

Zirconia Material

Data Pack

2023
Version 1.0

Material Technical Information

The 4Y Zirconia is a multichromatic material, providing superior aesthetics and a strength profile suitable for the majority of restorations

Technical Data

Composition by Mass

Substance	CAS #	Amount (%)
Zirconium dioxide	1314-23-4	90-95
Yttrium oxide	1314-36-9	4-10
Aluminum Oxide	1344-28-1	<0.5
Other Oxides	N/A	<0.5

Material Properties

Properties	Results	Method
Color Profile	Multichromatic	N/A
Manufacturing	Isostatic Press	N/A
Yttria Content	4Y	N/A
Translucency	48%	N/A
Fracture Toughness (Mpa ^{0.5})	5	N/A
Uniformity	N/A	ISO 6872:2015
Freedom from Extraneous Materials	N/A	ISO 6872:2015
Flexural Strength (Mpa)	900	ISO 6872:2015
Shrinkage Factor	N/A	ISO 6872:2015
Form	Solid	N/A
Color	White	N/A
Odor	Odorless	N/A
Density	≈5.7 g/cm ³	ASTM D792
Solubility in Water	Insoluble	N/A

Material Safety Information

Safety Data

Handling and Storage

No special measures are required for safe consumer handling during normal use.

Requirements for Storage

No special storage requirements are necessary. Store in a dry cool place.

Disposal

Small quantities can be disposed of as household waste. Large quantities, recycle if possible and observe all federal, state, and local environmental regulations.

Regulatory Standards

The product was developed and is in compliance with the following ISO Standards:

ISO Standard	Description
ISO 6872:2015	Dentistry – Ceramic Materials
ISO 7405:2018	Dentistry – Evaluation of biocompatibility of medical devices used in dentistry

Non-Hazardous Statement

This product is not classified as hazardous according to OSHA Hazard Communication Standard, REACH, and CLP. Therefore:

- The products listed above do not contain hazardous substances
- Is non-hazardous to the environment and poses no health risk or physical hazard.
- The preparation of a Safety Data Sheet is not required

Despite the classification as non-hazardous, we recommend carefully reviewing the product information and using good practices during the use of any laboratory product.

Material Technical Information

The 3Y Zirconia is a multichromatic material that provides a superior strength profile.

Technical Data

Composition by Mass

Substance	CAS #	Amount (%)
Zirconium dioxide	1314-23-4	94-95
Yttrium oxide	1314-36-9	4.5-5.5
Aluminum Oxide	1344-28-1	<0.5
Other Oxides	N/A	<0.5

Material Properties

Properties	Results	Method
Color Profile	Multichromatic	N/A
Manufacturing	Isostatic Press	N/A
Yttria Content	3Y	N/A
Translucency	43%	N/A
Fracture Toughness (Mpa ^{0.5})	5	N/A
Uniformity	N/A	ISO 6872:2015
Freedom from Extraneous Materials	N/A	ISO 6872:2015
Flexural Strength (Mpa)	1350	ISO 6872:2015
Shrinkage Factor	N/A	ISO 6872:2015
Form	Solid	N/A
Color	White	N/A
Odor	Odorless	N/A
Density	≈5.7 g/cm ³	ASTM D792
Solubility in Water	Insoluble	N/A

Material Safety Information

Safety Data

Handling and Storage

No special measures are required for safe consumer handling during normal use.

Requirements for Storage

No special storage requirements are necessary. Store in a dry cool place.

Disposal

Small quantities can be disposed of as household waste. Large quantities, recycle if possible and observe all federal, state, and local environmental regulations.

Regulatory Standards

The product was developed and is in compliance with the following ISO Standards:

ISO Standard	Description
ISO 6872:2015	Dentistry – Ceramic Materials
ISO 7405:2018	Dentistry – Evaluation of biocompatibility of medical devices used in dentistry

Non-Hazardous Statement

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