



**PETRONAS**

# BENZENE

**PETRONAS CHEMICALS GROUP BERHAD**  
CHEMISTRY FOR GROWTH

# BENZENE

Benzene is an organic chemical compound with the chemical formula  $C_6H_6$ . Its molecule is composed of six (6) carbon atoms joined in a ring, with one (1) hydrogen atom attached to each carbon atom. Because its molecules contain only carbon and hydrogen atoms, benzene is classed as a hydrocarbon.

Benzene is a colourless liquid with a sweet odour. It evaporates into the air very quickly and dissolves slightly in water. It is highly flammable and is formed from both natural processes and human activities.

## PCG Aromatics Plant

### PETRONAS CHEMICALS AROMATICS MALAYSIA SDN. BHD.

- Kertih, Terengganu
- 187 KMTPA
- JV Company between PETRONAS (70%) MJPX Co. Ltd. (30%)

## Product Applications

PRODUCT	DERIVATIVES		APPLICATIONS
Benzene	Packaging	Ethylbenzene	• Mainly for the production of Polystyrene that serves in packaging application, insulation material in construction industry and thermoplastic engineering resins.
	Fibres and Resins	Cumene	• Serves as paint thinner and high-octane additive for aviation fuel.
		Cyclohexane	• Coatings, electronics laminates, adhesives and composite materials for aerospace and automotive industry.
	Solvents	Nitrobenzene	• Engineering resins within automotive industry to replace metal parts.
		Chlorobenzene	• Textile and carpeting applications.
	Surfactant	Alkylbenzene	• Insulation within construction industry and electrical appliances.
			• Foams for automotive seating and home furniture and beddings.
			• Pesticides and dye carrier.
			• Detergent formulations.

## Product Specifications

COMPONENTS	UNITS	RESULTS	METHODS
Purity	% Weight	99.9 min	ASTM D 4492
Non-aromatics	ppm weight	1000 max	ASTM D 4492
Thiophene	ppm weight	0.9 max	ASTM D 4735
Total Sulfur	ppm weight	1.0 max	ASTM D 5453
Total Chloride	ppm weight	3.0 max	ASTM D 5808
Solidification Point	°C	5.45 min	ASTM D 852
Distillation Range	-	1.0 max	ASTM D 850(**)
Specific Gravity 15.56°C / 15.56°C	-	0.882 to 0.886	ASTM D 4052
Color	Pt-Co	15 max	ASTM D 1209
Acid Wash Color	-	1.0 max	ASTM D 848
Acidity	-	None detected	ASTM D 847
Copper Strip Corrosion	-	Pass (1a or 1b)	ASTM D 849
Water Visual	-	Report only	Visual
Water	-	Report only	ASTM D 6304
Appearance	-	(*)	Visual
Hydrogen Sulfide & Sulfur Dioxide	-	None detected	ASTM D 853
Toluene	ppm weight	200 max	ASTM D 4492
Ethyl Benzene	ppm weight	1 max	ASTM D 4629
Total Nitrogen	ppm weight	1 max	ASTM D 4629
Basic Nitrogen	ppm weight	0.5 max	UOP 313
Lead	ppm weight	0.02 max	UOP 350

(\*) Clear liquid free of sediment and haze when observed at 18.3°C to 25.7°C  
 (\*\*) The test method including Boiling point of 80.1°C at 760mm Hg