

# Cerium

## Oxide Powder

NS6130-05-545



APS  
40-50μm



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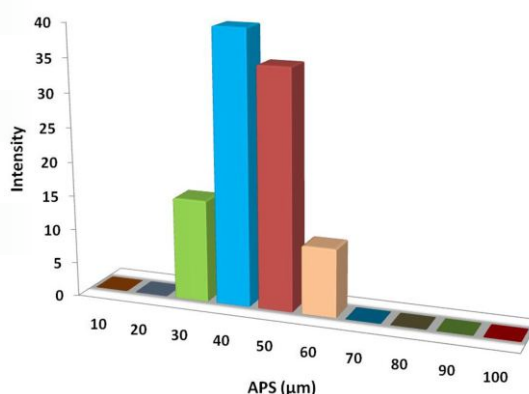
# Cerium Oxide Powder

Cerium (IV) oxide is also known with different names such as ceric oxide, ceric dioxide, ceria, and cerium oxide or cerium dioxide. It is an oxide of the rare-earth metal cerium and is a pale yellow-white powder with the chemical formula  $\text{CeO}_2$ . It is an indispensable commercial product and an intermediate in the purification of the element from the ores. The distinctive property of cerium oxide material is its reversible conversion to a nonstoichiometric oxide.

In microelectronics,  $\text{CeO}_2$  has been considered as high gate oxide material because of its unique properties: moderate band gap, high dielectric constant, high refractive index and high dielectric strength.  $\text{CeO}_2$  is also suitable for Si-based metal oxide semiconductor (MOS) devices due to its small lattice mismatch with Si that favors its epitaxial growth on different silicon surfaces and low interface-state.

## Quick Facts

Product	:	Cerium Oxide Powder
Stock No	:	NS6130-05-545
CAS	:	1306-38-3
Purity	:	99%
Color	:	White
Form	:	Powder



## Technical Specification

Formula	APS	Molecular Weight	Melting Point
$\text{CeO}_2$	40-50μm	172.114 g/mol	2,400 °C

## Chemical Composition

Product	Weight Percent (nominal)
Cerium Oxide Powder	$\text{CeO}_2$ 99%

## Applications

- Polishing
- Optics
- Biomedical applications
- Fuel cells

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