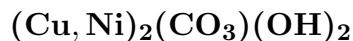


# Glaukosphaerite



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**Crystal Data:** Monoclinic, pseudo-orthorhombic. *Point Group:* n.d. As divergent fibrous to concentrically zoned spherules, to 3 mm; in plumose aggregates, rarely as felted masses of parallel fibers.

**Physical Properties:** *Cleavage:* One || [001]. *Tenacity:* Brittle. *Hardness* = 3–4  
D(meas.) = 3.78–3.96 D(calc.) = 3.78–4.03

**Optical Properties:** Semitransparent. *Color:* Deep malachite-green to apple-green.  
*Streak:* Pale green. *Luster:* Subvitreous to dull, silky if fibrous.  
*Optical Class:* Biaxial (-). *Pleochroism:* X = deep malachite-green; Y = Z = apple-green.  
*Orientation:* X  $\wedge$  c = 7°.  $\alpha$  = 1.69–1.71  $\beta$  = 1.83–1.85  $\gamma$  = 1.83–1.85 2V(meas.) = n.d.

**Cell Data:** *Space Group:* n.d. a = 9.36(3) b = 11.92(3) c = 3.08(1)  $\beta$  = 91.1(0.04)°  
Z = 4

**X-ray Powder Pattern:** Kambalda, Western Australia.  
2.591 (100b), 3.690 (80), 2.952 (70), 2.484 (70b), 2.931 (60), 5.048 (50), 2.517 (50)

Chemistry:	(1)	(2)	(1)	(2)	
CO <sub>2</sub>	21.70	20.15	CoO	0.07	
SiO <sub>2</sub>	< 0.01		MgO	1.23	
Fe <sub>2</sub> O <sub>3</sub>	0.47	0.40	H <sub>2</sub> O <sup>+</sup>	9.85	8.25
ZnO	0.02		H <sub>2</sub> O <sup>-</sup>	< 0.01	0.19
CuO	41.57	44.03	insol.		2.28
NiO	25.22	23.92			
			Total	100.13	99.22

- (1) Kambalda, Western Australia; corresponds to (Cu<sub>1.08</sub>Ni<sub>0.70</sub>Mg<sub>0.06</sub>)<sub>Σ=1.84</sub>(CO<sub>3</sub>)<sub>1.02</sub>(OH)<sub>1.94</sub>.  
(2) Kasompi, Congo; neglecting impurities, corresponds to (Cu<sub>1.23</sub>Ni<sub>0.71</sub>)<sub>Σ=1.94</sub>(CO<sub>3</sub>)<sub>1.02</sub>(OH)<sub>2.04</sub>.

**Mineral Group:** Rosasite group.

**Occurrence:** A rare secondary mineral in the oxidized portions of Cu–Ni sulfide deposits.

**Association:** Nickeloan malachite, azurite, paratacamite, brochantite, chalconatronite, takovite, georgeite, carrboydite, gaspéite, népouite, nickeloan chrysotile, nickeloan celadonite, gypsum, epsomite, nickeloan magnesite, goethite, quartz.

**Distribution:** In Australia, from around Kambalda, at the Hampton East Location 48, three km north of the Durkin shaft, from three km southeast at Widgiemooltha, and 11 km southeast of Widgiemooltha, at the Dordie North nickel prospect, in the 132 North nickel mine, four km southwest of Widgiemooltha, and in the Otter Shoot gossan; in the Discovery gossan, eleven km south of Windarra; from the Carr Boyd Rocks nickel mine, Yerilla district, 80 km north-northeast of Kalgoorlie, in the Scotia nickel mine, Kalgoorlie, and at the Jan nickel deposit, St. Ives, all in Western Australia. From Shinshiro, Aichi Prefecture, Japan. At Kasompi, Katanga Province, Congo (Shaba Province, Zaïre). In the Key West mine, east of Moapa, Bunkerville district, Clark Co., Nevada, USA. At the Kamariza mine, Laurium, Greece.

**Name:** From the Greek for *bluish green* and *spherical*, the typical color and habit.

**Type Material:** Western Australian Museum, Perth, MDC5309; National School of Mines, Paris, France; The Natural History Museum, London, England, 1975,419; National Museum of Natural History, Washington, D.C., USA, 131889.

**References:** (1) Pryce, M.W. and J. Just (1974) Glaukosphaerite: A new nickel analogue of rosasite. *Mineral. Mag.*, 39, 737–743. (2) Deliens, M. (1975) La glaukosphaerite de Kasompi (Shaba méridional, Zaïre). *Bull. Minéral.*, 98, 175–178 (in French with English abs.). (3) Nickel, E.H. and L.G. Berry (1981) The new mineral nullaginite and additional data on the related minerals rosasite and glaukosphaerite. *Can. Mineral.*, 19, 315–324.

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