BENZENE

DESCRIPTION

Benzene is the basis of a group of hydrocarbons referred to as 'aromatics.' It is a clear colorless liquid, with a characteristic aromatic smell. Benzene is produced worldwide in substantial quantities, and because it is very easy to transport by ship, it is traded internationally.

PROPERTIES

Physical State	**Liquid (at temperatures above 5.5 °C) Solid (at temperatures below 5.5 °C)**
Color	**Clear, Colorless**
Odor	**Aromatic**
Boiling Range/Point (°C)	**80.1**
Melting Point (°C)	**5.5**
Flash Point (PMCC) (°C)	**-11.1**
Explosion Limits (%)	**Upper limit 7.9, Lower limit 1.3 (measured as V/V)**
Solubility in Water (kg/m3)	**1.78 at 20 °C**
Vapor Pressure (kPa)	**99.45 at 20 °C. (measured as N/m2)**
Density (Kg/m3)	**879 at 20 °C**
Auto-flammability (°C)	**498**
Viscosity (cSt)	**0.653 at 20 °C. (measured as cPs)**
Relative Vapor Density	**(Air = 2.7)**

APPLICATIONS

Benzene is a very important basic chemical. It is the starting point for many derivatives required in the production of a wide range of goods used in everyday life. For example, benzene and ethylene are used to produce styrene, from which polystyrene is made. It is also used to produce cyclohexane, a precursor to caprolactam, which is used to produce nylon. Well known commodity chemicals like polystyrene and nylon are subsequently used to manufacture everyday items including clothing,

paints, computer casings and packaging.

SPECIFICATIONS

BENZENE wt%	**≥ 99.85**	APPEARANCE	**CLEAR LIQUID, FREE OF SEDIMENTATION OR HAZE at 18.3 to 25.6**
NON-AROMATIC wt%	**≥ 0.15**	COLOR pt/Co Scale (Hazen)	**≥ 20**
TOLUENE wt%	**>_ 0.05**	ACID AWSH COLOR	**≥ 1**
SOLIDIFICATION POINT C	**≥ 0.05**	ACIDITY	**NO FREE AC**
DISTILLATION RANGE, AT 760 mmHg C	**1.0 MAX Including 80.1°C**	TOTAL SULFUR wt% ppm	**≥ 1**
RELATIVE DENSITY, 15.56/15.56°C	**0.882 - 0.886**	COPPER CORROSION	**PASS 1a or 1b**

HAZARDS AND SAFETY

Main Hazards: May cause cancer.

Toxic: Danger of serious damage to health by prolonged exposure through Inhalation, skin contact and if swallowed. Highly flammable.

Eyes: Liquid will cause conjunctival irritation.

Skin: Harmful amounts may be absorbed through skin contact. Repeated or prolonged contact may produce defatting of the skin leading to irritation and dermatitis.

Ingestion: Based on experience of accidental ingestion in humans, effects expected would be: irritation of mouth, throat and digestive tract, vomiting, central nervous system depression, and loss of consciousness. Estimated fatal dose for adults is 10-30 mls. Aspiration during swallowing or vomiting may severely damage the lungs.

Inhalation: Exposure to vapor may have the following effects: euphoria, dizziness, headache, nausea, impaired balance, convulsions and collapse. Exposure to vapor at concentrations of 7500 ppm and above may result in sudden collapse and death from respiratory paralysis.