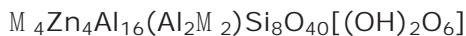


Zincostaurolite



MONOCLINIC

Locality: Zermatt valley, Western Alps, Switzerland.

Occurrence: In a metabauxite pocket of the Mesozoic Barrhorn series. Associated minerals are: muscovite, staurolite *s.l.*, kyanite, margarite, cookeite, chloritoid, diaspore, paragonite, gahnite, rutile, apatite, pyrite, zircon, allanite, a REE–Al phosphate (florencite ?), ankerite, tourmaline, pyrophyllite and kaolinite.

General appearance: Prismatic crystals up to 3 mm long.

Physical, chemical and crystallographic properties: *Luster:* probably vitreous to resinous. *Diaphaneity:* transparent. *Color:* colorless. *Streak:* probably white. *Luminescence:* nonfluorescent. *Hardness:* probably 7 to 7½. *Tenacity:* probably brittle. *Cleavage:* not observed. *Fracture:* not observed. *Density:* could not be measured, 3.78 g/cm³ (calc.). **Crystallography:** Monoclinic, *C*2/*m*, *a* 7.853, *b* 16.534, *c* 5.639 Å, β 90.00°, *V* 732.2 Å³, *Z* = 1, *a:b:c* = 0.4750:1:0.3411. Morphology: {010}, in parallel growth with {100} of kyanite. Twinning: mostly untwinned. **X-ray powder-diffraction data:** 3.001(60.6) (221), 2.678(70.5)(151), 2.390(86.6)(132), 2.363(46.2)(330), 2.349(44.6)(311), 1.968(61.4)(062), 1.964(47.8)(400), 1.391(100.0)(462). **Optical data:** Biaxial (+), α 1.722, γ 1.734, nonpleochroic; *Z* = *c*. **Chemical analytical data:** Mean of three sets of electron-microprobe data: Li₂O 0.45, MgO 0.45, MnO 0.01, FeO 1.40, ZnO 11.82, Al₂O₃ 54.12, SiO₂ 28.47, TiO₂ 0.11, H₂O 1.96, Total 98.79 wt.%. Empirical formula: (M_{3.77}Mg_{0.10}Fe_{0.13})Σ4.00 (Li_{0.51}Zn_{2.45}Fe_{0.20}M_{0.84})Σ4.00 (Al_{15.98}Ti_{0.02})Σ16.00 (Al_{1.94}Mg_{0.09}M_{1.97})Σ4.00 Si_{8.00}O_{39.98}[(OH)_{3.67}O_{4.33}]Σ8.00. **Relationship to other species:** It is the Zn-dominant analogue of staurolite and magnesio-staurolite.

Name: Recalls the relationship to staurolite.

Comments: IMA No. 1992–036.

CHOPIN, C., GOFFÉ, B., UNGARETTI, L. & OBERTI, R. (2003): Magnesio-staurolite and zincostaurolite: mineral description with a petrogenetic and crystal-chemical update. *European Journal of Mineralogy* **15**, 167-176.