

Alumina Nanoparticles AON1501

Description:

Aluminum oxide (Al_2O_3) has a complex structure in which oxygen anions are arranged in a face-centred cubic (fcc) or hexagonal close-packed (hcp) array. γ , η (cubic), θ (monoclinic), δ (tetragonal or orthorhombic) structures are based on fcc lattices and α (trigonal), κ (orthorhombic), χ (hexagonal) are hcp structures. Nanoscale γ -alumina and α -alumina are thermally stable at higher temperature. The oxides of aluminum have high hardness, chemical inertness, high melting point, high thermal conductivity, non-volatility and resistance to oxidation and corrosion. Among the seven polymorphs of transition alumina identified so far, the γ form is one of the most extensively used in industrial catalysis owing to its comparatively large surface area, unique surface characteristics, and exceptional structural stability. γ -alumina contains the same ratio of Al to O atoms as in α -alumina the only difference is that it has a tetragonal structure where there are 8 cation vacancies for every 160 atoms.

Characterization	
CAS	1344-28-1
Stock No.	AON1501
Molecular formula	Al_2O_3
Molecular weight (g/mol)	101.96
Form	Powder
Color	White
Morphology	Semi-sphere
Crystal structure	Cubic
Size range (nm)	50-80 nm
Total impurity (%)	N/A
Density (g/cm ³)	3.65
Solubility	Insoluble



Image of Alumina nanopowder
(AON1501)

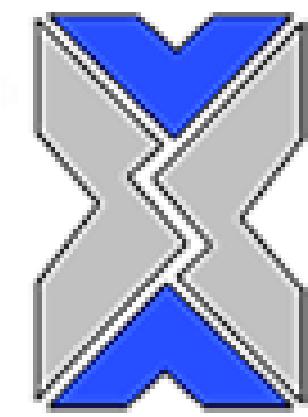
Note: product specifications are subject to amendment and may change over time.

Applications (but not limited to the following):

