



>>Entry Name: Aniline, 8Cl

Synonym(s): Benzenamine, 9Cl. Aminobenzene. Phenylamine

CAS Registry Number: 62-53-3

Related CAS Registry Numbers(s): 542-16-5 4165-61-1 17032-11-0

PhNH₂

Molecular Formula: C₆H₇N

Molecular Weight: 93.128

Accurate Mass: 93.057849

Percentage Composition: C 77.38%; H 7.58%; N 15.04%

Source/Synthesis: Manuf. mainly by cat. liquid-phase or vapour-phase hydrogenation of Nitrobenzene [HCV82-L](#)

Use/Importance: Used in manuf. of rubber chemicals, agricultural chemicals and dyestuffs and in prodn. of MDI group of isocyanates used in polyurethanes. USA production in 1999 708 000 tons. Used for extraction of anionic complexes of Nb, V, Ta with polyphenols. Reacts with formaldehyde to form thermoplastic resins. Chem. or electrochem. oxidn. gives elec. conducting polyaniline (aniline black)

Physical Description: Liq. which darkens on exp. to light

Melting Point: Mp -6°

Boiling Point: Bp 184°. Bp₉ 71°

Solubility: Mod. sol. H₂O (3.5% at 25°). Misc. most org. solvs.

Density: d₁₅¹⁵ 1.0268

pKa Value: pK_a 4.6 (25°)

Refractive Index: n_D²⁰ 1.5855

Other Data: Vp 0.7 mmHg (25°). Steam-volatile

Hazard & Toxicity: Fl. p. 76°, autoignition temp. 530°. Reacts vigorously with some oxidants. Skin and eye irritant. Skin absorption or inhalation can produce symptoms of methaemoglobinaemia leading to cyanosis and subsequently producing weakness, dizziness, progressing to ataxia, dyspnea on mild exertion and tachycardia. Similar effects observed from skin absorption of simple analogues. Exp. neoplastic agent. OES: long-term 2 ppm (sk)

Aldrich: 24228-4

Fluka: 10410

Sigma: A1042

Supelco: R43-2005

>>Derivative: Hydrochloride

Synonym(s): Aniline hydrochloride. Aniline salt

CAS Registry Number: 142-04-1

Use/Importance: Important dyestuffs intermed.

Physical Description: Cryst.

Melting Point: Mp 198°

Boiling Point: Bp 245°

Solubility: Sol. H₂O, EtOH

Hazard & Toxicity: Fl. p. 193° (oc). Skin and eye irritant. LD₅₀ (rat, orl) 840 mg/kg. Exp. teratogenic effects

Aldrich: 13331-0

Fluka: 10415

Sigma: A8524

>>Derivative: Picrate

CAS Registry Number: 7262-20-6

Physical Description: Yellow cryst.

Melting Point: Mp 185° (180°)