

# GALLIUM OXIDE NANOPOWDER



Purity  
**99.9%**



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NS6130-12-000474

## GALLIUM OXIDE NANPOWDER

The monoclinic gallium oxide ( $\beta$ -Ga<sub>2</sub>O<sub>3</sub>) is chemically and thermally stable compound. It represents conductive and photoluminescence properties. Crystalline gallium oxide nanowires exhibit a blue light emission. Ga<sub>2</sub>O<sub>3</sub> resides in a family of conducting transparent semiconducting oxides (TSO). It is also used as ceramic material due to its high melting point.

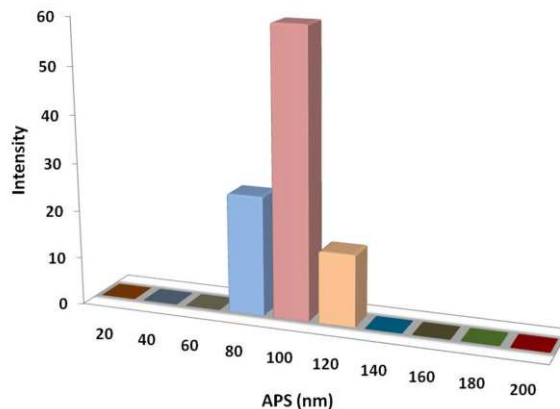
Gallium oxide (Ga<sub>2</sub>O<sub>3</sub>), is displaying basic and acidic sites on its surface so that this compound is utilized in different applications. It has also been utilized as a catalyst for benzene decomposition, reduction of nitrogen oxides (NOX) using alkanes, catalytic isomerization, and dehydrogenation of fatty acid esters. These nanostructures have a high surface-area-to-volume ratio. There are several synthesis methods to prepare these nanostructures such as laser ablation molecular beam epitaxy, chemical vapor deposition, hydrothermal treatment, and plasma-assisted growth methods.

## QuickFACTS

Product	:	Gallium Oxide Nanopowder
Stock No	:	NS6130-12-000474
CAS	:	12024-21-4
Color	:	White
Form	:	Powder
Symbol	:	Ga <sub>2</sub> O <sub>3</sub>
Group	:	Gallium 13/Oxygen 16

### Electronic Configuration:

Gallium [Ar] 3d<sup>10</sup> 4s<sup>2</sup> 4p<sup>1</sup>/ Oxygen [He] 2s<sup>2</sup> 2p<sup>4</sup>



### ADDITIONAL POWDER CHARACTERISTICS

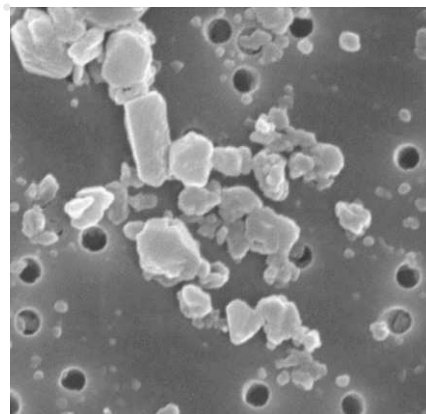
Stock No.	Purity	APS
NS6130-12-000474	99.9%	80-100nm

### TECHNICAL SPECIFICATION

Molecular Formula	Molecular Weight	Density	Melting Point
Ga <sub>2</sub> O <sub>3</sub>	187.44 g/mol	5.88 g/cm <sup>3</sup>	1900 °C

### CHEMICAL COMPOSITION

Product	Weight Percent (nominal)	
	Ga <sub>2</sub> O <sub>3</sub>	Other Metal
Gallium Oxide Nanopowder	99.9%	1000ppm



### APPLICATIONS

- > In vacuum deposition
- > As part of the manufacturing of semiconductor devices
- > Dielectric coatings for solar cells
- > Optoelectronic devices
- > Thin-film transistors
- > Gas sensors



20ZICE4589C



19ZAZGO1274G



20ZICE4588M

ISO 9001:2015  
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