

Drysdallite

Mo(Se, S)₂

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Crystal Data: Hexagonal. *Point Group:* $6/m\ 2/m\ 2/m$ most probably. Steep pyramidal crystals, to 0.5 mm, embedded in other minerals; massive.

Physical Properties: *Cleavage:* {0001}, perfect. *Tenacity:* Pliable, difficult to pulverize. Hardness = Very soft. VHN = 46–58 (7.6 g load). D(meas.) = n.d. D(calc.) = 6.248

Optical Properties: Opaque. *Color:* Grayish black with a brownish tint. *Streak:* Brownish black. *Luster:* Metallic. *Pleochroism:* Strong, white to very pale gray, to pinkish gray. *Anisotropism:* Very strong, with colors from pale bluish gray to purplish brown.

R₁–R₂: (400) 17.0–38.0, (420) 18.2–37.8, (440) 19.4–37.6, (460) 20.4–37.6, (480) 21.4–37.5, (500) 21.8–37.5, (520) 21.8–37.4, (540) 21.6–37.1, (560) 21.4–36.7, (580) 21.1–36.0, (600) 20.8–35.5, (620) 20.6–35.1, (640) 20.5–35.0, (660) 20.4–35.0, (680) 20.4–35.2, (700) 20.4–35.6

Cell Data: *Space Group:* $P6_3/mmc$ (synthetic). $a = 3.287(1)$ $c = 12.925(2)$ $Z = 2$

X-ray Powder Pattern: Kapijimpanga deposit, Zambia.

2.373 (100), 6.46 (75), 2.845 (55), 1.913 (55), 1.643 (40), 1.615 (40), 2.153 (25)

Chemistry:

	(1)	(2)
Mo	35.30	37.79
Se	60.40	62.21
S	3.40	
Total	99.10	100.00

(1) Kapijimpanga deposit, Zambia; by electron microprobe, corresponds to Mo_{0.85}(Se_{1.76}S_{0.24})_{Σ=2.00}, with spectrographic traces of Si, Mg, Al, Pb, Fe, Bi, Ca, Cu, Ni, and Ti, belonging mostly to impurities. (2) MoSe₂.

Occurrence: In the oxidation zone of a uranium deposit in a talc schist.

Association: Uraninite, apatite, masuyite, secondary uranium minerals.

Distribution: From the Kapijimpanga uranium deposit, 16 km southeast of Solwezi, Northwestern Province, Zambia [TL].

Name: To honor Dr. A.R. Drysdall (1933–), Director, Geological Survey of Zambia.

Type Material: Charles University, Prague, Czech Republic, 17348; National School of Mines, Paris, France; National Museum of Natural History, Washington, D.C., USA, 145627.

References: (1) Čech, F., M. Rieder, and S. Vrána (1973) Drysdallite, MoSe₂, a new mineral. Neues Jahrb. Mineral., Monatsh., 433–442. (2) (1974) Amer. Mineral., 59, 1139 (abs. ref. 1).