

Crystal Data: Cubic. *Point Group:* $\bar{4}3m$. Crystals cubic, to 2.5 cm, but most commonly massive.

Physical Properties: *Cleavage:* Perfect on {001}. *Hardness* = 3.5 *VHN* = 135–157 (100 g load). *D*(meas.) = 3.86–4.00 *D*(calc.) = 3.94

Optical Properties: Opaque. *Color:* Bronze-gold; pale yellow in polished section.

Streak: Black. *Luster:* Metallic, tarnishes to dull. *Anisotropism:* Weak, rarely.

R: (400) 28.1, (420) 26.4, (440) 24.4, (460) 24.1, (480) 27.6, (500) 31.4, (520) 30.6, (540) 28.4, (560) 27.7, (580) 29.4, (600) 30.0, (620) 30.8, (640) 29.5, (660) 27.9, (680) 26.7, (700) 25.9

Cell Data: *Space Group:* $P\bar{4}3m$. *a* = 5.3912(7) *Z* = 1

X-ray Powder Pattern: Mercur district, Utah, USA.

5.44 (100), 1.910 (80), 3.12 (50), 2.40 (40), 1.634 (40), 1.101 (40), 1.804 (30)

Chemistry:

	(1)	(2)	(3)
Cu	47.97	51.6	51.55
V	12.15	14.3	13.77
S	31.66	34.4	34.68
rem.	7.49		
Total	99.27	100.3	100.00

(1) Burra-Burra, South Australia; average of two analyses, remainder (Fe, Al)₂O₃ 1.04% and gangue 6.45%; corresponds to Cu_{3.06}V_{0.97}S_{4.00}. (2) Mercur, Utah, USA; by electron microprobe, corresponds to Cu_{3.03}V_{1.05}S_{4.00}. (3) Cu₃VS₄.

Polymorphism & Series: Forms a series with arsenosulvanite.

Occurrence: In hydrothermal copper deposits which contain vanadium as a primary sulfide.

Association: Chalcopyrite, chalcocite, digenite, covellite, chrysocolla, malachite, azurite, atacamite, vésigniéite, mottramite, gypsum (Burra-Burra, Australia); yushkinite, cadmian sphalerite, fluorite (Pay-Khoy, Russia).

Distribution: From the Edelweiss mine, Burra district, South Australia [TL]. At Tsumeb, Namibia. From Kipushi, Katanga Province, Congo (Shaba Province, Zaire). At the Oyu Tolgoi porphyry Cu–Au deposit, Gobi Desert, Mongolia. In the USA, in the Thorpe Hills, and near Mercur, Tooele Co., Utah; in the Redhouse Barite mine, near Golconda, Humboldt Co., Nevada. On the Rough claims, north of Sifton Pass, British Columbia, Canada. At Pay-Khoy, in the middle stream of the Silova-Yakha River, Russia. From the Ceragiola quarry, near Carrara, Tuscany, Italy. At Bor, Serbia. In the Assarel and Medet deposits, Bulgaria. From Ponte Castiola, Corsica, France. On Koksín Hill, near Mítov, Czech Republic.

Name: For the composition: SULfur and VANadium.

Type Material: Natural History Museum, Paris, France, 101.112, 101.370.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 384–385. (2) Trojer, F.J. (1966) Refinement of the structure of sulvanite. *Amer. Mineral.*, 51, 890–894. (3) Berry, L.G. and R.M. Thompson (1962) X-ray powder data for the ore minerals. *Geol. Soc. Amer. Mem.* 85, 57. (4) Ramdohr, P. (1969) The ore minerals and their intergrowths, (3rd edition), 566–567. (5) Criddle, A.J. and C.J. Stanley, Eds. (1993) Quantitative data file for ore minerals, 3rd ed. Chapman & Hall, London, 546.

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.