



>>Entry Name: *N,N'*-Diphenyl-1,4-benzenediamine, 9Cl

Synonym(s): *N,N'*-Diphenyl-*p*-phenylenediamine, 8Cl. *p*-Phenylenediphenyldiamine. 1,4-Dianilinobenzene. Diafen

CAS Registry Number: 74-31-7

Structure by analogy with *N,N'*-Diphenyl-1,2-benzenediamine, [FBM59-N](#)

Molecular Formula: C₁₈H₁₆N₂

Molecular Weight: 260.338

Accurate Mass: 260.131348

Percentage Composition: C 83.05%; H 6.19%; N 10.76%

Use/Importance: Antioxidant used chiefly in manuf. of rubber. Oxidative homopolym. gives an elec.-conducting polymer. Monomer for polyamides

Physical Description: Grey cryst.

Melting Point: Mp 147° (143-144°)

Boiling Point: Bp_{0.5} 220-225°

Solubility: Insol. H₂O; sol. Me₂CO, C₆H₆

Hazard & Toxicity: Eye irritant. LD₅₀ (rat, orl) 2370 mg/kg. Exp. reprod. and teratogenic effects

Aldrich: 29226-5

Fluka: 43150

>>Derivative: *N,N'*-Di-Me

CAS Registry Number: 17754-68-6

Molecular Formula: C₂₀H₂₀N₂

Molecular Weight: 288.391

Accurate Mass: 288.162648

Percentage Composition: C 83.30%; H 6.99%; N 9.71%

Physical Description: Cryst. (EtOH or by subl.)

Melting Point: Mp 158.3-158.7°

References:

Aldrich Library of 13C and 1H FT NMR Spectra, 1992, **2**, 546B, (*nmr*)

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Pedersen, C.J., *J.A.C.S.*, 1957, **79**, 2295, (*synth, uv*)

Milliaresi, E.E., *Zh. Obshch. Khim.*, 1972, **42**, 672, (*uv*)

Pover'eva, Z.P. *et al.*, *CA*, 1977, **87**, 61115j, (*cryst struct*)

Imai, M. *et al.*, *J. Polym. Sci., Polym. Chem. Ed.*, 1984, **22**, 1291, (*polyamides*)

Hagiwara, T. *et al.*, *Synth. Met.*, 1987, **18**, 317, (*homopolym*)

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