

**BENZENE**  
IS 534: 2007 (4<sup>th</sup> Revision)

CHARACTERISTICS	REQUIREMENT		METHOD OF TEST (REF. CLAUSE 2)
	TYPE (A)	TYPE (B)	OTHER INDIAN STANDARD
Colour, platinum-cobalt scale, Max Relative density at 15.6/15.6°C	15 0.879 to 0.886	20 0.879 to 0.886	IS 8768:1988 IS 1448 (P:16):1990 Annexure K
Distillation range	The difference between the temperatures (running points) at which 1 & 96% of the volume taken have been collected shall not exceed 0.6°C. This range shall include the temperature of 80.1°C.		Annexure A
Residue on evaporation, mg/100 ml, max.	5	5	8 of IS 82: 1973
Total Sulphur, mg/kg. max. Solidification point, C min.	2 5.3	100 5.3	Annexure B Annexure C
Neutrality	Shall not give acidic reaction	Shall not give acidic reaction	Annexure D
Acid Wash colour, colour standard, max.	0.3	0.3	Annexure E
Copper corrosion	To pass the test	To pass the test	Annexure F
Aromatic impurities (other than Benzene) mg/kg, max.	300	500	Annexure G
n-heptane, higher aliphatic and alicyclic compounds	50	-	Annexure G
Cyclohexane & Methyl Hexane, mg/kg, max.	10	-	Annexure H
Bromine index, max.			

**BENZENE - NITRATION GRADE**  
**ASTM D 2359-85**

CHARACTERISTICS	REQUIREMENT	TEST METHOD
Appearance	Clear, liquid, free of sediment or haze at 65 to 75°F (18.3 to 25.6°C)	Visual inspection
Specific gravity 15.56°C / 15.56°C	0.8820 to 0.8860	D-3505
Density at 20°C, g/cm <sup>3</sup>	0.878 – 0.882	D-1209
Colour, Pt-Co scale, max	Not darker than 20	D-850
Total Distillation range at 760 mm pr., °C	Not lower than 1 including the temperature of 80.1	Using ASTM Solvent distillation thermometer 40°C having range of 72 to 126°C & conforming to Spec. E,
Solidifying point, °C	Not lower than 5.35 (anhydrous basis)	D-852
Acid wash colour	Not darker than No.1	D-848
Acidity	No free acid: that is, no evidence of acidity	D-847
Sulphur compounds	Free of H <sub>2</sub> S and SO <sub>2</sub>	D-853
Copper corrosion	Copper strip shall not show iridescence or a gray or black deposit or discolouration i.e. pass.	D-849

**BENZENE**  
**TYPICAL TEST RESULTS – PANIPAT**

CHARACTERISTIC	TEST METHOD ASTM / IP / IS1448	SPECIFICATION	TEST RESULTS
Physical Appearance	Visual	Colourless	Clear and colourless
Purity, % wt, min.	D 4492	99.90	99.98
Toulene, % wt.	D 4492	--	0.01
Para-Dioxane, ppm mass, max	D 4492	1.0	0.0
Non Aromatics, % wt.	D 4492	--	0.01
Total Sulphur, ppm mass, max	UOP 727	1.0	0.35
Total Nitrogen, ppm mass, max.	D 4629	0.30	0.20
Bromine Index, mg/100g,max	D 2710	20.0	3.8
Density @15°C, g/ml	D 4052	--	0.8842
Distillation:	D 850	--	
IBP, °C			79.8
Dry Point °C			80.7
Acid Wash Colour, max.	D 848	1.0	<1.0
Solidification Point, °C min.	D 852	5.45	5.50