

1398
MW

C₃H₉N

Trimethylamine
N,N-Dimethylmethanamine

C_{3v}
N(CH₃)₃

r_s	Å	θ_s	deg
C–N	1.451(3)	C–N–C	110.9(6)
C–H(s)	1.109(8)	N–C–H(s)	111.7(4)
C–H(a)	1.088(8)	N–C–H(a)	110.1(5)
		H(a)–C–H(s)	108.1(7)
		H(a)–C–H(a)	108.6(8)

Atom	a_s [Å]	b_s [Å]	c_s [Å]
N	0.0	0.0	0.3598
C(1)	0.0	1.3803	–0.0875
H(s)	0.0	1.4528	–1.1944
H(a)	±0.8834	1.8945	0.2852

The CH₃ groups are tilted 1.3° towards the apex at the N atom. The CH₃ groups are staggered with respect to the opposite C–N bonds.

Wollrab, J.E., Laurie, V.W.: J. Chem. Phys. **51** (1969) 1580.

ED

C_{3v} assumed

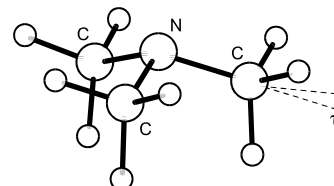
r_g	Å ^{a)}		
N–C	1.458(1)		
C–H	1.114(2)		

r_α^0	Å ^{a)}	θ_α^0	deg ^{a)}
N–C	1.456(1)	C–N–C	110.6(2)
C–H	1.093(2)	H–C–H	108.4(5)
		τ (methyl) ^{b)}	5.7(14)

Local C_{3v} symmetry was assumed for methyl groups.
The nozzle was at room temperature.

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

^{b)} Tilt angle between the N–C bond and the C₃ axis of each methyl group; positive values when methyl group tilts towards the lone pair at N atom (see figure).



Fujiwara, H., Egawa, T., Konaka, S.: J. Mol. Struct. **344** (1995) 217.
See also: Beagley, B., Medwid, A.R.: J. Mol. Struct. **38** (1977) 229.