Name and formula

Reference code: 00-017-0438

PDF index name: Aluminum Titanium Carbide

Empirical formula: $AlCTi_3$
Chemical formula: Ti_3AlC

Crystallographic parameters

Crystal system: Cubic
Space group: Pm3m
Space group number: 221

a (Å): 4.1440
b (Å): 4.1440
c (Å): 4.1440
Alpha (°): 90.0000
Beta (°): 90.0000
Gamma (°): 90.0000

Calculated density (g/cm^3): 4.22
Volume of cell (10^6 pm^3): 71.16
Z: 1.00

RIR: -

Subfiles and Quality

Subfiles: Inorganic
Alloy, metal or intermetalic
Quality: Blank (B)

Comments

General comments: Composition in atomic %: 60-80 Ti, 10-25 Al, remainder C.
Perovskite.
Cell parameter generated by least squares refinement.
Sample preparation: Heated at 750 C for 500 hours.
Unit cell: Reference reports: a=4.156.

References

Primary reference: Jeitschko et al., *Monatsh. Chem.*, **95**, 319, (1964)

Peak list

No.	h	k	l	d [A]	2Theta[deg]	I [%]
1	1	0	0	4.15000	21.394	50.0
2	1	1	1	2.39000	37.604	100.0
3	2	0	0	2.07400	43.605	90.0
4	2	1	0	1.85300	49.127	10.0
5	2	2	0	1.46500	63.445	80.0
6	3	0	0	1.38300	67.694	5.0

7	3	1	1	1.25100	76.012	70.0
8	2	2	2	1.19800	80.030	50.0
9	4	0	0	1.03800	95.821	20.0
10	3	3	1	0.95200	108.024	55.0
11	4	2	0	0.92800	112.211	60.0
12				0.84800	130.563	60.0
13				0.79900	149.193	85.0

Stick Pattern