

Technical Data Sheet

Toluene

Toluene also known as toluol, is a colorless, water-insoluble liquid with the smell associated with paint thinners. It is a mono-substituted benzene derivative, consisting of a CH₃ group attached to a phenyl group. As such, its IUPAC systematic name is methylbenzene. It is an aromatic hydrocarbon.

Applications:

As the solvent in paint thinner, contact cement and model airplane glue, Toluene is mainly used as a precursor to benzene via hydrodealkylation. The second ranked application involves its disproportionation to a mixture of benzene and xylene. toluene is a feedstock for toluene diisocyanate (used in the manufacture of polyurethane foam), trinitrotoluene (the explosive, TNT), and a number of synthetic drugs.

Toluene is a common solvent, e.g. for paints, paint thinners, silicone sealants, many chemical reactants, rubber, printing ink, adhesives (glues), lacquers, leather tanners, and disinfectants.

Toluene can be used as an octane booster in gasoline fuels for internal combustion engines.

In the laboratory, toluene is used as a solvent for carbon nanomaterials, including nanotubes and fullerenes, and it can also be used as a fullerene indicator. Toluene is used as a cement for fine polystyrene kits. Toluene has also been used as a coolant for its good heat transfer capabilities in sodium cold traps used in nuclear reactor system loops.

Properties	Specification Value	Test Method
Purity	Min 99.9	ASTM 2360-82
Non aromatics	Max 0.1	ASTM 2360-82
Benzene	Max 0.03	ASTM 2360-82
Distillation range at 760 mm HG	1 Max including 110.6	ASTM D850-79
Appearance	Clear liquid free of sedimentation or haze at 18.3 to 25.6°C	VISUAL
Total sulfur wt.ppm	Max 1	ASTM 4045-87
Copper corrosion	Pass(1a to 1b)	ASTM D 849-88
Color, pt-co scale	20 Max	ASTM D 1209-84
Acid wash color	2 max	ASTM D 848-81
Acidity	None detected	ASTM D 847-87
Specific Gravity at 15.56/15.56°C	0.869-0.873	ASTM 4052-86
SO ₂ /H ₂ S	None detected	ASTM D 853-82
Vapor Pressure psi	1.1	ASTM D 323-99A