

Dimorphite

As₄S₃

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Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. Dipyramidal by development of {111}; {101} and {110} are also well developed. Commonly in groups of tiny individuals.

Physical Properties: *Tenacity:* Brittle. Hardness = 1.5 VHN = n.d. D(meas.) = 3.58 D(calc.) = 3.60 Burns without residue.

Optical Properties: Transparent. *Color:* Yellow-orange. *Luster:* Adamantine. R₁–R₂: n.d.

Cell Data: *Space Group:* $Pnma$. $a = 11.24$ $b = 9.90$ $c = 6.56$ $Z = 4$

X-ray Powder Pattern: Solfatara, Italy.
4.89 (100), 2.14 (50), 1.620 (50), 3.91 (40), 5.64 (30), 3.07 (25), 2.94 (25)

Chemistry:		(1)	(2)
	As	75.45	75.70
	S	24.55	24.30
	Total	100.00	100.00

(1) Solfatara, Italy. (2) As₄S₃.

Occurrence: Deposited at a fumarolic vent at temperatures of about 70 °C–80 °C (Solfatara, Italy); formed in an ore deposit under secondary conditions (Chile).

Association: Realgar, sal ammoniac, sulfur, various sulfates (Solfatara, Italy); orpiment (Chile).

Distribution: In Italy, in Campania, from Solfatara di Pozzuoli, Campi Flegri, near Naples [TL], and on Vesuvius. In the Alacrán Ag–As–Sb mine, Pampa Larga district, Copiapó, Chile.

Name: From the Greek for *two* and *form*, in reference to the two forms in which the species was thought to occur.

Type Material: Natural History Museum, Paris, 50.588, 99.492; The Natural History Museum, London, England, 1937,1432.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 197–198. (2) Clark, A.H. (1972) Mineralogy of the Alacrán deposit, Pampa Larga, Chile. Neues Jahrb. Mineral., Monatsh., 423–429. (3) Frankel, L.S. and T. Zoltai (1973) Crystallography of dimorphites. Zeits. Krist., 138, 161–166.