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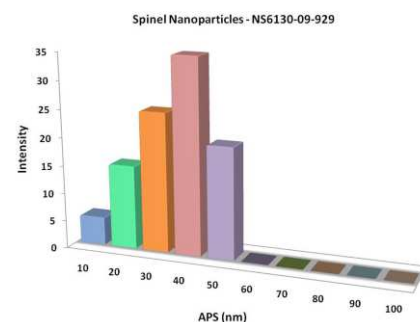
# Spinel Nanoparticles

NS6130-09-929

Purity  
**99.9%**  
 CAS No.  
**1302-67-6**

Spinel-type magnesium aluminate is an efficacious refractory ceramic. This material has mechanical, chemical, and thermal properties. The main conventional method to synthesize  $\text{MgAl}_2\text{O}_4$  spinel powders is a solid state reaction between high-purity  $\text{Al}_2\text{O}_3$  and  $\text{MgO}$  at temperature over  $1,600^\circ\text{C}$ . Currently, a variety of non-conventional techniques have been employed to manufacture  $\text{MgAl}_2\text{O}_4$  spinel powders.

The main pros of these techniques are high purity and sinter-activity of produced powders. These methods involve hydroxide coprecipitation, sol-gel, flame spray pyrolysis, freeze-drying, spray-drying, and mechanical activation. Magnesium aluminate ( $\text{MgAl}_2\text{O}_4$ ) spinel is commonly employed in the metallurgical, radio technical, and chemical industries because of its desirable mechanical, chemical, and thermal properties.



## Technical Specification:

Molecular Formula	Specific Heat	Density	Melting Point	Young's Modulus
$\text{MgAl}_2\text{O}_4$	0.29	3.578 g/cc	$2135^\circ\text{C}$	$34.5 \times 106$ psi

## Chemical Composition

Product	Weight Percent (nominal)	
		Other Metal
Spinel Nanoparticles	99.9%	8000 ppm

## Applications:

- ✓ Metallurgical Applications
- ✓ Cement
- ✓ Electrochemical
- ✓ Radio technical industries
- ✓ Chemical industries

APS:  
**<50nm**


 ISO 9001:2015  
 CERTIFIED COMPANY


20ZICE4588C

19ZAZGO1274G

20ZICE4588M

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