

#### Card Information

Names: Zirconium Oxide  
Formula: Zr O<sub>2</sub>  
PDF Number: 49-1642  
Quality: indexed  
Subfiles: inorganic alloy COR CP FOR SCM

#### Cell and Symmetry Information

System: cubic Space Group: Fm-3m (no. 225)  
a: 5.128  
Z: 4

#### Instrument Information

Radiation: CuKα1 Wavelength: 1.5406 Filter:

Quartz

Instrument(d): diffractometer Standard: Si  
Instrument(l): diffractometer l type: unknown

#### Comments and Additional Information

Preparation: Prepared by sintering 10 wt.% Zr O<sub>2</sub> in Al<sub>2</sub> O<sub>3</sub> at 1973 K for 90 minutes at a pressure of 0.133 MPa. The oxygen deficient phase was synthesized by annealing in vacuum at pressures below 2.8x10<sup>-2</sup> MPa.

General: Oxygen deficient structure (in range of Zr O 1.688-Zr O 1.740).

Pattern: See 00-022-0540.

Pattern: To replace 00-027-0997.

#### Literature References

General: Tomaszewski, H., Godwod, K. J. Eur. Ceram. Soc. 15 17 (1995)  
Unit Cell: Duwez, Odell. J. Am. Ceram. Soc. 33 274 (1950)

#### Peak Data

##### PeakList

	h	k	l	d	I
	1	1	1	2.9646	100
	2	0	0	2.5645	17
	2	2	0	1.8152	32
	3	1	1	1.5467	16
	2	2	2	1.4810	2
	4	0	0	1.2809	1
	3	3	1	1.1770	2
	4	2	0	1.1468	3
	4	2	2	1.0470	1
	3	3	3	0.9865	1
	5	3	1	0.8669	1
	6	0	0	0.8547	1