

**Yaroslavite****Ca<sub>3</sub>Al<sub>2</sub>F<sub>10</sub>(OH)<sub>2</sub>•H<sub>2</sub>O**

©2001-2005 Mineral Data Publishing, version 1

**Crystal Data:** Orthorhombic. *Point Group:* n.d. As compact oval to spherical growths with radiating fibrous structure, to 3 mm.

**Physical Properties:** *Cleavage:* One direction, pinacoidal. *Fracture:* Irregular. Hardness = n.d. VHN = 264 D(meas.) = 3.09 D(calc.) = 3.15 Pale violet fluorescence under UV.

**Optical Properties:** Transparent. *Color:* White. *Luster:* Vitreous. *Optical Class:* Biaxial (+). *Orientation:* Elongation negative.  $\alpha = 1.413$   $\beta = \text{n.d.}$   $\gamma = 1.423$   $2V(\text{meas.}) = 74^\circ$

**Cell Data:** *Space Group:* n.d.  $a = 8.74(1)$   $b = 5.53(3)$   $c = 4.51(2)$   $Z = [1]$

**X-ray Powder Pattern:** Yaroslavsk deposit, Russia. 3.445 (10), 2.222 (8), 3.653 (7), 4.50 (6), 1.835 (6), 1.454 (6), 2.827 (5)

| <b>Chemistry:</b>              | (1)      | (2)    |
|--------------------------------|----------|--------|
| Al <sub>2</sub> O <sub>3</sub> | 21.55    | 24.50  |
| MgO                            | 0.24     |        |
| CaO                            | 42.77    | 40.42  |
| F                              | 46.90    | 45.64  |
| H <sub>2</sub> O <sup>+</sup>  | 8.97     | 8.66   |
| -O = F <sub>2</sub>            | 19.70    | 19.22  |
| Total                          | [100.73] | 100.00 |

(1) Yaroslavsk deposit, Russia; original total given as 100.77%; corresponds to Ca<sub>3.09</sub>Al<sub>1.76</sub>F<sub>10.08</sub>(OH)<sub>2</sub>•H<sub>2</sub>O. (2) Ca<sub>3</sub>Al<sub>2</sub>F<sub>10</sub>(OH)<sub>2</sub>•H<sub>2</sub>O.

**Occurrence:** From the oxidized zone of a banded sellaite-tourmaline-fluorite deposit.

**Association:** Sellaite, gearsutite, chukhrovite-(Ce).

**Distribution:** From Russia, in the Yaroslavsk tin deposit, 50 km south of Lake Khanka, Primorskiy Territory, Siberia.

**Name:** For its occurrence in the Yaroslavsk deposit, Russia.

**Type Material:** Vernadsky Geological Museum, Moscow, Russia.

**References:** (1) Novikova, M.I., G.A. Sidorenko, and M.N. Kuznetsova (1966) Yaroslavite – a new calcium aluminum fluoride. Zap. Vses. Mineral. Obshch., 95, 39–44 (in Russian). (2) (1966) Amer. Mineral., 51, 1546–1547 (abs. ref. 1).