

$\text{Cu}_{10}\text{Sb}_3$	<i>hP26</i>	(176) $P6_3/m - h^4c$
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Cu_{3.3}Sb ht [1]; Au₁₀In₃ hexagonal [2]

Structural features: Close-packed Cu₁₀Sb₃ layers in h stacking.

Günzel E., Schubert K. (1958) [1]

Cu₁₀Sb₃

$a = 0.992$, $c = 0.43197$ nm, $c/a = 0.435$, $V = 0.3681$ nm³, $Z = 2$

site	Wyck.	sym.	x	y	z	occ.	atomic environment
Cu1	6 <i>h</i>	<i>m</i> ..	0.029	0.444	$\frac{1}{4}$		anticuboctahedron Cu ₈ Sb ₄
Cu2	6 <i>h</i>	<i>m</i> ..	0.169	0.056	$\frac{1}{4}$		anticuboctahedron Cu ₈ Sb ₄
Sb3	6 <i>h</i>	<i>m</i> ..	0.259	0.363	$\frac{1}{4}$		anticuboctahedron Cu ₁₂
Cu4	6 <i>h</i>	<i>m</i> ..	0.505	0.294	$\frac{1}{4}$		anticuboctahedron Cu ₉ Sb ₃
Cu5	2 <i>c</i>	-6..	$\frac{1}{3}$	$\frac{2}{3}$	$\frac{1}{4}$		anticuboctahedron Cu ₉ Sb ₃

Transformation from published data (*P*-3): origin shift 0 0 $\frac{1}{2}$

Experimental: powder, film, X-rays

Remarks: Phase stable at $533 < T < 633$ K. The description in space group (147) *P*-3 in [1] does not take into consideration all symmetry elements of the proposed structure (see [3]); Au₁₀In₃ was reported in space group (176) $P6_3/m$. In table 3 of [1] the z -coordinate of former Cu₄ is misprinted as $\frac{1}{4}$ instead of $\frac{3}{4}$ (checked on interatomic distances).

References: [1] Günzel E., Schubert K. (1958), *Z. Metallkd.* 49, 124-133. [2] Jandali M.Z., Rajasekharan T., Schubert K. (1982), *Z. Metallkd.* 73, 463-467. [3] Cenzual K., Gelato L.M., Penzo M., Parthé E. (1991), *Acta Crystallogr. B* 47, 433-439.