

**Crystal Data:** Hexagonal. *Point Group:*  $\bar{3}2/m$ . As hexagonal prisms, to 12 mm, showing {11 $\bar{2}$ 0}, {0001}, {10 $\bar{1}$ 1}, and {2243}; as thick plates.

**Physical Properties:** Hardness = 8 VHN = 3200 D(meas.) = 5.18 D(calc.) = 5.20

**Optical Properties:** Opaque, translucent in thin edges. *Color:* Black to dark green; gray in reflected light, with emerald-green internal reflections. *Streak:* Pale green. *Luster:* Vitreous. *Optical Class:* Uniaxial. *Pleochroism:* Noted; emerald-green to olive-green.

*Absorption:* Strong.

R: (400) 24.5, (420) 23.6, (440) 22.7, (460) 22.1, (480) 22.0, (500) 21.8, (520) 21.5, (540) 21.0, (560) 20.5, (580) 20.1, (600) 19.8, (620) 19.7, (640) 19.6, (660) 19.5, (680) 19.5, (700) 19.5

**Cell Data:** *Space Group:*  $R\bar{3}c$ .  $a = 4.973(15)$   $c = 13.57(4)$   $Z = 6$

**X-ray Powder Pattern:** Outokumpu, Finland.

1.6746 (100), 2.665 (97), 3.630 (96), 2.479 (94), 1.8146 (58), 2.174 (48), 1.4331 (47)

**Chemistry:**

	(1)
SiO <sub>2</sub>	0.20
Al <sub>2</sub> O <sub>3</sub>	0.19
Fe <sub>2</sub> O <sub>3</sub>	0.55
Cr <sub>2</sub> O <sub>3</sub>	94.13
V <sub>2</sub> O <sub>3</sub>	4.58
MnO	0.03
MgO	0.03
H <sub>2</sub> O	0.10
Total	99.81

(1) Outokumpu, Finland; corresponds to (Cr<sub>1.90</sub>V<sub>0.09</sub>Fe<sub>0.01</sub>)<sub>Σ=2.00</sub>O<sub>3</sub>.

**Mineral Group:** Hematite group.

**Occurrence:** In chromium-rich tremolite skarns, metaquartzites, and chlorite veins (Outokumpu, Finland); on greywacke pebbles in a glacial boulder clay deposit (Callowhill Upper, Ireland); as pebbles in streams (Merume River, Guyana); a very rare component in chondrite meteorites.

**Association:** Guyanaite, pyrrhotite, pentlandite, chalcopyrite, pyrite, chromian tremolite, uvarovite, chromium tourmaline, calcite, talc, quartz (Outokumpu, Finland); gyaunaite, bracewellite, grimaldiite, mcconnellite, chromian gahnite, pyrophyllite, quartz (Merume River, Guyana).

**Distribution:** From Outokumpu, Finland. In Russia, at Nizhni Tagil, Ural Mountains, and on the western shore of Lake Baikal, 4.5 km south of Olkhon Gate Strait, Siberia. Found near Dukou, Szechwan Province, China. At Callowhill Upper, near Newtown Mt. Kennedy, Co. Wicklow, Ireland. From the Chapada Diamantina, Bahia, Brazil. Along the Merume River and its tributaries, Mazaruni district, Guyana.

**Name:** Honors Professor Pentti Eelis Eskola (1883–1964), of the University of Helsinki, Helsinki, Finland.

**Type Material:** n.d.

**References:** (1) Kouvo, O. and Y. Vuorelainen (1958) Eskolaite, a new chromium mineral. *Amer. Mineral.*, 43, 1098–1106. (2) Milton, C. and E.C.T. Chao (1958) Eskolaite, Cr<sub>2</sub>O<sub>3</sub>, in “merumite” from British Guiana. *Amer. Mineral.*, 43, 1203. (3) Tennyson, C. (1961) The morphology of eskolaite, Cr<sub>2</sub>O<sub>3</sub>. *Amer. Mineral.*, 46, 998–999. (4) Cassedanne, J. and J. Cassedanne (1980) Présence d’eskolaïte dans les alluvions stannifères de la Chapada Diamantina (Bahia-Brésil). *Bull. Minéral.*, 103, 600–602 (in French with English abs.). (5) Finger, L.W. and R.M. Hazen (1980) Crystal structure and isothermal compression of Fe<sub>2</sub>O<sub>3</sub>, Cr<sub>2</sub>O<sub>3</sub>, and V<sub>2</sub>O<sub>3</sub> to 50 kbars. *J. Appl. Phys.*, 51, 5362–5367.

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