## Orthochamosite $(Fe^{2+}, Mg, Fe^{3+})_5Al(Si_3Al)O_{10}(OH, O)_8$



**Crystal Data:** Orthorhombic, pseudohexagonal. *Point Group:* $3m$ (pseudohexagonal). Fine-grained.

**Physical Properties:** Hardness = ~2 D(meas.) = 3.078 D(calc.) = n.d.

**Optical Properties:** Translucent. *Color:* Pale green.
*Optical Class:* [Biaxial.] $n$ = 1.640–1.650 2V(meas.) = n.d.

**Cell Data:** *Space Group:* $C3m$ (pseudohexagonal). $a$ = 5.355 $b$ = 9.293 $c$ = 7.043 Z = 1

**X-ray Powder Pattern:** Ayrshire, Scotland.
7.04 (10), 3.513 (10), 2.514 (9), 1.552 (7), 2.137 (6), 2.673 (4), 1.765 (4)

**Chemistry:**

| | (1) | | (1) |
|---|---|---|---|
| $SiO_2$ | 22.03 | $Na_2O$ | 0.08 |
| $TiO_2$ | 3.63 | $K_2O$ | 0.03 |
| $Al_2O_3$ | 22.91 | $H_2O^+$ | 10.65 |
| $Fe_2O_3$ | 0.46 | $H_2O^-$ | 0.63 |
| $Cr_2O_3$ | 0.05 | $CO_2$ | 0.40 |
| FeO | 36.68 | $P_2O_5$ | 0.18 |
| MnO | 0.04 | $SO_3$ | 0.27 |
| MgO | 1.91 | org. | 0.03 |
| CaO | 0.07 | Total | 100.05 |

(1) Ayrshire, Scotland.

**Polymorphism & Series:** Dimorphous with chamosite.

**Mineral Group:** Chlorite group.

**Occurrence:** In a lateritic clay derived from the alteration of olivine basalts (Ayrshire, Scotland).

**Association:** Siderite, clay minerals.

**Distribution:** From coalfields in Ayrshire, Scotland. At Kaňk, near Kutna Horá, Czech Republic. From Sainte-Barbe, Meurthe-et-Moselle, France. In Sweden, at Mangruvan, Örebro. From Saalfeld, Thuringia, Germany.

**Name:** As an ORTHOhexagonal dimorph of *chamosite*.

**Type Material:** n.d.

**References:** (1) Brindley, G.W. (1951) The crystal structure of some chamosite minerals. Mineral. Mag., 29, 502–522. (2) Novák, F., J. Vtelensky, J. Losert, F. Kupa, and Z. Valcha (1958) The orthochamosite from the ore veins of Kank near Kutna Hora – a new specific mineral. Frantisek Slavik Memorial Vol., Czech Acad. Sci., 1957, 315–344 (in Czech with English summary). (3) (1958) Amer. Mineral., 43, 792 (abs. ref. 2).