Pride in PGM Recycling South Africa
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Great Steps
To the PGM Recycling

Since 2005, when the first smelter was tightened, Palladium Recycling has towed toutouchrica's PGM Recycling industry despite many difficulties.

The purest trust and reputation that have been achieved with enthusiasm hotter than our smelter are the pride of Palladium Recycling. Now we attempt to leap over South Africa and become a truly Global PGM Recycling company. Your first choice – Palladium Recycling is your first choice when it comes to recovering precious metals in SADIX (Southern African Development Countries). Reason? Matter whether they’re from catalytic converters, electronic scrap, or other materials. We listen carefully to what you say, offer solutions tailored to your needs, and react fast. Let us do the job to make you feel safe.

Please visit us for further information at www.palladiumrecycling.com

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**Company History**

- **2000**
  - Establishment of Palladium Recycling (diesel particulate filter recycling catalyst, hydrogenation)

- **2004.09**
  - Installation of First Plasma Arc Smelter

- **2005.09**
  - Installation of Second Plasma Arc Smelter

- **2008.10**
  - Investment Attract Agreement (Changwon-naem-so & Dangjin-gun)

- **2009**
  - Completion of Dangjin Factory

- **2010.07**
  - Quality Management System Certification (ISO 9001 & 14001)
  - PGM Production and Additional Service

- **2011.07**
  - Installation of Third Plasma Arc Smelter

- **2012.11**
  - Listed in LPPA Good Delivery (Pt & Pd)
Palladium Recycling Pty Ltd

Palladium Recycling (pty) ltd is dealing in Precious Metals and is an Urban Mining Company leading specialist in recycling Platinum Group Metals (PGMs). In our operations in SADC (Southern African Development Countries) we purchase, analyze and process used catalytic converter, petrol-chemical catalyst, oxygen sensor, automotive ECU as well as other scrap materials to recover platinum, palladium, and Rhodium. Precious metals are our passion. Our strong foundation is based on the values of our family-run company. And that’s how we deal with our customers and business partners with passion and expertise. We also place enormous value on cooperation based on trust and partnership and the accountability of each individual. Every day we set out to prove that we are your first choice when it comes to the conservation of precious metals.

We recycle used automotive catalytic converters, we decanted catalytic converters to all countries globally author distributors butors and stock a range of platinum bullion, Platinum Bars, Gold Granules, Palladium Bar, and Palladium Granules.
Refine Tomorrow

Palladium Recycling makes a rich world through infinite PGM Recycling.

Company Ideology

The name that starts a day together, The name is not visible, But that has already filled every day everywhere

The name that changes life, alters the city and creates a future. Where today is refined to make tomorrow’s values.

PGM Recycling Total Solution Provider

With a differentiated and trustable service, we give the best values to our customers.

Full Loop Service
We are conducting the whole PGM Recycling process in-house, including Pre-treatment, Sampling, Analysis, Smelting and Refining.

Accurate Assaying
Based on our long experience and abundant technology, we conduct assaying accurately and rapidly.

Risk Management
We manage metal price fluctuation risk by futures trading with foreign FCM.

R&D
We are developing technologies to treat various types of high value raw materials in addition to spent catalysts.

Various and Quick Settlement
According to Customer needs
We provide convenience to customers through flexible and quick settlement method according to customer’s needs.

Operational Excellency
Based on customized facilities and accumulated knowledge, we have the world’s best PGM Recycling capability.
Recycling Process

Palladium Recycling (Pty) Ltd, as the only PGM Recycling company in South Africa, leaps over our reputation and pride to become the Global No.1 PGM Recycling company.

We always strive to develop precious metal recycling solutions that are optimally tailored to the needs of every customer.

Pride in PGM Recycling
Sampling
Spent Auto Catalysts

Sampling is the process in which the representative sample is collected to calculate the raw material’s value. Homogenization is important above all to procure the representative nature of the sample, and pretreatment, de-canning, crushing, and blending processes are needed to make a form suitable for sampling. We use both the autosampler and spear sampler, and carry out sampling by each sub lots to meet customer needs.
Sampling

Spent Petro Catalysts

We recover PGM from spent catalysts produced in the hydrogenation / hydro-cracking / purification / reforming process of oil refineries and petro-chemistry manufacturers.

Spent petro catalysts, once any foreign materials are removed through the screening, are automatically transferred to surge hoppers. Then it is inserted into the rotary sampler with constant speed/quantity by the vibrating feeder, resulting in automatic sampling.

To optimize materials in the smelting process, pre-treatment by the rotary kiln is processed.
Our laboratory has the best facilities and assaying technology for determining the value of spent catalysts. Accurate and quick assaying that considers the raw materials’ nature is one of our core competencies. All samples go through secondary homogenization and pretreatment. For quick PGM content identification, simple analysis by ED-XRF & TGA is performed, and the final content is determined by ICP assaying.
Smelting

We operate a total of three Plasma Arc smelters. Spent catalysts are smelted at 1,500~1,700°C and separated into PGM alloys and slags by the difference in specific gravity.

