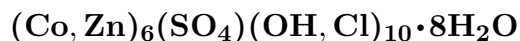


Thérèsemagnanite



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Crystal Data: Hexagonal. *Point Group:* n.d. Crystals are very thin, tabular on {0001}, aggregated in radial spherules, to 0.2 mm.

Physical Properties: *Cleavage:* Perfect on {0001}. *Fracture:* Irregular. *Tenacity:* "Fragile". Hardness = "Very soft". D(meas.) = 2.52(2) D(calc.) = 2.48

Optical Properties: Transparent. *Color:* Pink to pale pink. *Streak:* Pale pink.

Luster: Pearly.

Optical Class: Uniaxial (-). *Pleochroism:* Strong; O = pink; E = pale pink. $\omega = 1.568(2)$

$\epsilon = 1.542(2)$

Cell Data: *Space Group:* n.d. $a = 8.363(8)$ $c = 26.18(7)$ $Z = 3$

X-ray Powder Pattern: Cap Garonne mine, France.

13.1 (100), 2.527 (90), 2.681 (40), 3.523 (30), 6.552 (25), 4.177 (25), 2.736 (25)

Chemistry:

	(1)
SO ₃	10.54
CoO	32.95
NiO	3.18
CuO	0.16
ZnO	20.42
Cl	5.65
H ₂ O	28.40
-O = Cl ₂	1.28
Total	100.02

(1) Cap Garonne mine, France; by electron microprobe, average of five analyses, H₂O by CHN analyzer; corresponds to $(\text{Co}_{3.47}\text{Zn}_{1.98}\text{Ni}_{0.34}\text{Cu}_{0.02})_{\Sigma=5.81}(\text{SO}_4)_{1.04}[(\text{OH})_{8.29}\text{Cl}_{1.25}]_{\Sigma=9.54} \cdot 8.3\text{H}_2\text{O}$.

Occurrence: A secondary mineral in the oxidized portions of a polymetallic sulfide deposit.

Association: Anglesite, antlerite, cobaltoan-nickeloan ktenasite, cerussite, brochantite, covellite, tennantite, gersdorffite, guarinoite, rutile, quartz.

Distribution: From the Cap Garonne mine, near le Pradet, Var, France.

Name: To honor Thérèse Magnan (1918–), Toulon, France, former mathematics teacher, and President of the Association of Friends of the Mine of Cap Garonne.

Type Material: Mineralogy Department, Natural History Museum, Geneva, Switzerland, 435/86.

References: (1) Sarp, H. (1993) Guarinoite $(\text{Zn, Co, Ni})_6(\text{SO}_4)(\text{OH, Cl})_{10} \cdot 5\text{H}_2\text{O}$ et therèsemagnanite $(\text{Co, Zn, Ni})_6(\text{SO}_4)(\text{OH, Cl})_{10} \cdot 8\text{H}_2\text{O}$, deux nouveaux minéraux de la Mine de Cap Garonne, Var, France. Archs. Sci. Genève, 46(1), 37–44 (in French with English abs.).

(2) (1993) Amer. Mineral., 78, 1314–1315 (abs. ref. 1).