



>>Entry Name: Azobenzene, 8Cl

Synonym(s): Diphenyldiazene, 9Cl. Benzeneazobenzene

CAS Registry Number: 103-33-3

PhN=NPh

Molecular Formula: C₁₂H₁₀N₂

Molecular Weight: 182.224

Accurate Mass: 182.084398

Percentage Composition: C 79.10%; H 5.53%; N 15.37%

Use/Importance: Acaricide. Used in glasshouse as a smoke. Now superseded

pKa Value: pK_a -2.48 (25°, H₂SO₄ aq.)

Hazard & Toxicity: LD₅₀ (rat, orl) 1000 mg/kg. Exp. carcinogen

Aldrich: 15073-8

Supelco: R43-0040

>>Variant: (E)-form

CAS Registry Number: 17082-12-1

Molecular Formula: C₁₂H₁₀N₂

Molecular Weight: 182.224

Accurate Mass: 182.084398

Percentage Composition: C 79.10%; H 5.53%; N 15.37%

Physical Description: Orange cryst. (petrol)

Melting Point: Mp 68°

>>Derivative: N-Oxide

see Azoxybenzene, [FFS22-D](#)

>>Variant: (Z)-form

CAS Registry Number: 1080-16-6

Molecular Formula: C₁₂H₁₀N₂

Molecular Weight: 182.224

Accurate Mass: 182.084398

Percentage Composition: C 79.10%; H 5.53%; N 15.37%

Source/Synthesis: Readily prod. by photoisomerisation

Melting Point: Mp 71°

>>Derivative: N-Oxide

see Azoxybenzene, [FFS22-D](#)

References:

- Aldrich Library of FT-IR Spectra*, 1st edn., 1985, **2**, 965A, (*ir*)
Aldrich Library of NMR Spectra, 2nd edn., 1983, **2**, 978C, (*nmr*)
Cook, A.H., *J.C.S.*, 1938, 876, (*synth*)
Lüttke, W., *Annalen*, 1963, **668**, 184, (*ir*)
Pratt, E.F. *et al.*, *J.O.C.*, 1964, **29**, 1540, (*synth*)
Kmicieka, J.E., *J.O.C.*, 1965, **30**, 2014, (*synth*)
Mostad, A. *et al.*, *Acta Chem. Scand.*, 1971, **25**, 3561, (*struct*)
IARC Monog., 1975, **8**, 75; *Suppl.* 7, 58, (*rev, tox*)
Chippendale, A.M. *et al.*, *J.C.S. Perkin I*, 1981, 1031, (*cmr*)
Lycka, A., *Coll. Czech. Chem. Comm.*, 1982, **47**, 1112, (*cmr, nmr*)
Bouwstra, J.A. *et al.*, *Acta Cryst. C*, 1983, **39**, 1121, (*cryst struct*)
Wasylishen, R.E. *et al.*, *Can. J. Chem.*, 1989, **67**, 1219, (*N-15 nmr*)
Pesticide Manual, 9th edn., 1991, 570
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, ASL250