

¹⁰B ENRICHED ZIRCONIUM DIBORIDE POWDER

PRODUCT SPECIFICATION

Standard Material

¹⁰Boron enriched zirconium diboride is produced by Boron Products, LLC for use as a burnable poison for nuclear reactor fuel applications. The primary commercial product is a specially designed sputtering target. Enriched zirconium diboride powder is available as a standard product defined by the specifications below or as a specially designed product to meet specific customer needs. Zirconium diboride combines the most efficient neutron absorber available with zirconium, the material used for many internal reactor components. This combination eliminates the addition of new materials to the reactor environment, thus reducing the number of daughter products created.

<u>Characteristic</u>	<u>Specification Limits</u>		
Enrichment	54.3 to 55.3		wt % ¹⁰ B
Boron Content	17.15 to 20.15		wt%
Zirconium Content	No Specification		
Impurities			
Al, Bi, Ca, Cd, Co, Cr, Cu, Fe, Hf, In, Mg, Mn, Mo, N, Ni, Pb, Sn, Ti, Th, V, W, Zn	Less Than	1000	ppm each
Dy, Eu, Gd, Sm (rare Earths)	Less Than	100	ppm total
Carbon	Less Than	10,000	ppm
Oxygen	No Specification		
Total impurities excluding Rare Earths, Oxygen and Carbon shall not exceed 5000 ppm			

- Packaging: fiber drum or poly bottle, protected by vapor barrier bag.
- Certified analysis furnished with every shipment at no charge.
- Specific enrichments, purities, and particle sizes are available to meet special requirements.

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Boron Products, LLC

A Ceradyne Company
798 Hwy 69A
Quapaw, OK 74363

Tele: 918.673.2201 Fax: 918.673.1052

Email: inquiry@ceradyneboron.com Website: www.ceradyne.com