

# TUNGSTEN TRIOXIDE NANOPOWDER



Purity  
**99.9%**

**WO<sub>3</sub>**

NS6130-03-356

NEXT



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# TUNGSTEN TRIOXIDE NANOPOWDER

In everyday life, Tungsten (VI) oxide (WO<sub>3</sub>) nanoparticles (NPs) are utilized for many industrial purposes. Tungsten (VI) oxide (or tungsten trioxide: WO<sub>3</sub>) is a chemical compound and also consists of oxygen and the transition metal tungsten. For the production of tungsten oxides, these Tungsten ores are treated with alkalis. WO<sub>3</sub> occurs naturally in the form of hydrates for instance tungstite (WO<sub>3</sub>.H<sub>2</sub>O) and meymacite (WO<sub>3</sub>.2H<sub>2</sub>O). It is frequently employed in the industry to manufacture tungstates for x-ray screen phosphors, for fireproofing fabrics and also in the production of electro chromic windows. Moreover, it is used in gas sensors. It is also used as a pigment in ceramics and paints due to it is available in yellow color. It has second-highest melting temperature among any element because of this Tungsten is also used in many military applications. WO<sub>3</sub> films are used in electro chromic devices, photocatalysis. In addition, the production of tungsten powder from high purity WO<sub>3</sub> through hydrogen reduction is still the most important application in the field of powder metallurgy. WO<sub>3</sub> exhibits enhanced properties in comparison to the conventional coarse-grained structures. The shape controlled tungsten trioxide semiconductors were synthesized by the means of hydrothermal synthesis. It is also utilized in smart windows and these windows are electrically switchable glass that changes light transmission properties with an applied voltage. In that way, users can easily enable to tint their windows, changing the amount of heat or light passing through.

## QuickFACTS

Product	:	Tungsten Trioxide Nanopowder
Stock No	:	NS6130-03-356
CAS	:	1314-35-8
Color	:	White
Form	:	Powder
Symbol	:	WO <sub>3</sub>



20ZICE4589C

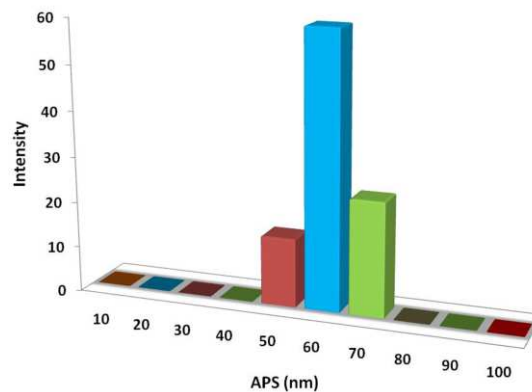


19ZAZGO1274G



20ZICE4588M

ISO 9001:2015  
CERTIFIED COMPANY



## ADDITIONAL POWDER CHARACTERISTICS

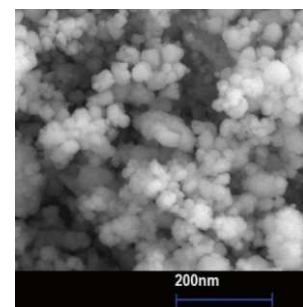
Stock No.	Purity	APS
NS6130-03-356	99.9%	60nm

## TECHNICAL SPECIFICATION

Molecular Formula	Molecular Weight	Density	Melting Point
WO <sub>3</sub>	231.84 g/mol	7.16 g/cm <sup>3</sup>	1473 °C

## CHEMICAL COMPOSITION

Product	Weight Percent (nominal)	
	WO <sub>3</sub>	Other Metal
Tungsten Trioxide Nanopowder	99.9%	1000ppm



## APPLICATIONS

- > Used in colorant and analysis reagent of chinaware
- > Fire-proofing fabrics
- > Large-area displays
- > Ceramic pigments
- > Used in sensors such as Humidity sensors, gas sensors, Temperature sensors
- > Infrared switching devices
- > High-density memory devices
- > Photocatalysts
- > Used in X-ray screen and fireproof textile
- > Wastewater treatment
- > Writing-reading-erasing optical devices
- > Smart windows
- > Solar energy conversion
- > cutting tools

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