

Overite**CaMgAl(PO₄)₂(OH)•4H₂O**

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Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. Crystals are platy to lathlike, flattened on {010} and elongated along [001], to 4 mm; forms include {010}, {100}, {110}, {121}, {021}. Commonly in subparallel aggregates, massive.

Physical Properties: *Cleavage:* {010}, perfect; {100}, poor. Hardness = 3.5–4
D(meas.) = 2.53 D(calc.) = 2.51

Optical Properties: Semitransparent. *Color:* Light apple-green to colorless; in transmitted light, colorless. *Luster:* Vitreous.

Optical Class: Biaxial (-). *Orientation:* $X = c$; $Y = a$; $Z = b$. *Dispersion:* $r > v$, weak.
 $\alpha = 1.568(2)$ $\beta = 1.574(2)$ $\gamma = 1.580(2)$ $2V(\text{meas.}) = 75(10)^\circ$

Cell Data: *Space Group:* $Pbca$. $a = 14.723(14)$ $b = 18.746(16)$ $c = 7.107(4)$ $Z = 8$

X-ray Powder Pattern: Fairfield, Utah, USA. (ICDD 16-157).
2.832 (100), 9.4 (80), 5.29 (60), 2.889 (60), 3.70 (50), 1.975 (50), 3.42 (40)

Chemistry:	(1)	(2)
P ₂ O ₅	38.9	38.32
Al ₂ O ₃	13.7	13.77
MgO	11.2	10.88
CaO	16.1	15.14
H ₂ O	22.04	21.89
Total	101.9	100.00

(1) Fairfield, Utah, USA; by electron microprobe, H₂O separately determined.

(2) CaMgAl(PO₄)₂(OH)•4H₂O.

Mineral Group: Overite group.

Occurrence: In phosphate nodules (Fairfield, Utah, USA); in a complex granite pegmatite (Tanco pegmatite, Canada).

Association: Variscite, apatite (Fairfield, Utah, USA).

Distribution: Found at the Little Green Monster mine, Clay Canyon, about nine km west of Fairfield, Utah Co., Utah, USA. In the Tanco pegmatite, Bernic Lake, Manitoba, Canada.

Name: To honor Edwin J. Over (1903–1963), mineral collector, Colorado Springs, Colorado, USA, who first found the mineral.

Type Material: Harvard University, Cambridge, Massachusetts, 95482; National Museum of Natural History, Washington, D.C., USA, R7898.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 979–980. (2) Moore, P.B. (1974) I. Jahnsite, segelerite, and robertsite, three new transition metal phosphate species. II. Redefinition of overite, an isotype of segelerite. III. Isotypy of robertsite, mitridatite, and arseniosiderite. *Amer. Mineral.*, 59, 48–59. (3) Moore, P.B. and T. Araki (1977) Overite, segelerite, and jahnsite: a study in combinatorial polymorphism. *Amer. Mineral.*, 62, 692–702.