Lawrencite  
\((\text{Fe}^{2+}, \text{Ni})\text{Cl}_2\)

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


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

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

X-ray Powder Pattern:  Synthetic FeCl\(_2\).  (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\(_2\)O extracts of iron meteorites appear to agree with FeCl\(_2\) 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.