

Crystal Data: Tetragonal. *Point Group:* 4/m 2/m 2/m. Platy, to about 0.5 mm.

Physical Properties: *Cleavage:* Perfect on {001}. Hardness = n.d. VHN = 146-186 (50 g load). D(meas.) = n.d. D(calc.) = 8.041

Optical Properties: Transparent. *Color:* Yellow to yellow-green. *Streak:* Light yellow to white. *Luster:* Adamantine.

Optical Class: Uniaxial (-). $\omega = 2.39$ $\varepsilon = 2.32$ *Anisotropism:* Weak in oil, gray; not noticeable in air.

R₁-R₂: (400) 20.6-20.7, (420) 19.8-19.8, (440) 19.0-19.15, (460) 18.5-18.65, (480) 18.1-18.2, (500) 17.7-17.9, (520) 17.4-17.55, (540) 17.15-17.3, (560) 16.9-17.0, (580) 16.7-16.8, (600) 16.6-16.7, (620) 16.5-16.5, (640) 16.3-16.4, (660) 16.2-16.3, (680) 16.1-16.2, (700) 16.0-16.1

Cell Data: *Space Group:* I4/mmm. a = 3.897(2) c = 22.81(2) Z = 1

A tetragonal supercell of 14×14×23 Å, is created by strong ordering of Si within the PbO sheet structure, yielding Pb₁₂(SiO₄)O₈Cl₄ with Z = 8.

X-ray Powder Pattern: Kombat mine, Namibia.

2.957 (100), 2.752 (60), 1.627 (60), 1.602 (50), 3.46 (40), 1.984 (40), 1.747 (40)

Chemistry:	(1)
SiO ₂	2.0
PbO	93.7
Cl	4.4
<u>-O = Cl₂</u>	<u>1.0</u>
Total	99.1

(1) Kombat mine, Namibia; by electron microprobe, average of three analyses, corresponding to Pb₇Si_{0.55}O_{7.07}Cl_{2.02}.

Occurrence: In manganese silicate lenses nearby a sulfide ore body.

Association: Hematophanite, barite, jacobsonite, hematite, copper, molybdophyllite, chlorite.

Distribution: In the Kombat mine, 49 km south of Tsumeb, Namibia.

Name: For the Asis Farm, location of the Kombat mine, which in the Nama language means drinking place.

Type Material: Canadian Geological Survey, Ottawa, Canada, 64565; The Natural History Museum, London, England, 1986,304.

References: (1) Rouse, R.C., D.R. Peacor, P.J. Dunn, A.J. Criddle, C.J. Stanley, and J. Innes (1988) Asisite, a silicon-bearing lead oxychloride from the Kombat mine, South West Africa (Namibia). *Amer. Mineral.*, 73, 643-650. (2) Welch, M.D. (2004) Pb-Si ordering in sheet-oxychloride minerals: the super-structure of asisite, nominally Pb₇SiO₈Cl₂. *Mineral Mag.*, 68, 247-254.