



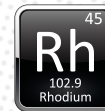
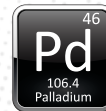
**High Efficiency for a Cleaner Tomorrow**  
HeraPur<sup>®</sup> Emission Catalysts for Powersports Applications

## HERAPUR® CATALYSTS FOR POWERSPORTS APPLICATIONS

As stricter emission regulations are implemented worldwide, the use of catalytic converters has become essential for motorcycles and offroad vehicles like ATVs/UTVs.

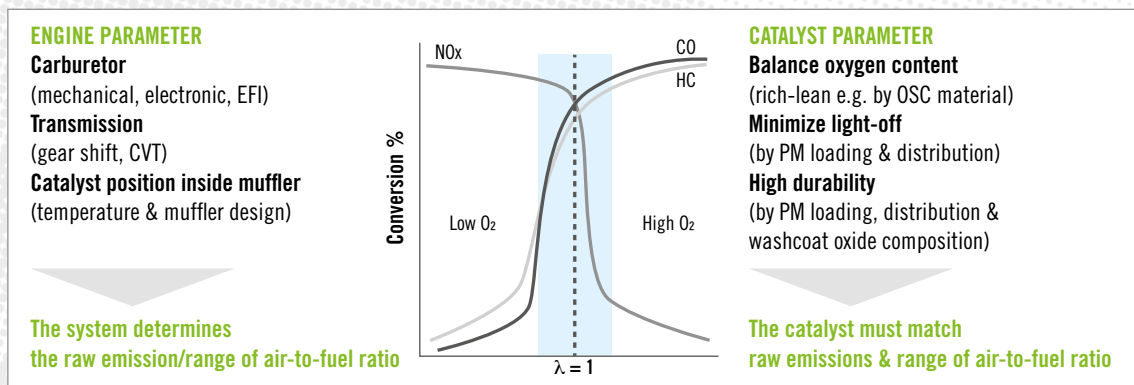
At Heraeus, we understand the importance of complying with these regulations while balancing aesthetics, performance, and sound. Heraeus powersports catalysts offer custom solutions that meet market-specific requirements, ensuring environmental protection without compromising on design or power.

The goal of research and the guideline for all innovations is maximum pollution control at optimized costs. As a result, Heraeus develops catalysts with customized precious metal loadings in varying degrees of platinum, palladium, rhodium, and ruthenium. It goes without saying that Heraeus catalysts maintain high catalytic performance over their lifetime.



## CUSTOMIZING CATALYST FORMULATIONS FOR EVERY ENGINE TYPE AND APPLICATION

Heraeus works closely with its clients to understand the engines and parameters used with specific applications to optimize the catalyst to function most efficiently with the engine parameters.



## HERAPUR® CATALYSTS PROVIDE STRICT ADHERENCE TO REGULATIONS

In our ongoing effort to keep track of all trends in regard to catalyst volume and precious metal reduction, Heraeus collaborates closely with local certification centers and its customers. Thereby the experts of Heraeus not only ensure the competitiveness of their clients and

their success in their markets, but are also prepared to meet future emission regulations. Additionally, Heraeus works closely with academia. This ensures continuous placement at the forefront of the latest technologies.

Ruling	CO	Total HC	NOx	NMHC	Engine
EURO V Limits g/km	1	0.1	0.06	0.068	motorcycles
CARB g/km	12	0.8 HC+NOx		N/A	motorcycles
EPA Emissions g/km	25	2 HC+NOx		N/A	motorcycles
EPA Emissions g/km	35	1.5 HC+NOx		N/A	ATVs (engines > 100 cc)
EPA Emissions g/kW-hr	805	50 HC+NOx		N/A	Handhelds Class III, IV
	603	72 HC+NOx		N/A	Class V
EPA Emissions g/kW-hr	610	10 HC+NOx			Non-Handhelds Class I
	610	8 HC+NOx			Class II



