

# Highly thermostable mixed oxide catalysts for automobile exhaust gas

We are looking to out-license the technology for its commercialization.

## Novel mixed oxide catalysts highly durable at 1100°C Max

### ◆Background

In general, exhaust gas purifying catalysts are made of oxides such as  $Al_2O_3$  and precious metals such as Pd, Pt, Rh. However, such catalysts lose their gas purifying capability very rapidly at temperature as high as 1000°C, although they are expensive as their precious metal content are high.

### ◆Description and Advantages

Kyoto University researchers developed novel catalysts that overcome above challenges.

#### ➤ High Thermostability at 1100°C Max

#### ➤ Low precious metal contents

High gas purification capability maintained with half the precious metal (Pd) content than currently-available catalysts (Fig. 2)

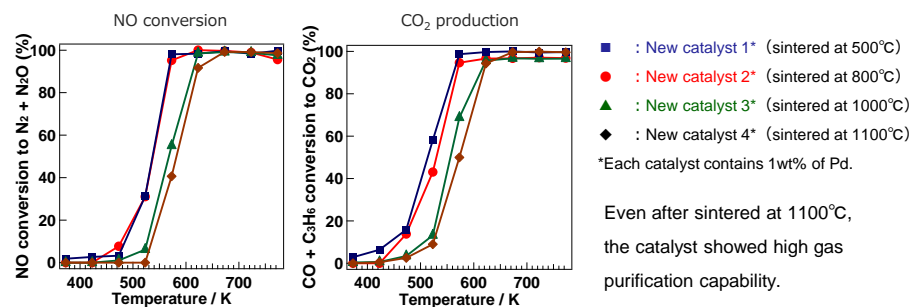


Fig. 1:  $NO_x$ /hydrocarbon conversion efficiency of novel catalysts

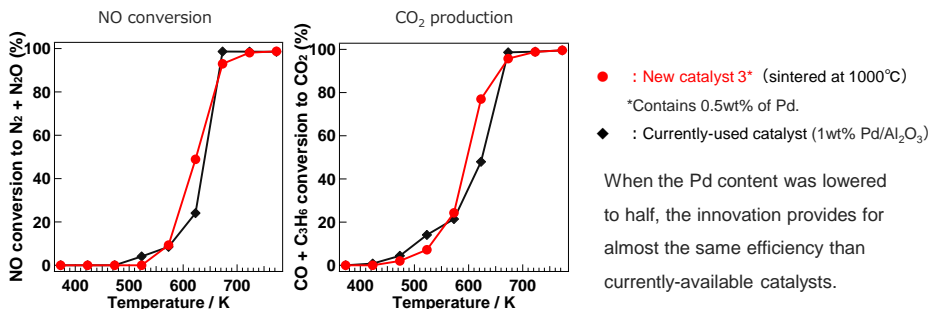


Fig. 2:  $NO_x$ /hydrocarbon conversion efficiency of novel catalysts and currently-available catalyst (Pd/ $Al_2O_3$ )

### ◆Development Status

- Stable  $NO_x$ /hydrocarbon conversion verified with Pd-based catalysts
- Ongoing evaluation with catalysts with other precious metals

### ◆Applications

- Catalysts for automobile exhaust gas and other industrial exhaust gas

### ◆Offer

- License
- Option for License
- Material Transfer

### ◆Contact

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Even after sintered at 1100°C, the catalyst showed high gas purification capability.

When the Pd content was lowered to half, the innovation provides for almost the same efficiency than currently-available catalysts.

