

Crystal Data: Hexagonal. *Point Group:* 6mm. As poorly-formed crystals to 20 μm that form aggregates to 1 mm.

Physical Properties: *Cleavage:* n.d. *Fracture:* n.d. *Tenacity:* n.d. *Hardness* = 4-5
D(meas.) = n.d. D(calc.) = 5.85

Optical Properties: Opaque. *Color:* Iron-black; light yellowish gray with no internal reflections in reflected light. *Streak:* Black. *Luster:* Submetallic. *Pleochroism:* Medium, pale gray to yellowish gray. *Anisotropism:* Medium to strong, gray to pale gray.

Optical Class: n.d.

R₁-R₂: (470) 16.8-20.4, (546) 17.1-20.4, (589) 16.9-20.1, (650) 16.9-19.9

Cell Data: *Space Group:* P6₃mc. *a* = 5.8052(3) *c* = 10.2277(8) *Z* = 2

X-ray Powder Pattern: Shobu Fe-Mn deposit, near Ise City, Mie Prefecture, Japan.
2.523 (100), 3.585 (98), 2.441 (90), 5.11 (68), 1.588 (62), 2.023 (49), 1.659 (44)

Chemistry:	(1)	(2)
MnO	24.14	26.99
FeO	2.63	
<u>MoO₂</u>	<u>73.33</u>	<u>73.01</u>
Total	100.10	100.00

(1) Shobu Fe-Mn deposit, near Ise City, Mie Prefecture, Japan; average of 17 electron microprobe analyses; corresponding to (Mn_{1.79}Fe_{0.19})_{Σ=1.98}Mo_{3.01}O₈. (2) Mn₂Mo₃O₈.

Occurrence: In a stratiform ferro-manganese deposit, embedded in chert and closely associated with limestone and greenstone in an accretionary complex.

Association: Rhodochrosite, powellite, molybdenite.

Distribution: From the Shobu Fe-Mn deposit, near Ise City, Mie Prefecture, Japan.

Name: For the city in Japan near which the first specimens were collected.

Type Material: National Museum of Nature and Science, Tokyo, Japan (NSM M-43652).

References: (1) Nishio-Hamane, D., N. Tomita, T. Minakawa, and S. Inaba (2013) Iseite, Mn₂Mo₃O₈, a new mineral from Ise, Mie Prefecture, Japan. *Journal of Mineralogical and Petrological Sciences*, 108(1), 37-41. (2) (2015) *Amer. Mineral.*, 100, 1326 (abs. ref. 1).