Santite  \( \text{KB}_5\text{O}_8\cdot 4\text{H}_2\text{O} \)

crystal Data: Orthorhombic. Point Group: \( mm2 \). Anhedral crystals, to 0.06 mm, typically in aggregates; as an efflorescent crust.

Physical Properties: Hardness = n.d. \( D(\text{meas.}) = \text{n.d.} \) \( D(\text{calc.}) = 1.74 \) Soluble in \( \text{H}_2\text{O} \).

Optical Properties: Transparent. Color: Colorless. Optical Class: Biaxial (+). Orientation: \( X = c; Y = b; Z = a. \) \( \alpha = 1.422(2) \) \( \beta = 1.435(2) \) \( \gamma = 1.480(1) \) \( 2V(\text{meas.}) = 70^\circ \)

Cell Data: Space Group: \( \text{Aba}_2 \). \( a = 11.10(2) \) \( b = 11.18(2) \) \( c = 9.08(2) \) \( Z = 4 \)

X-ray Powder Pattern: Synthetic. 3.36 (100), 3.52 (84), 5.60 (71), 2.767 (50), 2.181 (21), 3.28 (18), 5.93 (15)

Chemistry: (1) Larderello, Italy; partial analysis of a mixture was estimated to contain larderellite 66%, santite 25%, sassolite 9%; identification depends on agreement of optics, X-ray powder pattern, and unit cell size with synthetic material.

Occurrence: Very rare, formed in fumaroles, probably a product of reaction between potassium-rich solutions and larderellite (Larderello, Italy); as a deposit around a thermal spring (Eagle Borax Spring, California, USA).

Association: Larderellite, sassolite (Larderello, Italy); aristarainite, hydroboracite, kaliborite, mcallisterite, pinnoite, rivadavite (Eagle Borax Spring, California, USA).

Distribution: From Larderello, Val di Cecina, Tuscany, Italy. In the USA, at the Eagle Borax Spring, Furnace Creek district, Death Valley, Inyo Co., California.

Name: Honors Giorgio Santi (1746–1822), Italian chemist and Director, Museum of Natural History, University of Pisa, Pisa, Italy.

Type Material: Mineralogical Museum, University of Pisa, Pisa, Italy.