

## MATERIAL SAFETY AND TECHNICAL DATA SHEET

<b>TRADE NAME : BZ-2</b>
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### I. Material Description

Chemical Name & Formula: Magnesia partially stabilized zirconia - MgO PSZ

### II. Components

ZrO <sub>2</sub> :	97,0%
MgO:	3,0%

### III. Physical Data

Physical form	: Polycrystalline	Structure
Boiling Temperature	: NA	
Melt Temperature °C	: 2730	
Vapore Pressure	: NA	
Evaporation Rate	: NA	
Specific Gravity	: NA	
Density	g/cm <sup>3</sup> : 5,65	
Water Solubility	: Insoluble	
Color	: Yellow	
Odor	: None	

### IV. Mechanical Properties at Room Temperature

Water Absorption	%	:	0
Vickers Hardness	(HV 0.5) Gpa	:	12
Flexural Strength	Mpa	:	450
Compressive Strength	Mpa	:	1900
Young's Modulus	Gpa	:	200
Fracture Toughness	Mpa *m <sup>1/2</sup>	:	7
Maximum service temperature	°C	:	850
Thermal Conductivity at 20°C	W/M*k	:	2
Thermal Expansion Coeff.	x10 <sup>-6</sup> /°C	20 ÷ 400°C	: 9,7
		20 ÷ 800°C	: 11,0
Thermal Shock Resistance	ΔT°C	:	180

### V. Physical and Chemical Properties

Excellent chemical and wear resistance. High mechanical loads with low tendency to weld. E.g.: extrusion processes components, bearing bushes, plungers, forming tools, engine components, oxygen sensors. Low resistance to HF (Hydrofluoric acid).

### VI. Fire and Explosion Data

Flashpoint	:	NA
Auto - Ignition Temperature	:	NA
Flammability Limits in Air : Upper: Lower	:	NA

Product is non - flammable  
Not an explosion hazard

Please, note that all the values quoted are based on test pieces and may vary according to component design. These values are not guaranteed in any way and should only be treated as indicative values. They should be used for guidance only and for no other purpose.