

Yttrium Zirconium Oxide Powder







NS6130-12-000461

APS
30-45 μ m



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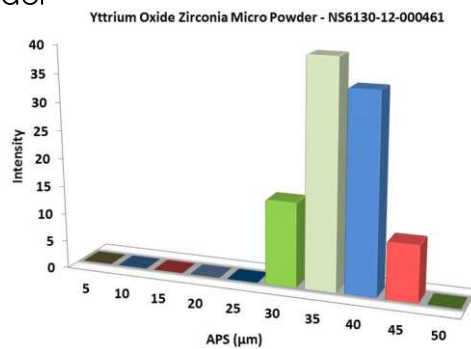
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Yttrium Zirconium Oxide Powder

Yttria stabilized zirconia (YSZ) is used as the solid electrolyte, which enables oxygen ion conduction while blocking electronic conduction. In order to achieve sufficient ion conduction, an SOFC with an YSZ electrolyte must be operated at high temperatures (800 °C -1000 °C). While it is advantageous that YSZ retains mechanical robustness at those temperatures, the high temperature necessary is often a disadvantage of SOFCs. The high density of YSZ is also necessary in order to physically separate the gaseous fuel from oxygen, or else the electrochemical system would produce no electrical power. YSZ doped with rare-earth materials can act as a thermo graphic phosphor and a luminescent material.

Quick Facts

Product	:	Yttrium Zirconium Oxide Powder
Stock No	:	NS6130-12-000461
CAS	:	308076-80-4
Purity	:	>99.9%
Color	:	White
Form	:	Powder



Technical Specification

Formula	APS	Molecular Weight	Melting Point
ZrO ₂ / Y ₂ O ₃	30-45µm	349.03g/mol	~2700°C

Chemical Composition

Product	Weight Percent (nominal)	
	ZrO ₂ / Y ₂ O ₃	Other Metal
Yttrium Zirconium Oxide Powder	99%	0.1%

Applications

- For its hardness and chemical inertness
- As a refractory
- As a thermal barrier coating in gas turbines
- As an electro ceramic due to its ion-conducting properties

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