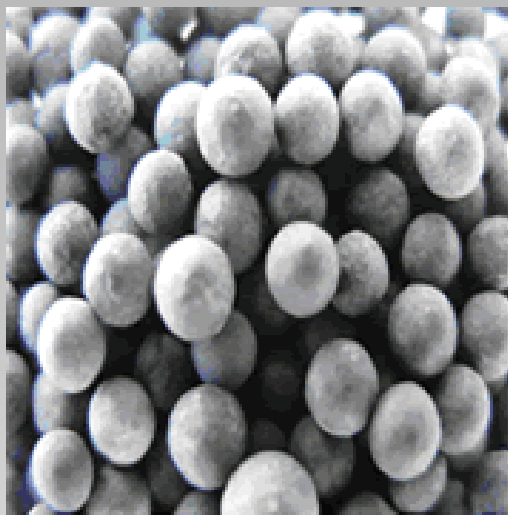
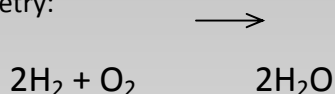


# Catalysts for Gas Purification & Chemical Synthesis

## Hydrogen Removal \* Oxygen Removal \* Nitrogen Purification



Advanced Catalyst Systems, Inc. has supplied thousands of cubic feet of Deoxo catalyst for purifying gas in a variety of industrial applications. A typical use for this catalyst is the removal of Oxygen from Nitrogen. In this application, Nitrogen containing trace amounts of Oxygen is passed over the catalyst bed at room temperature. The catalyst dissociates the Oxygen molecules from the Nitrogen making them receptive to reaction with Hydrogen fed into the process stream to create water according to the following Stoichiometry:



ACS' Pd coated catalyst after calcination

This catalyst can easily be configured to react with and remove Hydrogen from exhaust streams.

ACS' Deoxo catalyst can be made with either Palladium or Platinum based precious metal and are typically impregnated on Alumina Oxide ( $\text{Al}_2\text{O}_3$ ) Spheres, Pellets, or Extrudites. ACS Deoxo catalysts are designed to handle 5000 volumes of flow per hour per volume catalyst. The catalyst can be operated at atmospheric pressures up to several hundred PSI.

ACS' has an excellent reputation for working with customer's process parameters to suggest the highest quality lowest cost catalyst solution for their needs. ACS participates in lifecycle management of the catalyst product offering testing and rejuvenation services as well as recycling of spent catalyst required by customer's applications.



304 Partnership Parkway  
Maryville, TN 37801  
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[dcampbell@advancedcatalyst.com](mailto:dcampbell@advancedcatalyst.com)

# ACS Deoxo Catalyst Technical Specification

<b>BASE MATERIAL</b>	<b>: ALUMINA OXIDE 99.5% - 99.9%, PALLADIUM OR PLATINUM 0.1% - 0.5%</b>
<b>TYPE</b>	<b>: DEOXO</b>
<b>APPLICATION</b>	<b>: REMOVAL OF O<sub>2</sub>, H<sub>2</sub>, CO, C<sub>2</sub>H<sub>2</sub></b>
<b>APPEARANCE</b>	<b>: GRAY/BLACK</b>
<b>ACTIVE AGENT</b>	<b>: GAMMA ALUMINA AND PALLADIUM OR PLATINUM</b>
<b>DENSITY, BULK</b>	<b>: 48 LB/FT<sup>3</sup> * 754 KG/M<sup>3</sup></b>
<b>SIZE</b>	<b>: 1/8" * 3MM DIAMETER SPHERES</b>
<b>CLASSIFICATION, HAZARD</b>	<b>: NONE</b>



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