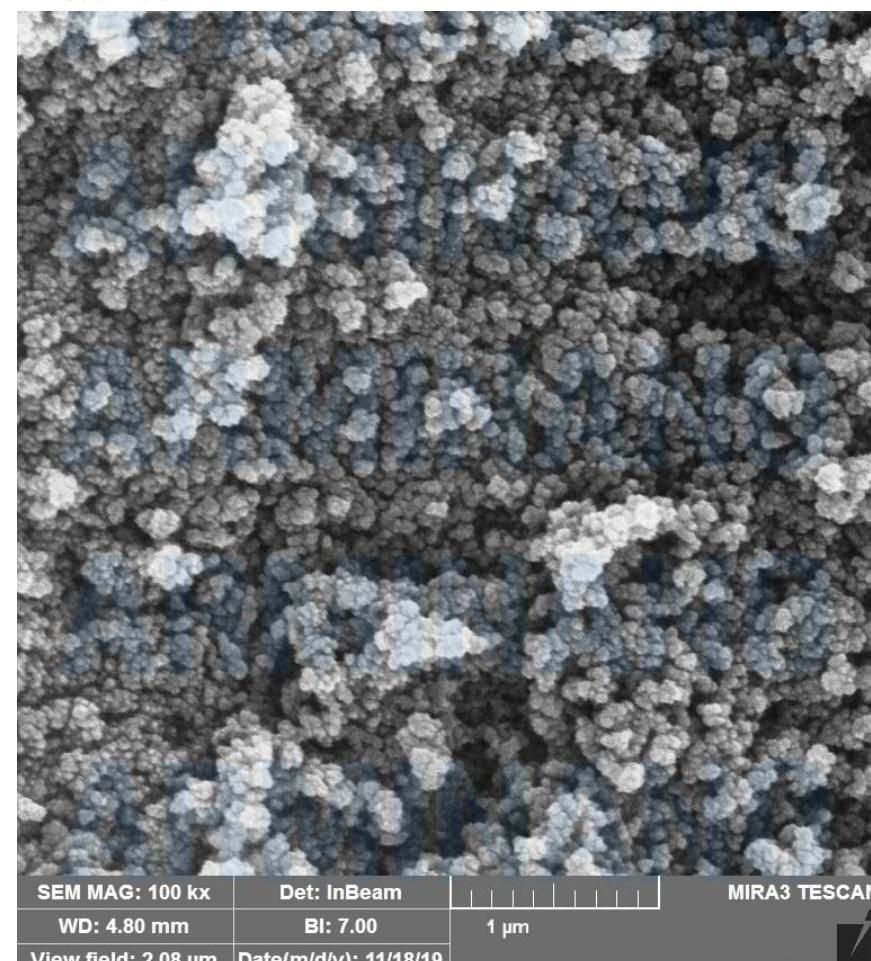
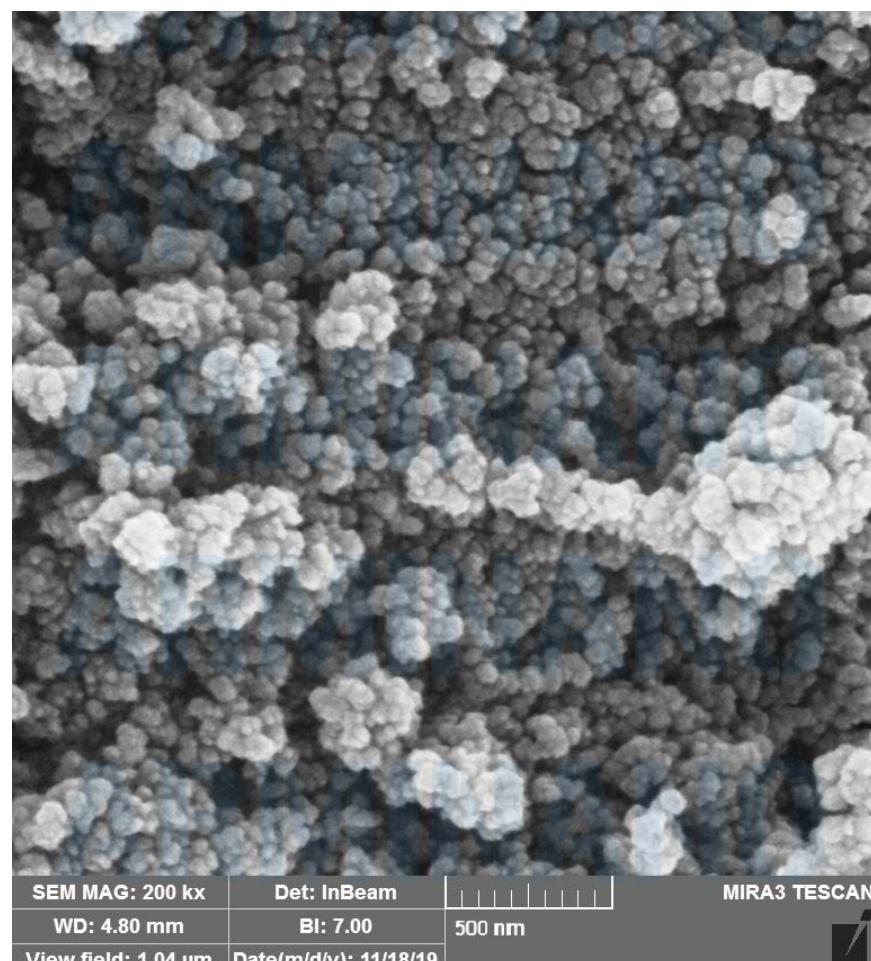
Industrial catalyst, electrical insulator, ceramics, refractories, abrasives

Safety:

