

**Crystal Data:** Cubic. *Point Group:*  $4/m\bar{3}2/m$ . As euhedral cubic grains or intergrown cubes, to 0.1 mm, enclosed in heazlewoodite; also as anhedral “spiderlike” irregular masses between heazlewoodite grains; as flakes, to 0.75 mm, in a placer. *Twining:* On {111}.

**Physical Properties:** *Tenacity:* Malleable. Hardness = 4.5 VHN = 172–184 (50 g load). D(meas.) = 8.90 (synthetic). D(calc.) = 8.91

**Optical Properties:** Opaque. *Color:* Bright silver; white in reflected light, more bluish white than heazlewoodite. *Luster:* Metallic.

R: n.d.

**Cell Data:** *Space Group:*  $Fm\bar{3}m$ .  $a = 3.5238$   $Z = 4$

**X-ray Powder Pattern:** Synthetic.

2.034 (100), 1.762 (42), 1.246 (21), 1.0624 (20), 0.7880 (15), 0.8084 (14), 1.0172 (7)

**Chemistry:**

	(1)	(2)
Ni	> 98	96.30
Fe	trace	1.77
Co	trace	0.69
Total	> 98	98.76

(1) Bogota, New Caledonia; by electron microprobe. (2) Jerry River, New Zealand; by electron microprobe.

**Occurrence:** In serpentinized ultramafic rocks as a result of low-temperature hydrothermal activity.

**Association:** Heazlewoodite, pyrite, pyrrhotite, pentlandite, godlevskite, orcelite, millerite, nickel, copper, chalcopyrite, chalcocite, galena.

**Distribution:** From Bogota, near Canala, New Caledonia [TL]. In the Jerry River, in placers derived from the Red Hills Range, southern Westland, New Zealand. From Mount Clifford and Cutmore, near Agnew, Western Australia, and the Nairne pyrite deposit, South Australia. At Kaltenberg, Turtmauntal, Valais, Switzerland. In the Kauniinvaara ultramafic lens, near Lake Kauniinlampi, eastern Finland. On Grasshopper Mountain, Tulameen, British Columbia, Canada.

**Name:** From the German *nickel*, *demon*, from a contraction of *kupfernickel*, or *Devil's copper*, as the mineral was believed to contain copper but yielded none.

**Type Material:** n.d.

**References:** (1) Ramdohr, P. (1968) The wide-spread paragenesis of ore minerals originating during serpentinization (with some data on new and insufficiently described minerals). *Geol. Rudn. Mestorozhd.*, 2, 32–43 (in Russian). (2) (1968) *Amer. Mineral.*, 53, 348 (abs. ref. 1). (3) Challis, G.A. (1975) Native nickel from the Jerry River, south Westland, New Zealand; an example of natural refining. *Mineral. Mag.*, 40, 247–251. (4) Hudson, D.R. and G.A. Travis (1981) A native nickel-heazlewoodite-ferroan trevorite assemblage from Mount Clifford, Western Australia. *Econ. Geol.*, 76, 1686–1697. (5) (1953) *NBS Circ.* 539, 1, 13.