

ภาคผนวก ก

ข้อมูล ZnO มาตรฐานตาม JCPDS

Name and formula

Reference code:	36-1451
Mineral name:	Zincite, syn
Common name:	chinese white
PDF index name:	Zinc Oxide
Empirical formula:	OZn
Chemical formula:	ZnO

Crystallographic parameters

Crystal system:	Hexagonal
Space group:	P63mc
Space group number:	186
a (Å):	3,2498
b (Å):	3,2498
c (Å):	5,2066
Alpha (°):	90,0000
Beta (°):	90,0000
Gamma (°):	120,0000
Volume of cell:	47,62
Z:	2,00

RIR: -

Subfiles and Quality

Subfiles: Inorganic
 Mineral
 Alloy, metal or intermetallic
 Corrosion
 Common Phase
 Educational pattern
 Forensic
 NBS pattern
 Pharmaceutical
 Pigment/Dye

Quality: Star (S)

Comments

Color: Colorless

General comments: The structure was determined by Bragg (1) and refined by Abrahams, Bernstein (2). =

Sample source: The sample was obtained from the New Jersey Zinc Co., Bethlehem, Pennsylvania, USA.

Optical data: B=2.013, Q=2.029, Sign=+

Polymorphism: A high pressure cubic NaCl-type of ZnO is reported by Bates et al. (3) and a cubic, sphalerite type is reported by Radczewski, Schicht (4).

Additional pattern: To replace 5-664 (5).

Temperature: The approximate temperature of data collection was 26 C.

Powder data (additional reference): References to other early patterns may be found in reference (5).

References

- Primary reference: McMurdie, H., Morris, M., Evans, E., Paretzkin, B., Wong-Ng, W., Ettlinger, L., Hubbard, C., *Powder Diffraction*, **1**, 76, (1986)
- Structure: 1. Bragg, W., *Philos. Mag.*, **39**, 647, (1920)
- Optical data: *Dana's System of Mineralogy, 7th Ed.*, **I**, 504
- Polymorphism: 3. Bates, C., White, W., Roy, R., *Science*, **137**, 993, (1962)
- Additional pattern: 5. Swanson, H., Fuyat, R., *Natl. Bur. Stand. (U.S.), Circ. 539*, **2**, 25, (1953)

Peak list

No.	h	k	l	d (Å)	I (%)
1	1	0	0	2.81430	57.0
2	0	0	2	2.60332	44.0
3	1	0	1	2.47592	100.0
4	1	0	2	1.91114	23.0
5	1	1	0	1.62472	32.0
6	1	0	3	1.47712	29.0
7	2	0	0	1.40715	4.0
8	1	1	2	1.37818	23.0
9	2	0	1	1.35825	11.0
10	0	0	4	1.30174	2.0
11	2	0	2	1.23801	4.0
12	1	0	4	1.18162	1.0
13	2	0	3	1.09312	7.0
14	2	1	0	1.06384	3.0
15	2	1	1	1.04226	6.0
16	1	1	4	1.01595	4.0
17	2	1	2	0.98464	2.0

18	1	0	5	0.97663	5.0
19	2	0	4	0.95561	1.0
20	3	0	0	0.93812	3.0
21	2	1	3	0.90694	8.0
22	3	0	2	0.88256	4.0
23	0	0	6	0.86768	1.0
24	2	0	5	0.83703	3.0
25	1	0	6	0.82928	1.0
26	2	1	4	0.82370	2.0
27	2	2	0	0.81247	3.0

Stick Pattern