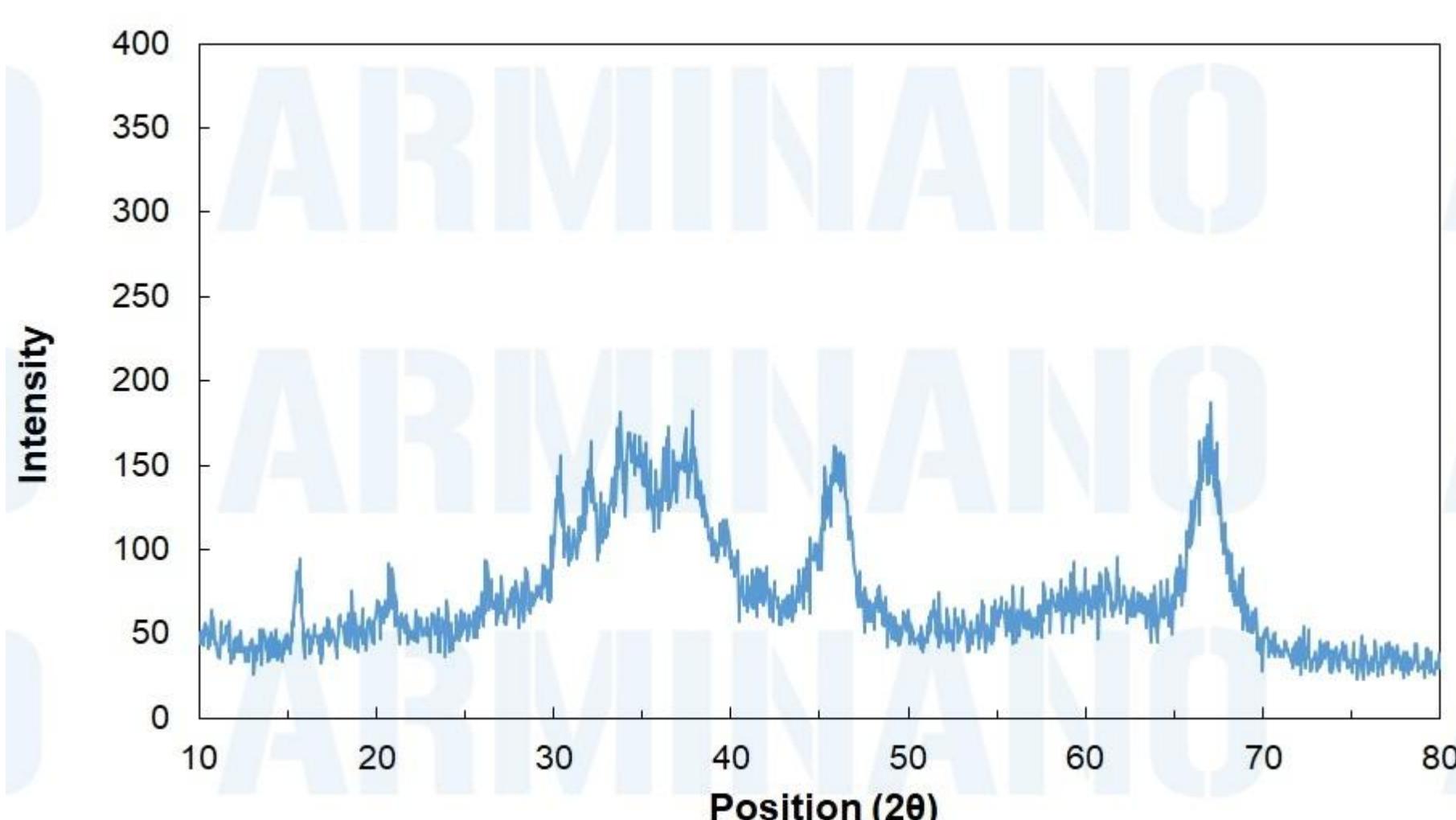
Avoid breathing dust.
Always use protective gloves and safety glasses.
Wash with soap and water after exposure.
Refer to MSDS prior to handling this material.



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TEM images of AON1501



XRD pattern of AON1501

Storage:

Keep it in cool dry place.
Avoid direct sunlight.
Do not freeze.
To disperse nanoparticles sonication could be used.

Shelf life:

When stored as specified the product is stable for at least 6 months.