

VOC Decomposition Catalysts Using Co and Ce Oxides

A good substitute
for expensive platinum catalysts

Excellent for Cleaning
Exhaust Gases!
Low Cost!



Ball type



Honeycomb type

Applications

- VOC decomposition of exhaust gases in paint and printing factories
- Odor removal in chemical and food processing factories

Features

- Useful for most VOCs
- Excellent for tar combustion
- Low cost, precious metals like platinum not in use

Commercializing Firm:

 **Sankyo Kousan Co., Ltd.**

Principle of Measurement

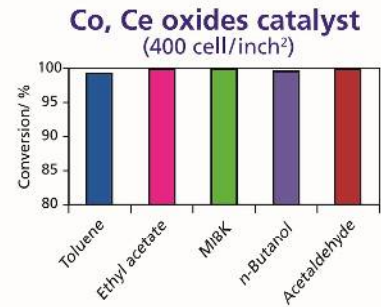
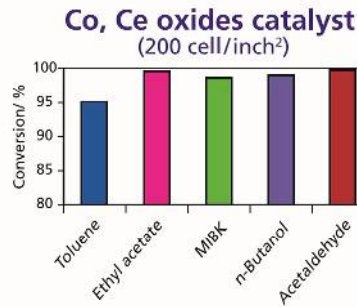
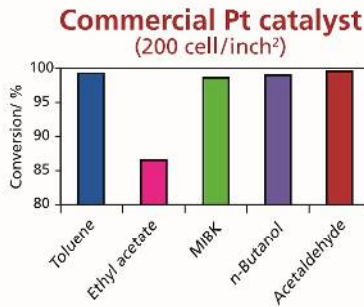
Oxygen adsorbed on the active site of the catalyst promotes the oxidation of VOCs.

Performance

VOC combustion

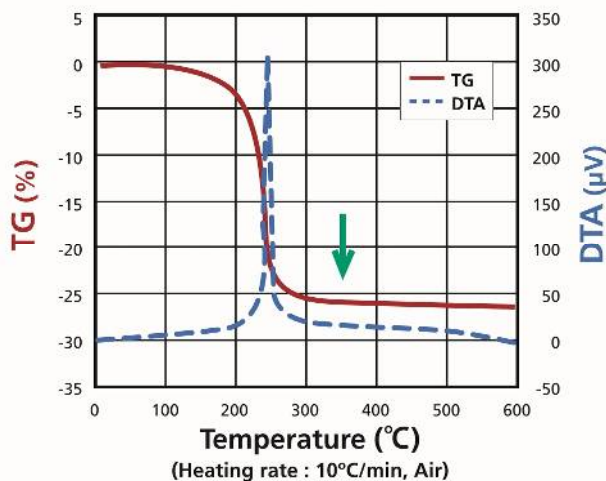
Experimental Conditions

- SV: 30,000h⁻¹(N)
- Inlet Temp: 275°C
- VOC concentration: 100 ppm
- LV: 0.42 m/s (N)
- Carrier gas: dried air 86 L/min



Tar combustion

Co, Ce oxides catalyst (powder) + tar



The Co, Ce oxides catalyst can decompose tar at 350°C, which is lower than that of a Pt catalyst by 100 degrees.

TG: Thermogravimetric Analysis
The weight decrease means tar burned to produce CO₂ and H₂O.

DTA: Differential Thermal Analysis
The peak shows tar burned exothermally.

Specifications

Type	Item	Application
Honeycomb	Size : 150(W)×150(D)×50(H) mm Cell : 200cell/inch ² 400cell/inch ² Carrier : Ceramics Main components of catalyst: Ce, Co oxides	VOC decomposition Odor reduction
Ball	Size : Diameter 2~3mm 4~6mm Carrier : Ceramics Main component of catalyst: Ce, Co oxides	