## PROFIT FROM HERAPUR® CATALYSTS FOR POWERSPORTS



**TAILORED SOLUTIONS**



**OPTIMAL PERFORMANCE**



**ENVIRONMENTAL RESPONSIBILITY**



**AESTHETIC INTEGRATION**



**COLLABORATIVE PARTNERSHIP**



**FLEXIBILITY**



**FAST SAMPLING**

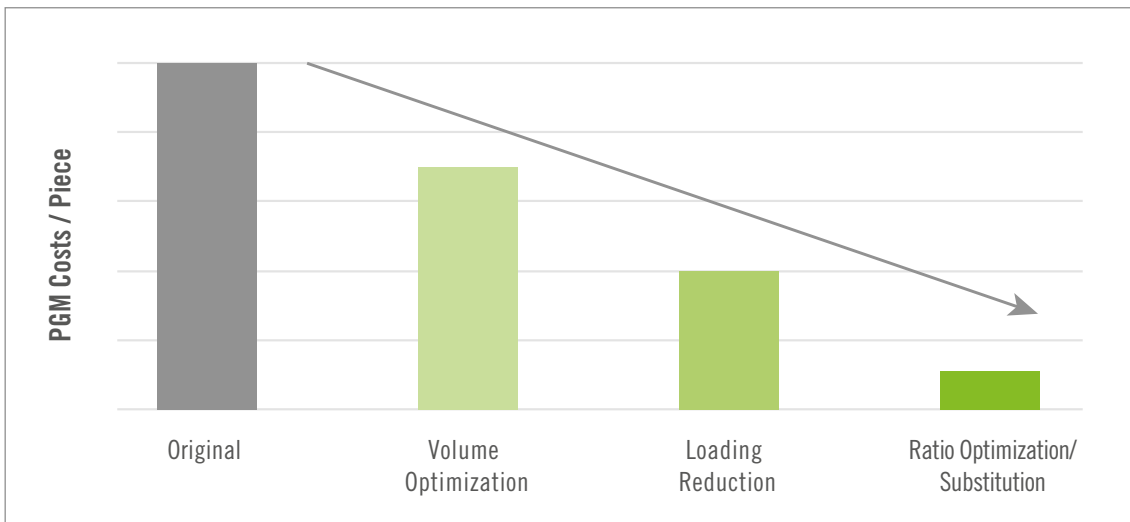


**OPTIMIZED PRECIOUS METAL COSTS**

## CATALYSTS DESIGN DEVELOPMENT

Catalyst adaptation and cost optimization can be achieved by making changes to the substrate geometry, optimized precious metals loading, and coating technology.

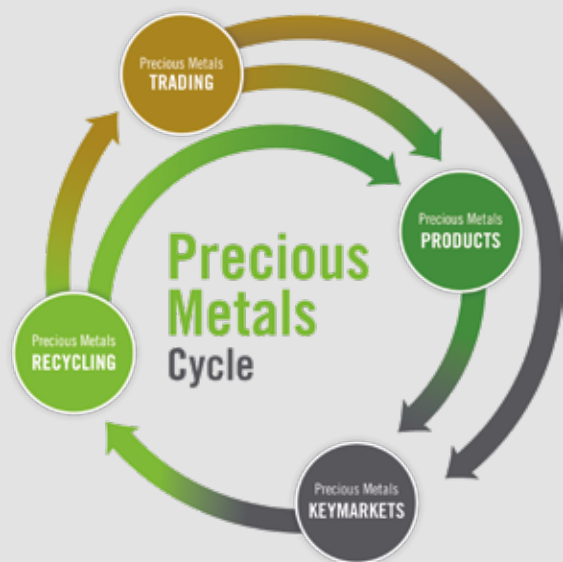
These modifications can enhance the overall efficiency and effectiveness of catalysts, resulting in improved performance and reduced costs per part.



*Illustrative Precious Metal Reduction*

Partner with Heraeus and experience the benefits of HeraPur® high-quality catalysts, backed by Heraeus commitment to innovation and collaboration. To learn more about HeraPur® powersports catalysts and how they can benefit your business, contact us today.





## CLOSING THE LOOP WITH PRECIOUS METALS RECYCLING

As specialists in the handling of spent precious metal catalysts, Heraeus offers the fastest possible precious metal recovery and the highest yield. The reclaimed precious metal can be re-used for the manufacture of new catalysts. Catalyst recycling is not only cost competitive, but also ecological. The recycled secondary precious metal can reduce the carbon footprint by up to 98% in comparison to primary precious metal from mining.

## ABOUT HERAEUS PRECIOUS METALS

Heraeus Precious Metals is globally leading in the precious metals industry. The company is part of the Heraeus Group and covers the value chain from trading to precious metals products to recycling. It has extensive expertise in all platinum group metals as well as gold and silver.

With about 3,000 employees at 15 sites worldwide, Heraeus Precious Metals offers a broad portfolio of products that are essential for many industries such as the automotive, chemicals, semiconductor, pharmaceutical, hydrogen and jewelry industry.

By 2025 Heraeus Precious Metals will be the first company in the industry that operates carbon neutral.

### Heraeus Precious Metals

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