Irhtemite

\[ \text{Ca}_4\text{Mg}(\text{AsO}_4)_2(\text{HAsO}_3\text{OH})_2 \cdot 4\text{H}_2\text{O} \]

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Crystal Data: Monoclinic. Point Group: n.d. Commonly as crystals, in spherulitic aggregates, to 1 mm; may be powdery.


\[ \alpha = 1.634 \quad \beta = \text{n.d.} \quad \gamma = 1.642 \quad (\gamma') \quad 2V(\text{meas.}) = \text{n.d.} \]

Cell Data: Space Group: n.d. 
\[ a = 16.736(5) \quad b = 9.483(3) \quad c = 10.840(5) \]
\[ \beta = 97°15'(20') \quad Z = 4 \]

X-ray Powder Pattern: Irhtem mine, Morocco.
2.97 (10), 3.24 (9), 2.82 (9), 5.08 (4), 3.68 (4), 9.42 (3), 6.85 (3)

Chemistry:

\[
\begin{array}{ll}
\text{As}_2\text{O}_5 & 55.5 \quad 56.45 \\
\text{MgO} & 4.4 \quad 4.95 \\
\text{CaO} & 28.2 \quad 27.54 \\
\text{H}_2\text{O} & 11.5 \quad 11.06 \\
\hline
\text{Total} & 99.6 \quad 100.00 \\
\end{array}
\]

(1) Salsigne mine, 15 km north of Carcassone, Aude, France; artificially dehydrated picropharmacolite, corresponding to \( \text{Ca}_{4.16}\text{Mg}_{0.90}\text{H}_2(\text{AsO}_4)_4 \cdot 5.28\text{H}_2\text{O} \). (2) \( \text{Ca}_4\text{MgH}_2(\text{AsO}_4)_4 \cdot 4\text{H}_2\text{O} \).

Occurrence: Probably a dehydration product of picropharmacolite in hydrothermal ore deposits.

Association: Sainfeldite, erythrite (Irhtem mine, Morocco).

Distribution: From the Irhtem (Ightem) mine, Bou Azzer district, Anti-Atlas Mountains, Morocco. In Germany, in the Bauhaus district, Richelsdorf Mountains, Hesse.

Name: For its occurrence in the Irhtem (Ightem) mine, Morocco.

Type Material: National School of Mines, Paris, France.