

Sailaufite

Crystal Data: Monoclinic. *Point Group:* *m*. As tightly intergrown tabular crystals, commonly mammillary, with aggregates typically <0.5 mm.

Physical Properties: *Cleavage:* Perfect {001}. *Fracture:* Uneven to conchoidal. *Tenacity:* Brittle. Hardness = ~3.5 D(meas.) = n.d. D(calc.) = 3.356 Slowly soluble in HCl.

Optical Properties: Transparent. *Color:* Dark red-brown to black. *Streak:* Brown. *Luster:* Vitreous. *Optical Class:* Biaxial (-). $\alpha = 1.757(5)$ $\beta = \gamma = >1.8$ $2V(\text{meas.}) = 32(3)^\circ$
Orientation: $X = \sim c^*$, $Y = b$, $Z = \sim a$.

Cell Data: *Space Group:* *Cm*. $a = 11.253(1)$ $b = 19.628(1)$ $c = 8.932(1)$ $\beta = 100.05(1)^\circ$ $Z = 6$

X-ray Powder Pattern: Hartkoppe hill, north of Ober-Sailauf, northwestern Bavaria, Germany. 8.7856 (100), 2.9342 (75), 2.2016 (55), 2.7702 (36), 5.6524 (27), 2.8169 (20), 2.5144 (20)

Chemistry:	(1)
Na ₂ O	1.76
CaO	11.80
Mn ₂ O ₃	38.20
<u>As₂O₅</u>	<u>34.92</u>
Total	86.68

(1) Hartkoppe hill, north of Ober-Sailauf, northwestern Bavaria, Germany; electron microprobe analysis, CO₃ groups and H₂O confirmed by IR and Raman spectroscopy and structure analysis; corresponds to (Ca_{1.35}Na_{0.42}□_x)Mn_{2.84}As_{2.13}O₁₀(CO₃)·3H₂O.

Occurrence: A late-stage hydrothermal product in veins of Mn ore in rhyolite.

Association: Hausmannite, arseniosiderite, kutnohorite, dolomite, quartz, calcite, Mn-calcite (Germany); manganlotharmeyerite, tilasite, calcite, braunite (Switzerland).

Distribution: From Hartkoppe hill, north of Ober-Sailauf, Spessart Mountains, northwestern Bavaria, Germany [TL]. At the Starlera deposit, Eastern Alps, Switzerland.

Name: Refers to the region near the type locality, *Sailauf*, Germany.

Type Material: Institute for Mineralogy and Crystallography, University of Vienna, Austria.

References: (1) Wildner, M., E. Tillmanns, M. Andrut, and J. Lorenz (2003) Sailaufite, (Ca,Na,□)₂Mn₃O₂(AsO₄)₂(CO₃)·3H₂O, a new mineral from Hartkoppe hill, Ober-Sailof (Spessart Mountains, Germany), and its relationship to mitridatite-group minerals and pararobertsite. *Eur. J. Mineral.*, 15, 555-564. (2) (2004) *Amer. Mineral.*, 89(1), 250-251 (abs. ref. 1).