

Crystal Data: Monoclinic. *Point Group:* 2/m. As radial and dendritic aggregates of bladed crystals to 200 μm , flattened on [001] and elongated along [010], displaying {001}, {100}, {010}, and {110}.

Physical Properties: *Cleavage:* n.d. *Tenacity:* Brittle. *Fracture:* Uneven. *Hardness:* = n.d. $D(\text{calc.}) = 3.22$

Optical Properties: Transparent. *Color:* Pale green. *Streak:* n.d. *Luster:* Vitreous. *Optical Class:* Biaxial (-). $\alpha = 1.698(2)$ $\beta = 1.725(3)$ $\gamma = 1.737(3)$ $2V(\text{meas.}) = 66(2)^\circ$ $2V(\text{calc.}) = 66.5^\circ$ *Pleochroism:* X = light bluish green, Y = bluish green, Z = bluish green. *Absorption:* $X < Y \approx Z$. *Dispersion:* Strong, $r > v$. *Orientation:* $Y = b, X \wedge c = 26^\circ$.

Cell Data: *Space Group:* $P2_1/m$. $a = 5.717(2)$ $b = 6.586(2)$ $c = 5.623(3)$ $\beta = 88.45(3)^\circ$ $Z = 2$

X-ray Powder Pattern: Sadamisaki Peninsula, Ehime Prefecture, Japan. 5.7155 (100), 2.5596 (62), 2.4929 (37), 2.8432 (28), 2.8547 (22), 2.0304 (17), 2.0016 (17)

Chemistry:	(1)
MnO	37.78
CuO	35.74
Cl	18.42
H ₂ O	[13.01]
- O = Cl	4.16
Total	100.79

(1) Sadamisaki Peninsula, Ehime Prefecture, Japan; average of 7 electron microprobe analyses supplemented by Raman spectroscopy, H₂O calculated from stoichiometry; corresponds to $\text{Mn}_{1.085}\text{Cu}_{0.915}\text{Cl}_{1.058}(\text{OH})_{2.942}$.

Mineral Group: Atacamite family.

Occurrence: A secondary mineral formed by reaction between seawater and primary ore minerals (hausmannite, tephroite, alleghanyite, rhodonite, rhodochrosite, copper, chalcocite) in greenschist facies, metamorphosed, volcanogenic massive sulfide deposits.

Association: Cuprite, kutnohorite, malachite, chrysocolla, misakiite.

Distribution: From the Sadamisaki Peninsula, Ehime Prefecture, Japan.

Name: For the Sea of Iyo, located near the Sadamisaki Peninsula, Japan.

Type Material: National Museum of Nature and Science, Tokyo, Japan (M43864) and the Mineral Sciences Department, Natural History Museum of Los Angeles County, Los Angeles, California, USA (66625).

References: (1) Nishio-Hamane, D., K. Momma, M. Ohnishi, N. Shimobayashi, R. Miyawaki, N. Tomita, R. Okuma, A.R. Kampf, and T. Minakawa (2017) Iyoite, MnCuCl(OH)₃ and misakiite, Cu₃Mn(OH)₆Cl₂: new members of the atacamite family from Sadamisaki Peninsula, Ehime Prefecture, Japan. *Mineral. Mag.*, 81(3), 485-498. (2) (2017) *Amer. Mineral.*, 102, 2342-2343 (abs. ref. 1).