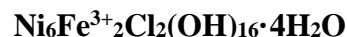


**Droninoite**

**Crystal Data:** Hexagonal. *Point Group:*  $\bar{3} 2/m, 3m$ , or  $32.$  As grains <1  $\mu\text{m}$ ; earthy aggregates.

**Physical Properties:** *Cleavage:* None observed. *Fracture:* n.d. *Tenacity:* n.d.  
Hardness = 1-1.5 D(meas.) = n.d. D(calc.) = 2.857

**Optical Properties:** Earthy. *Color:* Dark green to brown, dark gray-green. *Streak:* n.d.  
*Luster:* n.d.  
*Optical Class:*  $n(\text{average}) = 1.72(1)$  Nonpleochroic.

**Cell Data:** *Space Group:*  $R\bar{3} m, R3m$ , or  $R32.$   $a = 6.206(2)$   $c = 46.184(18)$   $Z = 6$

**X-ray Powder Pattern:** Dronino iron meteorite.  
7.76 (100), 3.88 (40), 2.64 (25), 1.965 (15), 1.546 (10), 1.536 (10), 1.337 (10b)

<b>Chemistry:</b>	(1)
	NiO
	36.45
	FeO
	12.15
	Fe <sub>2</sub> O <sub>3</sub>
	17.55
	H <sub>2</sub> O
	[23.78]
	Cl
	13.01
	<u>-O = Cl<sub>2</sub></u>
	2.94
	Total
	100.00

(1) Dronino iron meteorite; average electron microprobe analysis supplemented by IR spectroscopy, H<sub>2</sub>O by difference; corresponds to Ni<sub>2.16</sub>Cl<sub>1.62</sub>(OH)<sub>7.10</sub>·2.28H<sub>2</sub>O.

**Mineral Group:** Hydrotalcite supergroup, hydrotalcite group.

**Occurrence:** In a fragment of a weathered iron meteorite.

**Association:** Taenite, violarite, troilite, chromite, goethite, lepidocrocite, nickelbischofite, amorphous Fe<sup>3+</sup> hydroxides.

**Distribution:** From the Dronino iron meteorite.

**Name:** For the village of *Dronion*, Russia near which the sample was collected.

**Type Material:** A.E. Fersman Mineralogical Museum, RAS, Moscow, Russia (3676/1).

**References:** (1) Chukanov, N.V., I.V. Pekov, L.A. Levitskaya, and A.E. Zadov (2009) Droninoite, Ni<sub>3</sub>Fe<sup>3+</sup>Cl(OH)<sub>8</sub>·2H<sub>2</sub>O, a new hydrotalcite-group mineral species from the weathered Dronino meteorite. *Geology of Ore Deposits*, 51, 767-773.