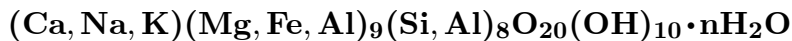


Corrensite

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Crystal Data: n.d. *Point Group:* n.d. As aggregates of clay-sized particles.**Physical Properties:** *Cleavage:* Perfect basal. *Tenacity:* Unctuous. *Hardness* = n.d. D(meas.) = n.d. D(calc.) = n.d.**Optical Properties:** Semitransparent. *Color:* Yellowish green. *Luster:* Dull, earthy. *Optical Class:* Biaxial (-). *Pleochroism:* X = yellowish ochre; Y = Z = brownish green. $\alpha = 1.560\text{--}1.585$ $\beta = \text{n.d.}$ $\gamma = 1.582\text{--}1.612$ 2V(meas.) = Small.**Cell Data:** *Space Group:* n.d. Z = n.d.**X-ray Powder Pattern:** Wellington Formation, Lyon Co., Kansas, USA; a 30 Å d-spacing changes to: air dried, 28–29; ethylene glycol, 32–33; on heating to ~500 °C, 23–29. 14.5 (100), 1.54 (90), 2.57 (80), 7.26 (70), 4.60 (60), 3.61 (50), 2.44 (50)

Chemistry:	(1)	(2)	(1)	(2)
SiO ₂	37.2	34.	MgO	18.9
TiO ₂	0.4		CaO	1.0
Al ₂ O ₃	15.5	13.	Na ₂ O	0.2
Fe ₂ O ₃	6.7	7.	K ₂ O	1.4
MnO	0.01		H ₂ O	18.4
			Total	99.7
				[100.]

(1) Sparta, Tennessee, USA; total Fe as Fe₂O₃, traces of Zr, V, and Cu determined spectrographically. (2) Do.; recalculated to 100% after removal of impurities.**Polymorphism & Series:** A 1:1 mixed-layer interstratification of trioctahedral chlorite with either a trioctahedral vermiculite or a trioctahedral smectite.**Occurrence:** From diverse sedimentary environments, which produced clastic, carbonate, volcanoclastic, or evaporite rocks. Also a hydrothermal alteration product, may be formed under retrograde diagenetic conditions; in soils.**Association:** Illite, chlorite, laumontite, gypsum, anhydrite, quartz, dolomite.**Distribution:** Probably fairly widely distributed; a few localities with material known to meet the definition are: from Zaiserweiher, three km from Maulbronn, Baden-Württemberg, and at the Hünstollen, near Holserode, Lower Saxony, Germany. At Wilkesley, near Audlem, Cheshire, and elsewhere in England. From Hillhouse quarry, Ayrshire, Scotland. In the USA, from Juniper Canyon, Moffat Co., Colorado; in the Wellington Formation, in Lyon Co., Kansas; in the County rock quarry, Sparta, White Co., Tennessee; and from a number of localities in west-central Montana, as between Bowman's Corner and Wolf Creek, Lewis and Clark Co. From Packwood, Western Australia. From the Yamanaka area, Shimane Prefecture, and in the Yoshino mine, Yamagata Prefecture, Japan.**Name:** For Professor Carl Wilhelm Correns (1893–1980), Director of the Sedimentary Petrography Institute, Göttingen University, Göttingen, Germany.**Type Material:** National Museum of Natural History, Washington, D.C., USA, 107373, 162265.**References:** (1) Lippmann, F. (1954) Über einen Keuperton von Zaisersweiher bei Maulbronn. Heidelberg. Beitr. Mineral. Petrog., 4, 130–134 (in German). (2) (1955) Amer. Mineral., 40, 137 (abs. ref. 1). (3) Peterson, M.N.A. (1961) Expandable chloritic clay minerals from Upper Mississippian carbonate rocks of the Cumberland Plateau in Tennessee. Amer. Mineral., 46, 1245–1269. (4) Kopp, O.C. and S.M. Fallis (1974) Corrensite in the Wellington Formation, Lyons, Kansas. Amer. Mineral., 59, 623–624. (5) Yoshimura, T. and S. Okubo (1988) Refractive indices and birefringence of corrensite and the related minerals. Mineral. J. (Japan), 14, 145–149. (6) Reynolds, R.C., Jr. (1988) Mixed layer chlorite minerals. In: S.W. Bailey, Ed., Hydrous phyllosilicates. Rev. Mineral. 19, MSA, 601–629. (7) Shau, Y.-H., D.R. Peacor, and E.J. Essene (1990) Corrensite and mixed-layer chlorite/corrensite in metabasalt from northern Taiwan: TEM/AEM, EMPA, XRD, and optical studies. Contr. Mineral. Petrol., 105, 123–142.

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