

**Crystal Data:** Monoclinic. *Point Group:*  $2/m$ . As platelets to 100  $\mu\text{m}$ ; in twisted accordion-like aggregates.

**Physical Properties:** *Cleavage:* Excellent on  $\{001\}$ . *Fracture:* Irregular. *Tenacity:* Brittle. Hardness = n.d.  $D(\text{meas.}) = 2.89$   $D(\text{calc.}) = 2.84$

**Optical Properties:** Translucent. *Color:* Bright orange-red to dark maroon-red. *Streak:* Buff. *Luster:* Pearly.

*Optical Class:* Biaxial (-).  $\alpha = 1.60(1)$   $\beta = 1.65(1)$   $\gamma = 1.68(1)$   $2V(\text{meas.}) = \text{n.d.}$   $2V(\text{calc.}) = 74^\circ$

*Pleochroism:* Weak,  $X = \text{pale yellow}$ ,  $Y = \text{pale orange}$ ,  $Z = \text{orange-brown}$ . *Dispersion:* Weak.

*Orientation:*  $X \approx c$ ,  $Y \approx a$ ,  $Z \approx b$ .

**Cell Data:** *Space Group:*  $P2_1/m$ .  $a = 6.3710(13)$   $b = 11.020(2)$   $c = 13.016(3)$   $\beta = 99.34(3)^\circ$   
 $Z = 2$

**X-ray Powder Pattern:** Hagendorf-Süd pegmatite, Hagendorf, Oberpfalz, Bavaria, Germany. 12.900 (100), 2.763 (35), 4.297 (21), 6.072 (14), 8.375 (10), 5.567 (8), 3.221 (7)

<b>Chemistry:</b>	(1)
ZnO	25.40
MnO	5.28
MgO	0.52
Fe <sub>2</sub> O <sub>3</sub>	[10.30]
FeO	[7.40]
P <sub>2</sub> O <sub>5</sub>	27.20
<u>H<sub>2</sub>O</u>	<u>[23.10]</u>
Total	99.20

(1) Hagendorf-Süd pegmatite, Hagendorf, Oberpfalz, Bavaria, Germany; average of 7 electron microprobe analyses, FeO/Fe<sub>2</sub>O<sub>3</sub> and H<sub>2</sub>O from structural analysis; corresponding to  $(\text{Zn}_{2.5}\text{Mn}^{2+}_{0.6}\text{Fe}^{2+}_{0.8}\text{Mg}_{0.1})_{\Sigma=4.0}\text{Fe}^{3+}(\text{PO}_4)_3(\text{H}_2\text{O})_7 \cdot 2\text{H}_2\text{O}$ .

**Occurrence:** A secondary mineral probably formed from the hydrothermal reaction of zinc-bearing fluids with primary Fe-Mn phosphate minerals (triphylite or zwieselite).

**Association:** Mitridatite, plimerite, beraunite, schoonerite, parascholzite, robertsite.

**Distribution:** From the Cornelia mine open cut, Hagendorf-Süd pegmatite, Hagendorf, Oberpfalz, Bavaria, Germany.

**Name:** Honors Mathias von *Flurl* (1756-1823), the founder of mineralogical and geological studies in Bavaria and author of the first geological map of Bavaria.

**Type Material:** Museum Victoria, Melbourne, Victoria, Australia (M53238).

**References:** (1) Grey, I.E., E. Keck, W.G. Mumme, A. Pring, C.M. Macrae, R.W. Gable, and J.R. Price (2015) Flurlite,  $\text{Zn}_3\text{Mn}^{2+}\text{Fe}^{3+}(\text{PO}_4)_3(\text{OH})_2 \cdot 9\text{H}_2\text{O}$ , a new mineral from the Hagendorf Süd pegmatite, Bavaria, with a schoonerite-related structure. *Mineral. Mag.*, 79(5), 1175-1184.

(2) (2016) *Amer. Mineral.*, 101, 1921 (abs. ref. 1). (3) Kampf, A.R., I.E. Grey, C.M. Macrae, and E. Keck (2019) Manganflurlite,  $\text{ZnMn}^{2+}_3\text{Fe}^{3+}(\text{PO}_4)_3(\text{OH})_2(\text{H}_2\text{O})_7 \cdot 2\text{H}_2\text{O}$ , a new schoonerite-related mineral from the Hagendorf-Süd pegmatite. *Eur. J. Mineral.*, 31(1), 127-134. (4) (2021) *Amer. Mineral.*, 106, 1360-1361 (abs. ref. 3).