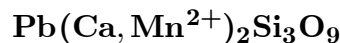


Margarosanite



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Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As masses of thin plates, lamellar on {010}, closely packed together, to several cm, showing rhombic outlines resulting from the {100} and {001} cleavages.

Physical Properties: *Cleavage:* Perfect on {010}, good on {100}, fair on {001}. *Hardness* = 2.5–3 *D*(meas.) = 3.99–4.33 *D*(calc.) = 4.30 Blue, rarely pink to red UV fluorescence.

Optical Properties: Transparent. *Color:* Colorless to white; in thin section, colorless. *Streak:* White. *Luster:* Pearly on cleavage.

Optical Class: Biaxial (-). *Dispersion:* $r < v$, strong. $\alpha = 1.727\text{--}1.730$ $\beta = 1.771$ $\gamma = 1.795\text{--}1.798$ $2V(\text{meas.}) = 78^\circ$

Cell Data: *Space Group:* $P\bar{1}$. $a = 6.77(1)$ $b = 9.64(1)$ $c = 6.75(1)$ $\alpha = 110^\circ 35'$ $\beta = 102^\circ 0'$ $\gamma = 88^\circ 30'$ $Z = 2$

X-ray Powder Pattern: Franklin, New Jersey, USA.

2.978 (100), 3.028 (50), 2.673 (40), 5.08 (30), 3.196 (30), 3.156 (30), 2.688 (30)

Chemistry:

	(1)	(2)	(3)
SiO ₂	33.71	34.9	34.72
FeO		0.1	
MnO	1.14	0.6	2.17
ZnO		0.6	
PbO	43.50	44.9	41.74
MgO			0.20
CaO	21.73	20.5	20.28
BaO			0.69
H ₂ O	0.58		0.10
Total	100.66	101.6	99.90

(1) Franklin, New Jersey, USA; corresponds to $\text{Pb}_{1.00}(\text{Ca}_{1.99}\text{Mn}_{0.08})_{\Sigma=2.07}\text{Si}_{2.88}\text{O}_9$. (2) Do.; by electron microprobe, corresponding to $\text{Pb}_{1.04}(\text{Ca}_{1.88}\text{Mn}_{0.04}\text{Zn}_{0.04}\text{Fe}_{0.01})_{\Sigma=1.97}\text{Si}_{3.00}\text{O}_9$. (3) Långban, Sweden; corresponds to $\text{Pb}_{1.04}(\text{Ca}_{1.86}\text{Mn}_{0.16}\text{Mg}_{0.02}\text{Ba}_{0.02})_{\Sigma=2.06}\text{Si}_{2.97}\text{O}_9$.

Occurrence: In a metamorphosed stratiform zinc deposit (Franklin, New Jersey, USA).

Association: Nasonite, minehillite, almandine, hancockite, roeblingite, franklinite, willemite, rhodonite, manganaxinite, datolite, prehnite, manganian biotite, johannsenite, barite (Franklin, New Jersey, USA).

Distribution: From Franklin, Sussex Co., New Jersey, USA. At Långban and Jakobsberg, Värmland, Sweden.

Name: From the Greek for *pearl* and *tablet*, in reference to its luster and lamellar habit.

Type Material: Yale University, New Haven, Connecticut, USA, 2.5943.

References: (1) Ford, W.E. and W.M. Bradley (1916) Margarosanite, a new lead-calcium silicate from Franklin, N.J. *Amer. J. Sci.*, 42, 159–162. (2) (1916) *Amer. Mineral.*, 1, 87–88 (abs. ref. 1). (3) Armstrong, R.L. (1963) New data on margarosanite. *Amer. Mineral.*, 48, 698–703. (4) Glasser, F.P. and L.S.D. Glasser (1964) Additional notes on margarosanite. *Amer. Mineral.*, 49, 781–782. (5) Freed, B. and D.R. Peacor (1969) Determination and refinement of the crystal structure of margarosanite, $\text{PbCa}_2\text{Si}_3\text{O}_9$. *Zeits. Krist.*, 128, 213–228. (6) Dunn, P.J. (1985) The lead silicates from Franklin, New Jersey: occurrence and composition. *Mineral. Mag.*, 49, 721–727. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of Mineral Data Publishing.