Kenhsuite $Hg_3S_2Cl_2$

Crystal Data: Orthorhombic. *Point Group*: n.d. As fibrous crystals to 10 μm or prismatic tablets and blades to 25 μm.

Physical Properties: *Cleavage*: Excellent on {100}. *Fracture*: Conchoidal and hackly. Hardness = 2-3 D(meas.) = 6.86(5) D(calc.) = 6.87 Fluoresces red and red-orange under LW UV.

Optical Properties: Transparent. *Color*: Canary yellow; white in reflected light with abundant bright canary yellow to palest yellow-white internal reflections; blackens on exposure to sunlight. *Streak*: Canary yellow. *Luster*: Vitreous.
Optical Class: Biaxial (+) [synthetic]. 2V = > 70° *n* = 2.25(1) *Pleochroism*: Weak, pale yellow to greenish yellow. *Dispersion*: *r* >> *v.* Length fast; parallel extinction.
Reflectivity: ~15%

Cell Data: *Space Group*: *Ammm*, *A*2*mm*, *Am*2*m*, *Amm*2, or *A*222. *a* = 9.332(5) *b* = 16.82(2) *c* = 9.108(5) Z = 8

X-ray Powder Pattern: McDermitt mercury deposit, Humboldt County, Nevada, USA.
2.58 (100), 3.65 (90), 3.l1 (51), 2.60 (49), 2.83 (36), 6.30 (36), 2.97 (23)

Chemistry

	(1)	(2)
Hg	81.2	81.67
S	9.4	8.70
Cl	9.4	9.62
Total	100.0	99.99

(1) McDermitt mercury deposit, Humboldt County, Nevada, USA; SEM-EDS analysis; corresponds to $Hg_3S_{2.17}Cl_{1.97}$. (2) $Hg_3S_2Cl_2$.

Occurrence: Along fractures in hydrothermally altered, rhyolitic, tuffaceous lacustrine rocks in a caldera complex.

Association: Corderoite (α-$Hg_3S_2Cl_2$), cinnabar.

Distribution: From the McDermitt mercury deposit, ~10 km southwest of McDermitt, Humboldt County, Nevada, USA.

Name: Honors Dr. *Ken*neth Jinghwa *Hsu* (b. 1929), Professor Emeritus, Swiss Federal Institute of Technology (E.T.H.), Zurich, Switzerland, for his numerous contributions to the earth sciences.

Type Material: National Museum of Natural History (l7l405 and171406), Washington, D.C., and the W.M. Keck Museum, Mackay School of Mines, University of Nevada, Reno, Nevada, USA.

References: (1) McCormack, J.K. and F.W. Dickson (1998) Kenhsuite, γ-$Hg_3S_2Cl_2$, A new mineral species from the McDermitt Mercury Deposit, Humbolt County, Nevada. Can. Mineral., 36, 201-206.