

Crystal Data: Monoclinic. *Point Group:* 2/m. As grains, composed of two exsolved phases, copper-rich and copper-poor, in almost parallel intergrowths; in aggregates, to 2 mm.

Physical Properties: Hardness = n.d. VHN = 210–221 (50–100 g load). D(meas.) = n.d. D(calc.) = 6.66–6.70

Optical Properties: Opaque. *Color:* Gray; in reflected light, pale gray. *Luster:* Metallic. *Optical Class:* Biaxial. *Anisotropism:* Pronounced, in shades of gray. R₁–R₂: 43.2 (546)

Cell Data: *Space Group:* C2/m. *a* = 13.35–13.83 *b* = 4.04–4.05 *c* = 14.71–14.96 *β* = 97.5°–100.5° *Z* = 4

X-ray Powder Pattern: Băița, Romania; composite intergrowth. 2.850 (100), 3.63 (50), 3.485 (50), 2.272 (40), 2.968 (30), 2.117 (30), 2.010 (30)

Chemistry:	(1)	(2)	(3)
Ag	5.37	4.17	5.50
Pb	3.50	8.20	12.93
Cu	4.37	6.47	0.53
Te	0.69	0.50	
Se	0.40	0.48	0.17
Sb	0.09	0.12	
Bi	68.81	63.33	62.70
S	17.75	17.42	17.97
Total	100.98	100.69	99.80

(1) Băița, Romania; by electron microprobe, average of three analyses; copper-poor phase corresponding to (Cu_{2.16}Ag_{1.56})_{Σ=3.72}(Bi_{10.38}Pb_{0.54}Sb_{0.20})_{Σ=11.12}(S_{17.44}Te_{0.18}Se_{0.16})_{Σ=17.78}. (2) Do.; by electron microprobe, average of three analyses; copper-rich phase corresponding to (Cu_{3.24}Ag_{1.24})_{Σ=4.48}(Bi_{9.64}Pb_{1.26}Sb_{0.04})_{Σ=10.94}(S_{17.28}Se_{0.20}Te_{0.12})_{Σ=17.60}. (3) Felbertal mine, Austria; by electron microprobe, average of three analyses; copper-deficient phase corresponding to (Ag_{1.70}Cu_{0.28})_{Σ=1.98}(Bi_{9.96}Pb_{2.08})_{Σ=12.04}(S_{18.62}Se_{0.08})_{Σ=18.70}.

Mineral Group: Benjaminite group.

Occurrence: Among other bismuth-bearing sulfosalts in a dolomite skarn (Băița, Romania); in a hydrothermal tungsten deposit in amphibolites and felsic gneisses, in discordant quartz veins (Felbertal mine, Austria).

Association: Chalcopyrite, hammarite, bismuthinite, krupkaite–lindströmite, tetradymite, wittichenite, padërite, miharaite, bismuth, gold, scheelite, molybdenite, galena, sphalerite, chalcocite, diopside, chondrodite, grossular–andradite (Băița, Romania); galenobismutite, bismuth, hammarite, lindströmite, gold, chalcopyrite, pyrrhotite (Felbertal mine, Austria).

Distribution: In Romania, from Băița (Rézbánya) [TL] and at Ocna de Fier (Morávicza; Vaskó). In the Felbertal tungsten mine, Salzburg, Austria.

Name: To honor Professor Emil Makovicky (1941–), Slovak–Danish mineralogist, University of Copenhagen, Copenhagen, Denmark.

Type Material: Charles University, Prague; National Museum, Prague, Czech Republic.

References: (1) Žak, L., J. Frýda, W.G. Mumme, and W.H. Paar (1994) Makovickyite, Ag_{1.5}Bi_{5.5}S₉, from Băița Bihorului, Romania: the ⁴P natural mineral member of the pavonite series. *Neues Jahrb. Mineral., Abh.*, 168, 147–169. (2) (1995) *Amer. Mineral.*, 80, 1329 (abs. ref. 1).

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.