Lawrencite
(Fe\textsuperscript{2+}, Ni)Cl\textsubscript{2}

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Crystal Data: Hexagonal. Point Group: \textit{3} \textit{2}/\textit{m}. As massive efflorescences.


Optical Properties: Translucent. Color: Green to brown; fresh synthetic material is white. Optical Class: Uniaxial (−); weak birefringence. \(\omega = 1.567(5)\) \(\epsilon = \text{n.d.}\)

Cell Data: Space Group: \textit{R\overline{3}m}. \(a = 3.58\) \(c = 17.5\) \(Z = 3\)

X-ray Powder Pattern: Synthetic FeCl\textsubscript{2}. (ICDD 1-1106). 2.54 (100), 5.9 (63), 1.800 (63), 3.07 (30), 1.467 (20), 1.138 (18), 1.953 (13)

Chemistry: Analyses of H\textsubscript{2}O extracts of iron meteorites appear to agree with FeCl\textsubscript{2} with additional nickel; modern work does not support the species however, finding only akaganéite as the principal alteration product.

Occurrence: In iron meteorites, presumed to be a terrestrial alteration of meteoritic iron. Also as a volcanic sublimate.

Association: Iron, molysite.

Distribution: Noted in the Tazewell, Ovifak, Canyon Diablo, and other iron meteorites. At Vesuvius, Campania, Italy.

Name: Honors John Lawrence Smith (1818–1883), American chemist, mineralogist, and student of meteorites, who discovered the mineral.