Spertiniite $Cu(OH)_2$

Crystal Data: Orthorhombic. *Point Group:* $mm2$. Flat tabular to lathlike crystals, to 10 μm, in radial and botryoidal aggregates.

Physical Properties: *Tenacity:* Brittle. Hardness = Soft. D(meas.) = 3.93(2) D(calc.) = 3.94 Synthetic material decomposes in hot H_2O.

Optical Properties: Transparent. *Color:* Blue to blue-green. *Luster:* Vitreous. *Optical Class:* Biaxial. *Pleochroism:* Strong; X = colorless; Z = dark blue. *Orientation:* Extinction parallel; elongation positive. $\alpha = 1.720(2)$ β = n.d. $\gamma = > 1.800(2)$ 2V(meas.) = n.d.

Cell Data: *Space Group:* $Cmc2_1$. $a = 2.951(1)$ $b = 10.592(3)$ $c = 5.257(3)$ Z = 4

X-ray Powder Pattern: Jeffrey mine, Canada.
2.63 (100), 3.73 (90), 5.29 (80), 2.266 (70), 1.718 (70), 2.50 (60), 2.361 (50)

Chemistry:

	(1)	(2)
Cu	66.9	65.14
Cl	0.1	
OH		34.86
Total		100.00

(1) Jeffrey mine, Canada; by electron microprobe. (2) $Cu(OH)_2$.

Occurrence: A very rare mineral, altering from chalcocite in alkaline groundwater, in a rodingite dike near the contact with a serpentinized dunite (Jeffrey mine, Quebec, Canada).

Association: Chalcocite, atacamite, copper, diopside, grossular, vesuvianite (Jeffrey mine, Quebec, Canada).

Distribution: In Canada, in Quebec, from the Jeffrey mine, Asbestos, and at Mont Saint-Hilaire. In the USA, at Ely, White Pine Co., Nevada, and from Bisbee, Cochise Co., Arizona. At Dzhezkazgan, Kazakhstan. In Germany, from Juliüshutte, Astfeld, Harz Mountains, in slag. At Tsumeb, Namibia.

Name: Honors Francesco Spertini (1937–), Chief Geologist, Jeffrey mine, Asbestos, Canada, who submitted the first sample.

Type Material: Canadian Museum of Nature, Ottawa, Canada, 44696–44699; Harvard University, Cambridge, Massachusetts, USA, 126504.

References: (1) Grice, J.D. and E. Gasparrini (1981) Spertiniite, $Cu(OH)_2$, a new mineral from the Jeffrey mine, Quebec. Can. Mineral., 19, 337–340. (2) (1982) Amer. Mineral., 67, 860 (abs. ref. 1). (3) Oswald, H.R., A. Reller, H.W. Schmalle, and E. Dubler (1990) Structure of copper(II) hydroxide, $Cu(OH)_2$. Acta Cryst., C46, 2279–2284.