-6203-3741</td>
</tr>
<tr>
<td></td>
<td>Fax: +81-6-6203-2029</td>
</tr>
<tr>
<td>Emergency telephone number</td>
<td>+81-6-6203-3741 / +81-3-3270-8571</td>
</tr>
<tr>
<td>Recommended uses and restrictions on use</td>
<td>For research purposes</td>
</tr>
<tr>
<td>Announce of company name change</td>
<td>Company name has changed since April 1, 2018. Former name was “Wako Pure Chemical Industries, Ltd.”</td>
</tr>
</tbody>
</table>

Section 2: HAZARDS IDENTIFICATION

GHS classification
Classification of the substance or mixture
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2A

Pictograms

Signal word Warning

Hazard statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary statements-(Prevention)
- Wash face, hands and any exposed skin thoroughly after handling
- Wear protective gloves/protective clothing/eye protection/face protection

Precautionary statements-(Response)
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue
rinsing.  
• If eye irritation persists: Get medical advice/attention. 
• IF ON SKIN: Wash with plenty of soap and water  
• If skin irritation occurs: Get medical advice/attention  
• Take off contaminated clothing and wash before reuse 

Precautionary statements-(Storage) 
• Not applicable

Precautionary statements-(Disposal) 
• Not applicable

Others 
Other hazards 
Not available

<table>
<thead>
<tr>
<th>Section 3: COMPOSITION/INFORMATION ON INGREDIENTS</th>
</tr>
</thead>
</table>

Single Substance or Mixture 
Substance

Formula 
C11H11Fe·PF6

<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>
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</thead>
<tbody>
<tr>
<td>(?6-Benzene)(?5-cyclopentadienyl)iron(?) Hexafluorophosphate</td>
<td>97.0</td>
<td>344.01</td>
<td>N/A</td>
<td>N/A</td>
<td>12176-31-7</td>
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</table>

Impurities and/or Additives : 
Not applicable

<table>
<thead>
<tr>
<th>Section 4: FIRST AID MEASURES</th>
</tr>
</thead>
</table>

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.

<table>
<thead>
<tr>
<th>Section 5: FIRE FIGHTING MEASURES</th>
</tr>
</thead>
</table>

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
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
Avoid contact with 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
Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

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. Packaged with an inert gas.

Safe packaging material
Glass

Incompatible substances
Stronl 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
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Personal protective equipment
Respiratory protection
Dust mask

Hand protection
Protection gloves

Eye protection
Protective eyeglasses or chemical safety goggles

Skin and body protection
Long-sleeved work clothes, protective boots

General hygiene considerations
Handle in accordance with good industrial hygiene and safety practice.
Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>pale green-yellow</td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>crystalline powder - powder</td>
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<tr>
<td><strong>Odor</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Melting point/freezing point</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Boiling point, initial boiling point and boiling range</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Evaporation rate:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas):</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Upper/lower flammability or explosive limits</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Vapour pressure</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Vapour density</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Specific Gravity / Relative density</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>n-Octanol/water partition coefficient:(log Pow)</strong></td>
<td>acetone : soluble</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Decomposition temperature:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Viscosity (coefficient of viscosity)</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Dynamic viscosity</strong></td>
<td>No data available</td>
</tr>
</tbody>
</table>

Section 10: STABILITY AND REACTIVITY

**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

**Incompatible materials**

- Strong oxidizing agents

**Hazardous decomposition products**

- Carbon monoxide (CO), Carbon dioxide (CO2), Phosphorus oxide, Halides

Section 11: TOXICOLOGICAL INFORMATION

**Acute toxicity**

- No data available

**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

<table>
<thead>
<tr>
<th>Category</th>
<th>Information Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecotoxicity</td>
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</tr>
<tr>
<td>Other data</td>
<td>No data available</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>No information available</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>No information available</td>
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<tr>
<td>Mobility in soil</td>
<td>No information available</td>
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<tr>
<td>Hazard to the ozone layer</td>
<td>No information available</td>
</tr>
</tbody>
</table>

### 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

<table>
<thead>
<tr>
<th>ADR/RID</th>
<th>UN number</th>
<th>Proper shipping name:</th>
<th>UN classification</th>
<th>Subsidiary hazard class</th>
<th>Packing group</th>
<th>Marine pollutant</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMDG</td>
<td>UN number</td>
<td>Proper shipping name:</td>
<td>UN classification</td>
<td>Subsidiary hazard class</td>
<td>Packing group</td>
<td>Marine pollutant (Sea)</td>
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<td></td>
<td></td>
<td>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</td>
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<td></td>
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<tr>
<td>IATA</td>
<td>UN number</td>
<td>Proper shipping name:</td>
<td>UN classification</td>
<td>Subsidiary hazard class</td>
<td>Packing group</td>
<td>Environmentally Hazardous Substance</td>
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</table>

### Section 15: REGULATORY INFORMATION
International Inventories

EINECS/ELINCS
- TSCA
-

Japanese regulations

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Service Act</td>
<td></td>
</tr>
<tr>
<td>Poisonous and Deleterious Substances Control Law</td>
<td></td>
</tr>
<tr>
<td>Industrial Safety and Health Act Regulations for carriage and storage of dangerous goods in ship</td>
<td></td>
</tr>
<tr>
<td>Civil Aeronautics Law</td>
<td></td>
</tr>
<tr>
<td>Pollutant Release and Transfer Register Law</td>
<td></td>
</tr>
<tr>
<td>Export Trade Control Order</td>
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</tbody>
</table>

Section 16: OTHER INFORMATION

Key literature references and sources for data etc.

NITE: National Institute of Technology and Evaluation (JAPAN)
http://www.safe.nite.go.jp/japan/db.html
IATA dangerous Goods Regulations
RTECS: Registry of Toxic Effects of Chemical Substances
Japan Industrial Safety and Health Association GHS Model SDS
Dictionary of Synthetic Oraganic Chemistry, SSOJC, Koudansha Scientific Co.Ltd.
Chemical Dictionary, Kyouritsu 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