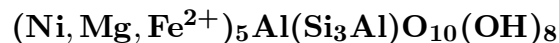


Nimite



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Crystal Data: Monoclinic. *Point Group:* $2/m$. As irregular grains, to 0.5 mm, in veins.

Physical Properties: *Cleavage:* {001}, pronounced. Hardness = 3 $D(\text{meas.}) = 3.123(2)$
 $D(\text{calc.}) = 3.20$

Optical Properties: Translucent. *Color:* Yellowish green.

Optical Class: Biaxial (-). *Pleochroism:* Faint; $X =$ yellow-green; $Z =$ apple-green.
 $\alpha = 1.637(2)$ $\beta = 1.647(2)$ $\gamma = \sim 1.647(2)$ $2V(\text{meas.}) = 15(2)^\circ$

Cell Data: *Space Group:* $C2/m$. $a = 5.320(1)$ $b = 9.214(3)$ $c = 14.302(3)$
 $\beta = 97.10(2)^\circ$ $Z = 2$

X-ray Powder Pattern: Bon Accord, South Africa.

7.10 (100), 3.55 (45), 14.2 (25), 4.74 (16), 2.841 (7), 2.582 (3), 2.003 (3)

Chemistry:

	(1)
SiO ₂	27.27
Al ₂ O ₃	15.21
Fe ₂ O ₃	4.35
Cr ₂ O ₃	< 0.01
FeO	2.78
MnO	0.06
CoO	0.38
NiO	29.49
MgO	10.13
CaO	0.38
H ₂ O ⁺	10.48
H ₂ O ⁻	0.27
Total	100.80

(1) Bon Accord, South Africa; corresponds to $(\text{Ni}_{2.62}\text{Mg}_{1.66}\text{Al}_{0.98}\text{Fe}_{0.36}^{3+}\text{Fe}_{0.26}^{2+}\text{Ca}_{0.04}\text{Co}_{0.04})_{\Sigma=5.96}$
 $(\text{Si}_{3.01}\text{Al}_{0.99})_{\Sigma=4.00}\text{O}_{10.29}(\text{OH})_{7.71}$.

Mineral Group: Chlorite group.

Occurrence: In a small tabular body of nickeliferous serpentinite, probably a contact deposit, along the junction of quartzite and an ultramafic intrusive; it appears to have formed at $\sim 730^\circ\text{C}$ and < 2 kbar during thermal metamorphism, possibly of a nickel-rich meteorite.

Association: Willemseite, nickeloan talc, ferroan trevorite, bonaccordite, violarite, millerite, reevesite, goethite.

Distribution: From three km west of the Scotia talc mine, Bon Accord area, Barberton, Transvaal, South Africa.

Name: An acronym for the National Institute of Metallurgy of South Africa.

Type Material: National Museum of Natural History, Washington, D.C., USA, 132463–132465.

References: (1) Hiemstra, S.A. and S.A. De Waal (1968) Nickel minerals from Barberton. II. Nimite, a nickelian chlorite. *Nat. Inst. Met. (South Africa) Res. Rep.* 344, 1–10. (2) (1969) *Amer. Mineral.*, 54, 1739–1740 (abs. ref. 1). (3) De Waal, S.A. (1970) Nickel minerals from Barberton, South Africa: II. Nimite, a nickel-rich chlorite. *Amer. Mineral.*, 55, 18–30.