Co_3H	*hP*8	(186) $P6_3mc$ – b^3a

$CoH_{0.34}$ [1]
Structural features: Close-packed Co layers in h stacking; H occupies all octahedral voids in every third interlayer.

Fedotov V.K. et al. (1999) [1]
Co_3H
a = 0.2555, c = 1.2406 nm, c/a = 4.856, V = 0.0701 nm^3, Z = 2

site	Wyck.	sym.	x	y	z	occ.	atomic environment
Co1	2*b*	3*m*.	$^1/_3$	$^2/_3$	0.08767		non-coplanar triangle H_3
Co2	2*b*	3*m*.	$^1/_3$	$^2/_3$	0.41167		non-coplanar triangle H_3
Co3	2*b*	3*m*.	$^1/_3$	$^2/_3$	0.75		anticuboctahedron Co_{12}
H4	2*a*	3*m*.	0	0	0.0		octahedron Co_6

Transformation from published data ($P6_3$): origin shift 0 0 0.33333
Experimental: powder, diffractometer, neutrons, R_p = 0.090, T = 120 K

Remarks: Phase stable at T < 230-260 K; homogeneity range CoH_x, 0.34 < x < 0.5. The description in space group (173) $P6_3$ in [1] does not take into consideration all symmetry elements of the proposed structure. Ideal structure ignoring partial H disorder.
References: [1] Fedotov V.K., Antonov V.E., Antonova T.E., Bokhenkov E.L., Dorner B., Grosse G., Wagner F.E. (1999), J. Alloys Compd. 291, 1-7.