

Gas Purification Catalysts



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Heesung Catalysts

Founded in 1983, Heesung Catalysts is a leading catalyst specialist delivering eco-friendly, catalyst-based solutions that help customers enhance productivity and competitiveness across multiple industries.

Technology for a Sustainable Future

Our catalyst technologies reduce harmful emissions and greenhouse gases while improving energy efficiency in industrial processes. By optimizing catalysts for specific reaction conditions, we help customers meet environmental regulations, achieve ESG goals, and transition toward carbon neutrality.

Integrated Solutions with Proven Expertise

We manage the full catalyst lifecycle—from development and mass production to application and performance analysis—using real industrial data. This enables continuous technology advancement and creates a virtuous cycle that drives next-generation products and process innovation.

Trusted Partnership & Circular Value Creation

Through long-term collaborations with leading companies, we deliver customized design, joint development, and mass production capabilities. In addition, our precious metal recovery and recycling services further contribute to a circular economy.

From Catalyst to Solution — partnering for sustainability and growth.

Business Areas



Chemical Catalysts

Process & Chemical catalysts
Carbon-neutral & clean energy catalysts



Environmental Catalysts

GHG reduction catalysts
Industrial catalysts



Automotive Catalysts

Vehicle emission control catalysts



Electrode Catalysts

Fuel cells,
Water electrolysis, MEA



Precious Metal Materials

Electroplating materials,
Dental materials

Vision & Core Values



VISION

Catalyst-based
green technology leader
enabling a carbon-free society



Core Values

Harmony



Collaboration



Challenge



Gas Purification Catalysts

Technology & Know-how

- Over 40 years of catalyst technology and process expertise
- Extensive application performance across diverse industrial sectors (High-purity hydrogen, nitrogen, oxygen, and air purification systems)

Economic Value

- Enhanced conversion efficiency and superior selectivity
- Optimized precious metal loading for maximum performance
- Reduced catalyst and operating costs

Technical Recommendations

- Technical Recommendations based on operating temperature, pressure drop, and process requirements
- Customized catalyst development, manufacturing, and performance analysis
- Strict trade secret and proprietary technology protection

Applicable Industries & Processes

- High purity gas for Petrochemical, Semiconductor, Battery material production
- Industrial gas purification for Electrolysis, PSA, Dryer

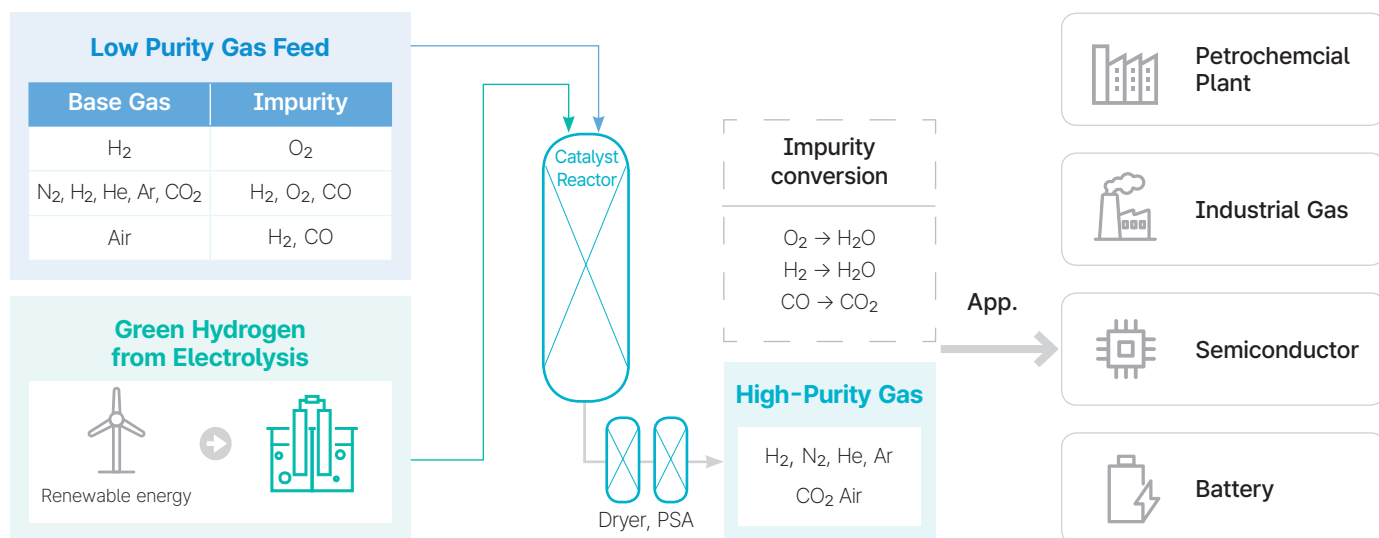


High-Purity Gas Purification

Catalyst solutions for high-purity gas production in advanced industries, ensuring stable and reliable gas supply

