

Kegelite**Pb₈Al₄Si₈O₂₀(SO₄)₂(CO₃)₄(OH)₈**

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Crystal Data: Monoclinic, pseudo-hexagonal. *Point Group:* 2/*m*, 2, or *m*. As pseudo-hexagonal plates with dominant {100}, to 0.3 mm, forming spherical aggregates.

Physical Properties: *Cleavage:* {100}, perfect. *Tenacity:* Extremely flexible. Hardness = n.d. D(meas.) = ~4.5 D(calc.) = 4.76

Optical Properties: Transparent to translucent. *Color:* Colorless to white. *Luster:* Vitreous. *Optical Class:* Biaxial (-). *n* = 1.81 || {100}. 2*V*(meas.) = n.d.

Cell Data: *Space Group:* A2/*m*, A2, or *Am*. *a* = 21.04(1) *b* = 15.55(1) *c* = 8.986(6) β = 91.0(1)° *Z* = 3

X-ray Powder Pattern: Tsumeb, Namibia.

21.0 (100), 2.591 (90), 3.82 (80), 7.01 (50), 3.006 (50), 2.339 (50), 3.74 (40)

Chemistry:

	(1)
SiO ₂	17.0
Al ₂ O ₃	7.1
FeO	trace
MnO	0.0
CuO	1.5
ZnO	trace
PbO	60.9
CaO	0.0
H ₂ O	2.6
CO ₂	7.0
SO ₃	5.5
Total	101.6

(1) Tsumeb, Namibia; by electron microprobe, CO₂ by a C analyzer, H₂O and SO₃ by TGA and EGA; corresponding to Pb_{7.55}Cu_{0.52}Al_{3.85}Si_{7.83}O_{19.22}(SO₄)_{1.90}(CO₃)_{4.40}(OH)_{7.98}.

Occurrence: In a deep oxidation zone in a polymetallic mineral deposit.

Association: Quartz, galena, mimetite, hematite, leadhillite, anglesite, fleischerite, melanotekite, alamosite.

Distribution: From Tsumeb, Namibia.

Name: For Friedrich Wilhelm Kegel (?–1948), Director of mining operations (1922–1938) at Tsumeb, Namibia.

Type Material: National Museum of Natural History, Washington, D.C., USA, 134514, 147460.

References: (1) Medenbach, O. and K. Schmetzer (1975) Kegelite – ein neues Bleisilikat von Tsumeb. *Naturwiss.*, 62, 137 (in German with English abs.). (2) (1976) *Amer. Mineral.*, 61, 175–176 (abs. ref. 1). (3) Medenbach, O. and K. Schmetzer (1976) Kegelite – ein neues Bleisilikat von Tsumeb. *Neues Jahrb. Mineral., Monatsh.*, 110–114 (in German). (4) (1977) *Amer. Mineral.*, 62, 175 (abs. ref. 3). (5) Dunn, P.J., R.S.W. Braithwaite, A.C. Roberts, and R.A. Ramik (1990) Kegelite from Tsumeb, Namibia: a redefinition. *Amer. Mineral.*, 75, 702–704. (6) Braithwaite, R.S.W. (1991) Kegelite: infrared spectroscopy and a structural hypothesis. *Mineral. Mag.*, 55, 127–134.