Cummingtonite  
(Mg, Fe$^{2+}$)$_2$(Mg, Fe$^{2+}$)$_5$Si$_8$O$_{22}$(OH)$_2$

Crystal Data: Monoclinic. Point Group: 2/m. As bladed, columnar, or fibrous crystals and fibrous aggregates, to 20 cm. Twinning: Simple or multiple twinning || {100}.

Physical Properties: Cleavage: Good on {110}, intersecting at 54° and 126°. Tenacity: Brittle. Hardness = 5–6 D(meas.) = 3.1–3.6 D(calc.) = 3.3


Cell Data: Space Group: C2/m. a = 9.516(5) b = 18.139(10) c = 5.311 β = 102.1° Z = 2

X-ray Powder Pattern: Labrador City, Canada. 8.30 (100b), 3.06 (90), 3.26 (80), 2.754 (70), 1.403 (60), 9.12 (50), 2.623 (50)

Chemistry: 

<table>
<thead>
<tr>
<th>Silica</th>
<th>TiO$_2$</th>
<th>FeO</th>
<th>MnO</th>
<th>MgO</th>
<th>Na$_2$O</th>
<th>H$_2$O$^+$</th>
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</thead>
<tbody>
<tr>
<td>51.53</td>
<td>0.31</td>
<td>16.91</td>
<td>0.22</td>
<td>20.84</td>
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<td>53.84</td>
<td>0.01</td>
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<td>17.44</td>
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<td>0.00</td>
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<td>0.41</td>
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<td>0.64</td>
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</tbody>
</table>

Total 100.43 99.28

Polymorphism & Series: Forms a series with magnesio-cummingtonite and grunerite.

Mineral Group: Amphibole (Fe–Mn–Mg) group: 0.3 Mg/(Mg + Fe$^{2+}$) 0.69; (Ca + Na)$_B$ < 1.34; Li < 1.0; Mn < 0.5.

Occurrence: Commonly in medium-grade regionally metamorphosed rocks; characteristic of metamorphosed iron formations; a late-stage mineral in some gabbros and norites; rarely in silicic volcanic rocks.


Name: For the occurrence at Cummington, Massachusetts, USA.