

**Kegelite****Pb<sub>8</sub>Al<sub>4</sub>Si<sub>8</sub>O<sub>20</sub>(SO<sub>4</sub>)<sub>2</sub>(CO<sub>3</sub>)<sub>4</sub>(OH)<sub>8</sub>**

©2001 Mineral Data Publishing, version 1.2

**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 (-).  $n = 1.81 \parallel \{100\}$ .  $2V(\text{meas.}) = \text{n.d.}$

**Cell Data:** *Space Group:* A2/m, A2, or Am.  $a = 21.04(1)$   $b = 15.55(1)$   $c = 8.986(6)$   
 $\beta = 91.0(1)^\circ$   $Z = 3$

**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 <sub>2</sub>	17.0
Al <sub>2</sub> O <sub>3</sub>	7.1
FeO	trace
MnO	0.0
CuO	1.5
ZnO	trace
PbO	60.9
CaO	0.0
H <sub>2</sub> O	2.6
CO <sub>2</sub>	7.0
SO <sub>3</sub>	5.5
Total	101.6

(1) Tsumeb, Namibia; by electron microprobe, CO<sub>2</sub> by a C analyzer, H<sub>2</sub>O and SO<sub>3</sub> by TGA and EGA; corresponding to Pb<sub>7.55</sub>Cu<sub>0.52</sub>Al<sub>3.85</sub>Si<sub>7.83</sub>O<sub>19.22</sub>(SO<sub>4</sub>)<sub>1.90</sub>(CO<sub>3</sub>)<sub>4.40</sub>(OH)<sub>7.98</sub>.

**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.