

Crystal Data: Orthorhombic. *Point Group:* 222. As grains to 500 μm; as aggregates with other minerals, to 2 mm.

Physical Properties: *Cleavage:* None. *Tenacity:* n.d. *Fracture:* n.d. *Hardness =* n.d. *D(meas.) =* n.d. *D(calc.) =* 3.214

Optical Properties: Transparent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous. *Optical Class:* n.d.

Cell Data: *Space Group:* P2₁2₁2₁. *a =* 11.818(2) *b =* 11.993(3) *c =* 4.6872(8) *Z =* 4 [calculated from XRD data by analogy to synthetic SrAl₂(PO₄)₂F₂]

X-ray Powder Pattern: Hinomaru-Nago mine, Abu County, Yamaguchi Prefecture, Japan. 2.951 (100), 3.139 (86), 2.928 (80), 3.529 (43), 3.683 (32), 4.362 (25), 2.183 (24)

Chemistry:	(1)	(2)	(3)
P ₂ O ₅	45.04	42.78	44.08
Al ₂ O ₃	31.26	30.28	31.67
CaO	17.29	13.60	17.42
SrO	0.22	5.39	
F	11.24	[11.37]	11.80
H ₂ O	[0.31]	0	
- O = F ₂	4.73	[4.91]	4.97
Total	100.63	98.51	100.00

(1) Hinomaru-Nago mine, Kiyoo area, Abu, Abu County, Yamaguchi Prefecture, Japan; average of 21 electron microprobe analyses, H₂O calculated from stoichiometry; corresponds to (Ca_{0.99}Sr_{0.01})_{Σ=1.00}Al_{1.96}P_{2.03}O₈(F_{1.89}OH_{0.11}). (2) Do., average electron microprobe analyses, F calculated from stoichiometry; corresponds to (Ca_{0.81}Sr_{0.17})_{Σ=0.98}Al_{1.99}P_{2.01}O₈(F_{2.00}). (3) CaAl₂(PO₄)₂F₂.

Occurrence: In hydrothermally altered, felsic pyroclastic rocks, related to a biotite adamellite intrusion.

Association: Quartz, augelite, and/or trolleite, apatite, crandallite.

Distribution: From the Hinomaru-Nago mine, Kiyoo area, Abu, Abu County, Yamaguchi Prefecture, Japan.

Name: For the type locality, near the town of *Abu*, Abu County, Yamaguchi Prefecture, Japan.

Type Material: Kitakyushu Museum of Natural History and Human History, Kitakyushu, Japan (KMNHM000003).

References: (1) Satomi Enju and Seiichiro Uehara (2017) Abuite, CaAl₂(PO₄)₂F₂, a new mineral from the Hinomaru-Nago mine, Yamaguchi Prefecture, Japan. *J. Mineral. and Petrol. Sci.*, 112, 109-115.

(2) (2018) *Amer. Mineral.*, 103, 330 (abs. ref. 1).