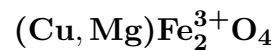


## Cuprospinel



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**Crystal Data:** Cubic. *Point Group:*  $4/m\bar{3}2/m$ . As irregular grains, to  $\sim 0.1$  mm; these may form lamellar intergrowths with hematite.

**Physical Properties:** Hardness = n.d. VHN = 920–1081, 985 average (100 g load).  
D(meas.) = n.d. D(calc.) = [5.25]

**Optical Properties:** Opaque. *Color:* Black; in reflected light, gray. *Streak:* Black.  
*Optical Class:* Isotropic.

R: (470) 22.7, (546) 21.7, (589) 21.0, (650) 20.0

**Cell Data:** *Space Group:*  $Fd\bar{3}m$ .  $a = 8.369$   $Z = 8$

**X-ray Powder Pattern:** Baie Verte, Canada.  
2.517 (10), 1.479 (6), 2.96 (5), 1.613 (4), 4.79 (3), 2.100 (3), 1.087 (3)

<b>Chemistry:</b>	(1)
Al <sub>2</sub> O <sub>3</sub>	2.6
Fe <sub>2</sub> O <sub>3</sub>	65.7
FeO	1.7
MnO	0.2
CoO	0.6
CuO	27.8
ZnO	0.7
MgO	1.8
Total	101.1

(1) Baie Verte, Canada; by electron microprobe, Fe<sup>2+</sup>:Fe<sup>3+</sup> calculated to satisfy the spinel structure; corresponding to  $(\text{Cu}_{0.80}\text{Mg}_{0.10}\text{Fe}_{0.05}^{2+}\text{Co}_{0.02}\text{Zn}_{0.02}\text{Mn}_{0.01})_{\Sigma=1.00}(\text{Fe}_{1.89}^{3+}\text{Al}_{0.11})_{\Sigma=2.00}\text{O}_4$ .

**Mineral Group:** Spinel group.

**Occurrence:** In highly oxidized material, once spontaneously ignited, in an ore dump.

**Association:** Pyrite, chalcopyrite, sphalerite, pyrrhotite, hematite.

**Distribution:** On the property of Consolidated Rambler Mines Limited, near Baie Verte, Newfoundland, Canada.

**Name:** For the mineral's copper, CUPRum, content and having the *spinel* structure.

**Type Material:** National Museum of Natural History, Washington, D.C., USA, 128673.

**References:** (1) Nickel, E.H. (1973) The new mineral cuprospinel (CuFe<sub>2</sub>O<sub>4</sub>) and other spinels from an oxidized ore dump at Baie Verte, Newfoundland. *Can. Mineral.*, 11, 1003–1007.  
(2) (1974) *Amer. Mineral.*, 59, 381 (abs. ref. 1).