



# GNP Graystar

Specialty Materials

AN ISO 9001 CERTIFIED COMPANY



## TECHNICAL DATA SHEET

### Chemical Grade Yttria-Stabilized Zirconia

#### Typical Chemistry & Properties

	GNP3Y	GNP3YB	GNP3YW
% ZrO <sub>2</sub> + HfO <sub>2</sub>	94	89.5	94
% Y <sub>2</sub> O <sub>3</sub>	5.25 ± 0.25	4.95 ± 0.02	5.25 ± 0.25
% Al <sub>2</sub> O <sub>3</sub>	0.23 ± 0.02	0.23 ± 0.02	---
% SiO <sub>2</sub> max.	0.02	0.05	0.02
% Fe <sub>3</sub> O <sub>3</sub> max.	0.003	---	0.003
% TiO <sub>2</sub> max.	0.002	0.01	0.002
% Na <sub>2</sub> O max.	0.005	0.01	0.005
Color	White	Black	Super White
L.O.I.	1.0	1.0	1.0
SSA (BET)	5-20 m <sup>2</sup> /g	11-15 m <sup>2</sup> /g	6-9 m <sup>2</sup> /g
D50 (µm)	< 0.8	1.0	1.0

	GNP4Y	GNP8Y
% ZrO <sub>2</sub> + HfO <sub>2</sub>	92	86
% Y <sub>2</sub> O <sub>3</sub>	7.2 ± 0.25	13.5 ± 0.25
% Al <sub>2</sub> O <sub>3</sub>	---	---
% SiO <sub>2</sub> max.	0.02	0.05
% Fe <sub>3</sub> O <sub>3</sub> max.	0.003	0.003
% TiO <sub>2</sub> max.	0.002	0.002
% Na <sub>2</sub> O max.	0.005	0.005
Color	White	White
L.O.I.	1.0	1.0
SSA (BET)	11-15 m <sup>2</sup> /g	---
D50 (µm)	1.0	1.0

#### Description:

**GNP Graystar's** Chemical Grade Yttria-Stabilized Zirconia is a non-toxic and tasteless white powder. It has good chemical stability and controlled specific surface area. In ceramics, Y2O3 partially stabilized zirconia has superior load bearing capabilities and offers the highest strength and toughness. The material has the ability to hold a sharp edge.

#### Applications:

**GNP Graystar's** Chemical Grade Yttria Stabilized Zirconia is used in various ceramic applications where high strength and resistance to wear is necessary. Examples include electrical ceramics, bioceramics, advanced refractory materials, optical fiber components, mechanical parts, cutting tools, oxygen sensors, solid oxide fuel cells, etc.

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