

### PRODUCT IDENTIFICATION



**Product Name:** Toluene  
**CAS Number:** 108-88-3  
**Molecular Formula:** C<sub>7</sub>H<sub>8</sub>  
**Molecular Weight:** 92.14 g/mol  
**Grade:** Technical  
**Purity / Concentration:** 99.5%  
**Synonyms:** Methylbenzene, Toluol

### PRODUCT OVERVIEW

Toluene (CAS 108-88-3) is a high-purity, Technical grade solvent featuring a 99.9% assay and exceptionally low impurity levels, such as 0.01% water content. This clear, mobile liquid is widely utilized across industrial sectors for its superior solvency and chemical stability in complex formulations.

**Grade Significance:** Technical grade Toluene provides an optimal balance between high purity and cost-effectiveness, making it suitable for a wide range of industrial and manufacturing applications where stringent lab-grade specifications are not required but consistency is essential.

### CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	99.9	99.5	—	GC
Color (APHA)	APHA	5	—	10	ASTM D1209
Specific Gravity (20°C)	g/mL	0.866	0.865	0.867	ASTM D4052
Residue After Ignition	%	0.0005	—	0.0010	Gravimetric
Water Content	%	0.01	—	0.03	Karl Fischer
Heavy Metals (as Pb)	ppm	0.05	—	1	ICP-OES
Iron (Fe)	ppm	0.02	—	0.2	ICP-OES
Chloride (Cl <sup>-</sup> )	ppm	0.1	—	1	Ion Chromatography
Substances Darkened By Sulfuric Acid	Pass/Fail	Pass	—	—	Visual
Sulfur Compounds As S	ppm	0.5	—	1	ASTM D3961

ND = Not Detected. Values are typical and may vary by lot.

## PHYSICAL & CHEMICAL PROPERTIES

<b>Appearance</b>	Clear, mobile liquid	<b>Odor</b>	Sweet, aromatic odor
<b>Form</b>	Liquid	<b>Boiling Point</b>	110°C (230°F)
<b>Melting / Freezing Point</b>	-95°C	<b>Flash Point</b>	4°C (39°F)
<b>Specific Gravity</b>	0.867	<b>Solubility</b>	Low water solubility, excellent organic solvent
<b>Molecular Formula</b>	C <sub>7</sub> H <sub>8</sub>	<b>Molecular Weight</b>	92.14 g/mol
<b>Vapor Pressure (20°C)</b>	28 mmHg	<b>Viscosity (25°C)</b>	0.59 cP
<b>Refractive Index (20°C)</b>	1.496	<b>Density (25°C)</b>	0.866 g/mL

## APPLICATIONS

- Analytical Chemistry** — Toluene serves as a critical mobile phase component in reversed-phase high-performance liquid chromatography for the precise separation of organic compounds.
- Paints and Coatings** — It is extensively used as a primary solvent in the formulation of paints and coatings due to its excellent ability to dissolve resins and maintain consistent viscosity.
- Pharmaceutical Manufacturing** — This chemical acts as a vital precursor and reaction medium in the synthesis of various pharmaceutical intermediates and active ingredients.
- Agrochemicals** — Toluene is utilized in the production of agricultural chemicals, providing the necessary solvency for creating effective pesticides and herbicides.
- Chemical Processing** — It is frequently employed in liquid-liquid extraction processes to efficiently isolate and purify specific organic compounds from complex mixtures.

## STORAGE & HANDLING

Due to its highly flammable nature and low flash point of 4°C, Toluene must be stored in a cool, well-ventilated area away from all ignition sources. Proper containment is essential to prevent the accumulation of vapors, which pose significant aspiration hazards and fire risks if not managed correctly.

- Store in a cool, well-ventilated area away from heat sources and open flames.
- Use containers made of HDPE or glass to prevent chemical reactions.
- Avoid contact with strong oxidizing agents and acids.
- Ensure proper PPE, including gloves and goggles, are worn during handling.
- Maintain adequate ventilation to minimize inhalation exposure.

## AVAILABLE PACKAGING

- 1 Quart
- 1 Gallon
- 5 Gallon
- 55 Gallon

## SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **Danger**



### Hazard Statements:

- H225: Highly Flammable liquid and vapor [Danger Flammable liquids]
- H304: May be fatal if swallowed and enters airways [Danger Aspiration hazard]
- H315: Causes skin irritation [Warning Skin corrosion/irritation]
- H336: May cause drowsiness or dizziness [Warning Specific target organ toxicity, single exposure; Narcotic effects]
- H361d \*\*\*: Suspected of damaging the unborn child [Warning Reproductive toxicity]
- H373 \*\*: May causes damage to organs through prolonged or repeated exposure [Warning Specific target organ toxicity, repeated exposure]

**Emergency Contact:** CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

*For complete safety information, refer to the Safety Data Sheet (SDS) for this product.*

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