(c)2001-2005 Mineral Data Publishing, version 1

**Crystal Data:** Hexagonal (by analogy to pyroaurite). *Point Group:* n.d. Scaly crystals, to 1 mm, in rosettes and whorllike aggregates.

**Physical Properties:** Cleavage: Perfect on  $\{0001\}$ . Tenacity: Friable. Hardness = "Soft". D(meas.) = 2.12 D(calc.) = 1.95

Optical Properties: Translucent. Color: White, pale pink. Luster: Pearly. Optical Class: Uniaxial (–) or biaxial (–). Pleochroism: Weak; white to very pale pink. Orientation: Length-slow.  $\omega = 1.52$   $\epsilon = 1.51$  2V(meas.) = Small.

**Cell Data:** Space Group: n.d. a = 10.698 c = 22.545 Z = 2

**X-ray Powder Pattern:** Mount Keith, Australia. 11.30 (10), 5.63 (8), 3.765 (6), 1.554 (5), 2.645 (4), 2.545 (4), 1.505 (3)

Chemistry:

	(1)
$SO_3$	14.7
$CO_2$	3.9
$Al_2O_3$	2.6
$\mathrm{Fe_2O_3}$	8.3
$\mathrm{Cr}_2\mathrm{O}_3$	6.1
NiO	6.1
CuO	0.1
MgO	31.7
${\rm H_2O}$	30.6
Total	104.1

(1) Mount Keith deposit, Australia; by electron microprobe, average of 20 analyses, total Fe as Fe<sub>2</sub>O<sub>3</sub>, CO<sub>2</sub> and H<sub>2</sub>O by microchemical techniques; with (OH)<sup>1-</sup>:H<sub>2</sub>O calculated for charge balance, then corresponds to  $(Mg_{10.76}Ni_{1.12}Cu_{0.02})_{\Sigma=11.90}(Fe_{1.42}Cr_{1.10}Al_{0.71})_{\Sigma=3.23}$  [(SO<sub>4</sub>)<sub>2.52</sub>(CO<sub>3</sub>)<sub>1.21</sub>]<sub> $\Sigma=3.73$ </sub>(OH)<sub>26.07</sub>•10.20H<sub>2</sub>O.

**Occurrence:** Rare in a vein in serpentinite in a disseminated nickel sulfide deposit, formed by low-temperature alteration of stichtite by sulfate-rich solutions.

Association: Stichtite, morenosite, hexahydrite, pyroaurite, pyrite, magnetite, magnesite.

**Distribution:** From the Mount Keith nickel deposit, 400 km north-northwest of Kalgoorlie, Western Australia.

**Name:** For the Mount Keith deposit, Australia, in which it occurs.

**Type Material:** Western Australian Museum, Perth, Australia, M72.1991; The Natural History Museum, London, England.

**References:** (1) Hudson, D.R. and M. Bussell (1981) Mountkeithite, a new pyroaurite-related mineral with an expanded interlayer containing exchangeable MgSO<sub>4</sub>. Mineral. Mag., 44, 345–350. (2) (1982) Amer. Mineral., 67, 624 (abs. ref. 1).