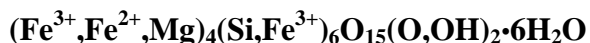


Ferrisepiolite

Crystal Data: Orthorhombic. *Point Group:* 2/m 2/m 2/m. As poorly crystallized, earthy, granular microlites or as well-crystallized, fibrous aggregates, to several cm.

Physical Properties: *Cleavage:* n.d. *Fracture:* n.d. *Tenacity:* n.d. *Hardness* = 2-2.5
D(meas.) = n.d. D(calc.) = 2.51 [fibrous] - 2.69 [granular]

Optical Properties: Earthy to translucent. *Color:* Brown to red-brown. *Streak:* Brown.
Luster: Non-metallic.

Optical Class: n.d. $\alpha' = 1.592$ - 1.620 $\gamma' = 1.628(8)$ *Orientation:* Z || c, X (or Y) || a.
Pleochroism: Distinct [fibrous], light red-brown (for light vibrating \perp to the fiber axis) to dark red-brown (for light vibrating || to the fiber axis).

Cell Data: *Space Group:* Pncn. $a = 13.638(9)$ $b = 27.011(30)$ $c = 5.233(8)$ [earthy];
 $a = 13.619(8)$ $b = 26.959(26)$ $c = 5.241(7)$ [fibrous] Z = 4

X-ray Powder Pattern: Saishitang deposit, Xinghai County, Qinghai Province, China. [Fibrous]
12.163 (100), 2.561 (45), 4.298 (35), 2.436 (31), 3.394 (29), 3.751 (15), 2.260 (14)

Chemistry:	(1)	(2)
SiO ₂	39.77	47.52
Fe ₂ O ₃	35.29	22.30
FeO	7.35	5.00
MgO	1.78	8.61
MnO	0.48	0.24
CaO	0.77	0.38
Na ₂ O	0.20	0.09
H ₂ O(calc.)	[14.10]	[15.34]
<u>H₂O(meas.)</u>	<u>14.73</u>	<u>15.47</u>
Total	99.74	99.48

(1) Saishitang deposit, Xinghai County, Qinghai Province, China; average of 4 electron microprobe and wet chemical analyses of earthy material, Fe³⁺/Fe²⁺ by wet chemical analysis, granular material; corresponding to (Fe³⁺_{2.64}Fe²⁺_{0.80}Mg_{0.35}Ca_{0.11}Mn_{0.05}Na_{0.05}) $\Sigma=4.00$ (Si_{5.18}Fe³⁺_{0.82}) $\Sigma=6.00$ O₁₅[O_{1.77}(OH)_{0.23}] $\Sigma=2.00$ •6H₂O. (2) Saishitang deposit, China, fibrous material; corresponding to (Fe³⁺_{1.84}Fe²⁺_{0.51}Mg_{1.56}Ca_{0.05}Mn_{0.02}Na_{0.02}) $\Sigma=4$ (Si_{5.79}Fe³⁺_{0.21}) $\Sigma=6.00$ O₁₅[O_{1.60}(OH)_{0.40}] $\Sigma=2.00$ •6H₂O.

Occurrence: In late-stage veinlets cutting copper-sulfide ores hosted in layered hedenbergite-andradite-actinolite-vesuvianite contact metamorphic rocks (skarns).

Association: Calcite, siderite.

Distribution: From the Saishitang copper skarn deposit, Xinghai County, Qinghai Province, China.

Name: As the Fe³⁺-dominant analog of *sepiolite*.

Type Material: Geological Museum of China, Beijing (M11786).

References: (1) Xiangping, G., X. Xiande, W. Xiangbin, Z. Guchang, L. Jianqing, H. Kenich, and H. Jiwu (2013) Ferrisepiolite: a new mineral from Saishitang copper skarn deposit in Xinghai County, Qinghai Province, China. *Eur. J. Mineral.*, 25(2), 177-186. (2) (2015) *Amer. Mineral.*, 100, 1324 (abs. ref. 1).