

Crystal Data: Triclinic. *Point Group:* 1. As tapering pseudohexagonal prisms elongated along [001], to 2 mm; also tabular. *Twinning:* Common as six-fold sector twins on {001} and polysynthetic twins || {010} prism edges.

Physical Properties: *Cleavage:* Perfect on {001}. *Tenacity:* Brittle. Hardness = 2.5–3
D(meas.) = 2.78 D(calc.) = 2.70

Optical Properties: Transparent. *Color:* Colorless, white, pink to lilac, or pale green.
Streak: White with pale green tint. *Luster:* Pearly to somewhat metallic on cleavage surfaces.
Optical Class: Biaxial (+). *Dispersion:* $r < v$. $\alpha = 1.5967(5)$ $\beta = 1.5986(5)$ $\gamma = 1.615(1)$
2V(meas.) = 18°

Cell Data: *Space Group:* C1. $a = 5.307(1)$ $b = 9.195(2)$ $c = 14.068(3)$ $\alpha = 90.09(2)^\circ$
 $\beta = 90.25(2)^\circ$ $\gamma = 89.96(2)^\circ$ $Z = [4]$

X-ray Powder Pattern: Saranovskoye deposits, Russia; 2H₂.
7.0 (100), 3.51 (100), 2.476 (80), 1.925 (70), 1.528 (60), 2.600 (40), 1.462 (35)

Chemistry:	(1)	(2)	(3)
SiO ₂	20.95	22.39	21.56
Al ₂ O ₃	35.21	33.73	36.58
FeO	8.28	7.49	
MnO	trace	0.34	
MgO	22.88	23.69	28.93
CaO	0.58		
H ₂ O	13.02	[12.36]	12.93
Total	100.92	[100.00]	100.00

(1) Chester, Massachusetts, USA. (2) Pensacola Mountains, Antarctica; by electron microprobe, H₂O by difference. (3) Mg₂Al(SiAl)O₅(OH)₄.

Polymorphism & Series: 2H₁, 2H₂, 6R polytypes.

Mineral Group: Kaolinite-serpentine group.

Occurrence: A product of low-grade metamorphism of Al, Mg-rich rocks.

Association: Vesuvianite, chlorite (Pensacola Mountains, Antarctica); magnetite, rutile, diasporite (Chester, Massachusetts, USA); grossular, calcite, diopside, clinozoisite (Black Lake, Canada).

Distribution: At the Emery mine, Chester, Hampden Co., Massachusetts, USA. From the Lake Asbestos mine, Black Lake, Quebec, Canada. In Antarctica, in the Dufek mafic massif, Pensacola Mountains. From the Postmasburg manganese deposits, Cape Province, South Africa. From Russia, at the Saranovskoye chromite deposits, Northern Ural Mountains. At Hällefors, Sweden. On Mt. Sobotka, Silesia, Poland.

Name: Honors James Ames, a mine owner.

Type Material: National Museum of Natural History, Washington, D.C., USA, 80715.

References: (1) Dana, E.S. (1892) Dana's system of mineralogy, (6th edition), 655.
(2) Deer, W.A., R.A. Howie, and J. Zussman (1963) Rock-forming minerals, v. 3, sheet silicates, 164–169. (3) Steadman, R. and P. M. Nuttall (1962) The crystal structure of amesite. *Acta Cryst.*, 15, 510. (4) Hall, S.H. and S.W. Bailey (1976) Amesite from Antarctica. *Amer. Mineral.*, 61, 497–499. (5) Hall, S.H. and S.W. Bailey (1979) Cation ordering pattern in amesite. *Clays and Clay Minerals*, 27, 241–247. (6) Anderson, C.S. and S.W. Bailey (1981) A new cation ordering pattern in amesite–2H₂. *Amer. Mineral.*, 66, 185–195. (7) Wiewióra, A., J.A. Rausell-Colom, and T. García-González (1991) The crystal structure of amesite from Mount Sobotka: a nonstandard polytype. *Amer. Mineral.*, 76, 647–652.

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