Plasma Arc smelters are preferable to Electric Arc smelters because of continuous manufacturing, facility size and electricity uses, but require a high level of operational excellence.

Our company has researched and developed continuously since 2004’s establishment and shows the highest level of smelter operation techniques in the world.
Refining is a process to remove impurities and enhance purity. Once the PGM alloy and ash are dissolved, it is separated into PGM compound form and go through purification to make high purity PGM, with more than 99.95%. Our Pt & Pd are listed in LPPM Good Delivery which means their quality is globally acknowledged.
Purchase of raw materials

Spent Auto Catalysts

Spent auto catalysts occupy the largest portion of world PGM demands. PGM recycling is an essential part of the catalyst industry. We process all kinds of spent autocatalysts such as Ceramic converters / Diesel Particulate Filter / Metallic foil converter

Spent Petro Catalysts

We process carbon/alumina-based catalysts and VOC/SCR catalysts that are generated in processes such as hydrogenation / hydrocracking / purification/reforming of petroleum refining or petrochemical manufacturers. We maximized customer satisfaction through toll processing, fast settlement, and leasing programs.

Products

PGM

Platinum Group Metal

Palladium Recycling guarantees PGM purplicitymore than 99.95%. We are the only Korean manufacturer registered in LPPM(London Palatium & Palladium Market) Good Delivery List. Our excellent quality is acknowledged and we sell to global catalyst manufacturers and Bullion Bank.

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<thead>
<tr>
<th>Products</th>
<th>Description</th>
<th>Form and Packing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platinum (Pt)</td>
<td>Platinum is used as catalysts because it accelerates the reaction without changing itself in chemical reactions. It is mainly used as catalytic converter, which is a car emission purifying device, and chemical industrial catalyst. It is used for plating solution and jewelry as well.</td>
<td>LPPM Good Delivery Listed Purity 99.95% above Sponge Type Packaging unit Min. 1 kg</td>
</tr>
<tr>
<td>Palladium (Pd)</td>
<td>Palladium is similar to platinum and is lustrous and corrosion resistant. It is widely used for jewelry and dental alloys because it binds well with hydrogen. It is developed as catalyst and used well like platinum.</td>
<td>LPPM Good Delivery Listed Purity 99.95% above Sponge Type Min. 1 kg</td>
</tr>
<tr>
<td>Rhodium (Rh)</td>
<td>About 80% or rhodium is used in catalytic converters in car emission purifiers. It is also used as catalyst in various processes in the chemical industry. Furthermore, it is used in platinum group metal alloys, high temperature thermocouples, spark plug electrodes, bearings, crucibles and metal plating.</td>
<td>Purity 99.95% above Sponge Type Min. 1 kg</td>
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PGM Compound

<table>
<thead>
<tr>
<th>Products</th>
<th>Description</th>
<th>Form and Packing</th>
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</thead>
<tbody>
<tr>
<td>Palladium Chloride (PdCl2)</td>
<td>Our products are usually sold to the electroless copper plating solution manufacturer and have contributed to improving the reliability of the plating process and the shape and electrical properties of the thin films of the end users.</td>
<td>Pd content 60% above Sponge Type Min. 1 kg</td>
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<tr>
<td>Chloroplatinic Acid (H2PtCl6)</td>
<td>It is mainly used for Catalysts manufacturing (Petro-Chemistry / Automobile Emission Control), Plating, Glass Coloring Agent.</td>
<td>Pt Content 40% above Reddish-yellow crystalline Packaged according to customer's requirement</td>
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<tr>
<td>Customized Products</td>
<td>We can manufacture customized PGM compounds at customer's request and are always open to cooperation in developing new materials.</td>
<td>According to the customer's requirement</td>
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Global Presence

Palladium Recycling has created value out of nothing with the challenging spirit beyond limits and the power of action.

We will leap over South Africa, go around the world to expand our raw material sourcing network and build a firm groundwork for the future business.

About Palladium Recycling

Palladium Recycling Group was founded in 2005.

OUR VALUES

The following five values are the basis of our success:

Passion
Because conserving resources is something that we’re passionate about, we always strive to develop precious metal recycling solutions that are optimally tailored to the needs of each and every customer.

Partnership
We hold all of our customers, associates, and employees in high esteem, and work for hand in hand with them in order to achieve the success of all concerned.

Expertise
We continuously increase our knowledge and expertise so as to achieve the greatest possible efficiency and quality – because we feel duty-bound to our customers to do so.

Trust
We trust and respect each other. Our customers know that they can always rely on our expertise and process precision.

Responsibility
We assume responsibility for each other, our customers, our society, and the environment. To this end, we provide each other with mutual support, and also sponsor social and athletic projects in our region.