

**Crystal Data:** Cubic. *Point Group:*  $2/m\bar{3}$ . As zoned crystals, to 1 cm, and as inclusions in clausenthalite.

**Physical Properties:** Hardness = n.d. VHN = 248 (25 g load). D(meas.) = n.d. D(calc.) = 6.53

**Optical Properties:** Opaque. *Color:* Gray. *Luster:* Metallic. *Anisotropism:* Zones rich in Co and Ni are anisotropic in yellow-brown tints.

R: (400) 33.8, (420) 34.2, (440) 34.4, (460) 34.4, (480) 34.2, (500) 33.6, (520) 33.0, (540) 32.3, (560) 31.4, (580) 30.6, (600) 29.7, (620) 29.0, (640) 28.3, (660) 28.0, (680) 28.0, (700) 28.4

R: (400) 38.1, (420) 38.5, (440) 38.8, (460) 39.2, (480) 39.3, (500) 39.3, (520) 39.2, (540) 39.0, (560) 38.7, (580) 38.4, (600) 38.0, (620) 37.7, (640) 37.3, (660) 37.0, (680) 36.7, (700) 36.5

**Cell Data:** *Space Group:* Pa $\bar{3}$ .  $a = 6.056$   $Z = 4$

**X-ray Powder Pattern:** Petrovice, Czech Republic.

2.712 (100), 3.023 (90), 2.477 (80), 1.827 (60), 1.678 (40), 1.166 (40), 1.618 (30)

Chemistry:	(1)	(2)	(3)	(4)
Cu	20.6	17.9	24.7	28.69
Co	4.8	2.2	2.4	
Ni	1.5	8.9	1.3	
Fe	0.6	0.1	0.2	
Hg	0.2			
Se	69.5	71.7	71.5	71.31
Total	97.2	100.8	100.1	100.00

(1) Petrovice, Czech Republic; by electron microprobe, corresponding to (Cu<sub>0.74</sub>Co<sub>0.18</sub>Ni<sub>0.06</sub>Fe<sub>0.02</sub>)<sub>Σ=1.00</sub>Se<sub>2.00</sub>. (2) El Dragon mine, Bolivia; by electron microprobe, corresponding to (Cu<sub>0.62</sub>Ni<sub>0.33</sub>Ni<sub>0.08</sub>)<sub>Σ=1.03</sub>Se<sub>2.00</sub>. (3) Slavkovice, Czech Republic; by electron microprobe, corresponding to (Cu<sub>0.86</sub>Co<sub>0.09</sub>Ni<sub>0.05</sub>Fe<sub>0.01</sub>)<sub>Σ=1.01</sub>Se<sub>2.00</sub>. (4) CuSe<sub>2</sub>.

**Mineral Group:** Pyrite group.

**Occurrence:** Of hydrothermal origin.

**Association:** Clausenthalite, eskebornite, uraninite, hematite, ferroselite, bukovite, umangite, berzelianite, chalcopyrite, goethite.

**Distribution:** In the Czech Republic, from the Petrovice uranium deposit, near Žďár [TL] and at Slavkovice. In the El Dragón mine, Potosí, Bolivia. From Tuminico, Sierra de Cacho, and at Los Llantenes, La Rioja Province, Argentina.

**Name:** For Dr. Tomáš Kruťa (1906– ), Director of the Mineralogy Laboratory, Moravian Museum, Brno, Czech Republic.

**Type Material:** National School of Mines, Paris, France.

**References:** (1) Johan, Z., P. Picot, R. Pierrot, and M. Kvaček (1972) La krutaite, CuSe<sub>2</sub>, un nouveau minéral du groupe de la pyrite. Bull. Soc. fr. Minéral., 95, 475–481 (in French with English abs.). (2) (1974) Amer. Mineral., 59, 210 (abs. ref. 1). (3) Grundmann, G., G. Lehrberger, and G. Schnorrer-Köhler (1990) The El Dragón mine, Potosí, Bolivia. Mineral. Record, 21, 133–146, esp. 137–138. (4) Yashunsky, Y.V., S.D. Rasulova, G.I. Necheljustov, E.G. Rjabeva, and S.A. Batulin (1996) New data on Krutaite, CuSe<sub>2</sub>. Zap. Vses. Mineral. Obshch., 125.3, 60–66. (5) Criddle, A.J. and C.J. Stanley, Eds. (1993) Quantitative data file for ore minerals, 3rd ed. Chapman & Hall, London, 303, 304.

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.