

1807
ED

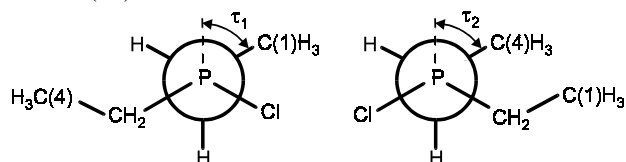
C₄H₁₀ClP

Chlorodiethylphosphine

C₁ (two conformers)
H₃C-CH₂-PCl-CH₂-CH₃

$r^a)$	$\text{\AA}^b)$	$\theta^a)$	deg ^{b)}
P-Cl	2.051(3)	Cl-P-C	98.9(6)
P-C	1.818(6)	P-C-C	112.6(12)
C-C	1.518(6)	C-P-C	100.3(33)
C-H	1.092(6)	C-C-H	110 ^{c)}
		$\tau_1^d)$	67.5(99)
		$\tau_2^d)$	58.2(51)

The measurements were made at room temperature.



^{a)} Unidentified, possibly r_a and θ_a .

^{b)} Three times the estimated standard errors.

^{c)} Assumed.

^{d)} τ_1 and τ_2 are the torsional angles of the ethyl groups about the P-C bonds, C-P-C-C (see figure); $\tau = 0^\circ$ corresponds to the *syn* conformation of the C-C(methyl) bond with respect to the lone electron pair of the P atom, and the positive sign corresponds to a clockwise rotation viewed from P to C. In other words, one C-C bond is in the *gauche* conformation, while the other C-C bond is in the *anti* conformation, to the P-Cl bond.

The second conformer (possibly $\tau_1 \approx \pm 60^\circ$ and $\tau_2 = 180^\circ$), if present, does not exceed 30%.

Naumov, V.A., Tuzova, L.L., Zaripov, N.M.: Zh. Strukt. Khim. **18** (1977) 67; Russ. J. Struct. Chem. (Engl. Transl.) **18** (1977) 54.