Green Hydrogen production by Electrolysis : High-Purity

Sustainable hydrogen energy solutions
High-purity hydrogen production through water electrolysis



Gas purification : Precious Metal Catalyst

Specification

- Excellent low-temperature performance and durability
- Outstanding long-term operational stability
- Enables high-purity hydrogen production in electrolysis-based purification processes

Application		Product	Type
Feed Gas	Impurity Removal		
H ₂		HSG-30	Pd/Pt on Alumina
O ₂		HSG-50	
Air	CO ₂ → H ₂ O	HSC-100	Sphere / Pellet
N ₂	H ₂ → H ₂ O	PGC3	
He	CO → CO ₂	PGC5	
Ar			
CO ₂			



Gas purification : Ni Catalyst

Specification

- Excellent low-temperature performance and durability
- Outstanding long-term operational stability
- Specialized in oxygen removal processes for high-purity nitrogen

Application		Product	Type
Feed Gas	Impurity Removal		
H ₂		N-40R	Ni on Alumina Pellet
O ₂	O ₂ → H ₂ O		
Air	H ₂ → H ₂ O	N-60R	
N ₂	CO → CO ₂		
He			
Ar			
CO ₂			



Go Together with Heesung Catalysts

Building a sustainable future together with Heesung Catalysts

Quality Competitiveness	 Quality 5-Star First in Korea to receive the Grand 5-Star Certification for Automotive Catalysts	 Certifications ISO, KOLAS, OSHA, GMP and other accredited certifications	 Facilities Global Top-Tier production and R&D facilities	 Commercial Track Record 40+ years of accumulated global business experience
Cost Competitiveness	 Customs / Tariff Advantage Approx. 6.6% reduction in import duties	 Manufacturing Efficiency Optimized infrastructure and operational efficiency CAPEX and OPEX improvement	 Delivery Shortened lead time Improved supply stability	 Recycling Precious metal recovery through Heesung PMTech
Technical Support	 R&D Center World-class research centers	 R&D Continuous technology development and improvement	 Technical support Global Technical support Monitoring of process performance trends	
Supply Stability	 Minimal Impact from Global Geopolitical Risks			

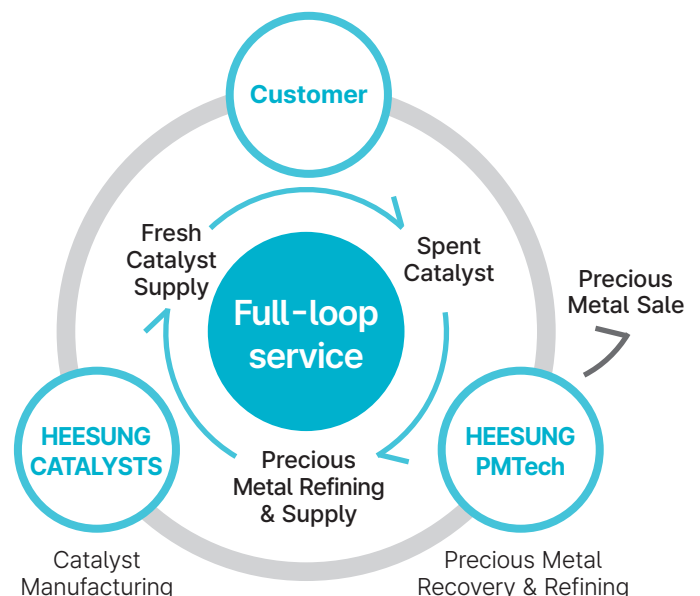
Technical Service

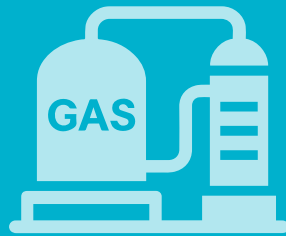
Providing optimal solutions to customer needs

 Catalyst Design Proposal Based on operating conditions	 Inspection Service Loading / replacement / handling
 Catalyst Improvement & R&D	 Procedures & Guidelines Loading, regeneration, handling
 Catalyst Analysis Service Physical properties, precious metal & special property analysis, performance evaluation	

Resource Recycling

Full-Loop Precious Metal Recovery Service





Gas Purification Catalysts



A leading company in high-purity gas purification catalyst technology



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