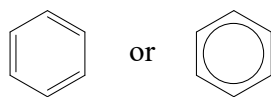




>>Entry Name: Benzene

ENTRY UNDER REVIEW

Synonym(s): Cyclohexatriene. [6]Annulene



CAS Registry Number: 71-43-2

Related CAS Registry Numbers(s): 1076-43-3 1120-89-4 34504-50-2

Molecular Formula: C₆H₆

Molecular Weight: 78.113

Accurate Mass: 78.04695

Percentage Composition: C 92.26%; H 7.74%

Source/Synthesis: Found in petroleum and coal fractions. Important toxic component of vehicle emissions, largely arising from unchanged benzene present in gasoline

Use/Importance: Industrial solvent, use declining due to toxicity. Chemical feedstock used in manuf. of ethylbenzene, isopropylbenzene, cyclohexane, aniline, maleic anhydride, alkylbenzenes for detergents. High-octane gasoline component. Important industrial chemical, USA production in 1999 8.33 million tons

Physical Description: Liq.

Melting Point: Mp 5.53°

Boiling Point: Bp 80.8° (80.103°, 80.12°, 80.36°, 80.49°)

Solubility: V. spar. sol. H₂O; misc. most org. solvs.

Density: d₄²⁰ 0.879

Refractive Index: n_D²⁰ 1.5014

Other Data: The name Benzene should not be confused with Benzol(e) (coml. products consisting mainly of benzene) or with Benzin(e) (obsolescent name for low-boiling petroleum spirit). The German name for Benzene is however Benzol. First isol. by Faraday in 18251

Hazard & Toxicity: Highly flammable, fl. p. –11°. Human carcinogen. Direct skin contact with liq. causes erythema and vesiculation; prolonged contact can cause dermatitis. Acute exposure by ingestion or inhalation produces the symptoms of CNS depression, and depression of haematopoietic system. Prolonged or repeated exposure injures the bone marrow (often irreversibly) and depletes erythrocytes, leukocytes or platelets producing headache, fatigue, anorexia. More severe exposure is associated with development of pancytopenia and aplastic anaemia. Various forms of leukaemia are implicated in occup. exposures. MEL: long-term 5 ppm

Aldrich: 31995-3

Fluka: 12560

Sigma: B0917

Supelco: R49-5070

>>Derivative: Picrate

Melting Point: Mp 82-84°

Other Data: Readily dissociates on exp. to air

References: