Albertiniite $Fe^{2+}(SO_3)\cdot 3H_2O$

Crystal Data: Monoclinic. *Point Group*: 2/*m*. As prismatic crystals to 0.7 mm, sometimes with rounded corners and edges.

Physical Properties: *Cleavage*: Perfect on {010}. *Fracture*: Irregular. *Tenacity*: Brittle. Hardness = n.d. D(meas.) = n.d. D(calc.) = 2.458

Optical Properties: Transparent. *Color*: Colorless to yellowish. *Streak*: n.d. *Luster*: Vitreous. *Optical Class*: Biaxial (+). α = 1.612(2) β = 1.618(2) γ = 1.632(2) 2V(meas.) = ~ 40° 2V(calc.) = 66° *Pleochroism*: None. *Orientation*: Optical axis parallel to (010).

Cell Data: Space Group: $P2_1/n$. a = 6.633(1) b = 8.831(1) c = 8.773(1) β = 96.106(8)° Z = 4

X-ray Powder Pattern: Monte Falò mine,Verbano-Cusio-Ossola Province, Italy. 4.721 (100), 3.539 (93), 5.533 (27), 6.167 (14), 4.998 (14), 2.830 (14), 4.353 (12)

Chemistry:	(1)	(2)
SO_2	32.88	33.73
FeO	29.38	37.82
MnO	10.58	
CaO	0.02	
MgO	0.01	
Na_2O	0.05	
H_2O	[27.07]	28.45
Total	100.00	100.00

(1) Monte Falò mine,Verbano-Cusio-Ossola Province, Italy; average of 16 electron microprobe analyses supplemented by IR spectroscopy, H_2O calculated by difference; corresponding to $(Fe^{2+}_{0.774}Mn^{2+}_{0.282}Ca_{0.001}Mg_{0.001}Na_{0.003})_{\Sigma=1.061}(S_{0.971}O_3)\cdot 2.84H_2O$. (2) $Fe^{2+}(SO_3)\cdot 3H_2O$.

Occurrence: Coating fractures as an intermediate product of oxidation between iron sulfides (pyrite and arsenopyrite) and sulfates.

Association: Stolzite, pyromorphite, hinsdalite, plumbogummite, gibbsite, scheelite, jarosite.

Distribution: On the mine dumps at the Monte Falò Pb-Zn mine, near Coiromonte, Armeno Municipality, Verbano-Cusio-Ossola Province, Italy.

Name: Honors Claudio Albertini, an Italian mineral collector and expert on the systematic mineralogy of the Alps and pegmatites.

Type Material: Natural History Museum, Milan, Italy (MM 38728) and the Laboratory of Mineralogy, University of Liège, Belgium (20393).

References: (1) Vignola, P., G.D. Gatta, N. Rotiroti, P. Gentile, F. Hatert, M. Baijot, D. Bersani, A. Risplendente, and A. Pavese (2016) Albertiniite, $Fe^{2+}(SO_3)\cdot 3H_2O$, a new sulfite mineral species from the Monte Falò Pb-Zn mine, Coiromonte, Armeno Municipality, Verbano Cusio Ossola Province, Piedmont, Italy. Mineral. Mag., 80(6), 985-994. (2) (2017) Amer. Mineral., 102, 466 (abs. ref. 1).