



TECHNICAL DATA SHEET (TDS)

TOLUENE — INDUSTRIAL GRADE

1. PRODUCT IDENTIFICATION

Product Name:

Toluene

Chemical Name:

Methylbenzene

Synonyms:

- Toluol
- Methylbenzene
- Phenylmethane
- Methyl Benzol

CAS Number:

108-88-3

EC Number:

203-625-9

Chemical Formula:

C_7H_8

Molecular Weight:

92.14 g/mol

Product Type:

High-purity aromatic hydrocarbon solvent

Nominal Grade:

Industrial Grade, approximately 99.8%



2. PRODUCT DESCRIPTION

BASEKIM Toluene is a clear, colorless, highly volatile aromatic hydrocarbon solvent with strong solvency and rapid evaporation.

It is suitable for industrial formulations and chemical-processing applications requiring an effective solvent for resins, oils, rubber, coatings, inks, and adhesives.

The product may also be used as a chemical feedstock, subject to customer-process requirements and applicable regulations.

3. PRINCIPAL APPLICATIONS

Toluene is commonly used in:

- Paints and coatings
- Printing inks
- Adhesives
- Contact cements
- Thinners
- Industrial cleaners
- Degreasing formulations
- Rubber processing
- Resin manufacturing
- Chemical synthesis
- Petroleum processing
- Benzene production
- Benzoic acid production
- Toluene diisocyanate production
- Fuel blending, where legally permitted

4. PRODUCT FEATURES

- High solvent power
- Fast evaporation
- Clear and colorless appearance



- Low water solubility
- Good compatibility with many organic materials
- Effective solvency for oils, resins, rubber, and coatings
- Suitable for chemical synthesis
- Consistent industrial performance
- Multiple bulk and packaged delivery options

5. TYPICAL TECHNICAL PROPERTIES

Property	Typical Value
Appearance	Clear, colorless liquid
Purity	Approximately ≥ 99.8 wt. %
Odor	Characteristic aromatic odor
Relative density at 20°C	Approximately 0.865–0.870
Boiling point	Approximately 110.6°C
Distillation range	Typically approximately 110–111°C
Freezing point	Approximately –95°C
Flash point, closed cup	Approximately 4°C
Auto-ignition temperature	Approximately 480°C
Vapor pressure at 20°C	Approximately 2.8 kPa
Water solubility	Approximately 0.5 g/L
Viscosity at 25°C	Approximately 0.56 mPa·s
Refractive index at 20°C	Approximately 1.496
Lower explosive limit	Approximately 1.1 vol. %
Upper explosive limit	Approximately 7.1 vol. %
Evaporation	Rapid
Color	Typically ≤ 10 APHA, subject to grade
Acidity	Very low; specification dependent
Non-volatile residue	Low; specification dependent

These values are typical and do not constitute a guaranteed Certificate of Analysis.



6. PROVISIONAL QUALITY SPECIFICATION

The following table is a proposed commercial specification for review. It must be aligned with the actual refinery or production specification before contractual use.

Test Parameter	Proposed Specification	Typical Test Method
Toluene purity	≥99.8 wt.%	Gas chromatography
Appearance	Clear and free from suspended matter	Visual
Color	≤10 APHA	ASTM D1209
Relative density at 20°C	0.865–0.870	ASTM D4052 or equivalent
Distillation range	To be agreed	ASTM D850 or equivalent
Water content	To be agreed	ASTM D6304 or equivalent
Benzene content	To be agreed and legally compliant	Gas chromatography
Non-aromatic hydrocarbons	To be agreed	Gas chromatography
Non-volatile residue	To be agreed	Gravimetric method
Acidity	To be agreed	Applicable standard method
Sulfur	To be agreed	Applicable instrumental method

Only the issued Certificate of Analysis should be used to confirm batch compliance.

7. SOLVENT PERFORMANCE

Toluene offers:

- Strong dissolution of many hydrocarbon resins
- Effective solvency for natural and synthetic rubber
- Rapid film drying
- Low residual moisture
- Useful viscosity reduction
- Effective removal of oil, grease, adhesive, and resin residues
- Compatibility with many aromatic-solvent formulations

Compatibility must be tested with the customer's complete formulation before commercial use.



8. PACKAGING

BASEKIM lists the following supply options:

- 200-liter steel drums
- 1,000-liter IBC tanks, subject to packaging and transport approval
- ISO tanks
- Road tankers
- Customer-specific bulk arrangements where available

All packaging must be approved for flammable liquids and comply with applicable dangerous-goods requirements.

Actual net weight or volume must be confirmed in the sales contract.

9. STORAGE AND HANDLING

Store in a designated flammable-liquid area.

Keep containers:

- Tightly closed
- Properly grounded and bonded
- Away from heat
- Away from flames and sparks
- Away from strong oxidizing agents
- Protected from direct sunlight
- In a cool, dry, well-ventilated location

Use explosion-proof equipment.

Prevent static discharge.

Do not use compressed air for transfer.

Avoid breathing vapor and avoid contact with skin and eyes.

Consult the current Safety Data Sheet before handling.



10. MATERIAL COMPATIBILITY

Potentially suitable storage materials include:

- Carbon steel
- Stainless steel
- Approved solvent-resistant tank linings

Compatibility must be confirmed for:

- Gaskets
- Seals
- Hoses
- Pumps
- Tank coatings
- Plastic containers
- Elastomers

Toluene may soften, swell, dissolve, or damage many plastics, rubbers, coatings, and adhesives.

11. TRANSPORT CLASSIFICATION

UN Number:

UN 1294

Shipping Name:

TOLUENE

Hazard Class:

3

Packing Group:

II

The product is transported as a regulated flammable liquid.

Shipment must comply with ADR, RID, IMDG, ICAO, IATA, and applicable national requirements.



12. SHELF LIFE

Toluene is chemically stable when stored in suitable, sealed containers under recommended conditions.

A commercial retest period or shelf life should be assigned by the supplier's quality department based on:

- Container type
- Storage conditions
- Contamination controls
- Quality-management policy

Proposed Retest Period:

24 months from production or filling date, subject to manufacturer approval.

13. QUALITY CONTROL

Recommended batch testing includes:

- Appearance
- Color
- Purity by gas chromatography
- Density
- Distillation range
- Water content
- Benzene content
- Non-aromatic impurities
- Non-volatile residue
- Acidity
- Sulfur, where contractually required

A Certificate of Analysis should accompany each batch or shipment where requested.



14. SAFETY SUMMARY

Toluene is:

- Highly flammable
- Volatile
- An aspiration hazard
- Capable of causing skin irritation
- Capable of causing dizziness or drowsiness
- Suspected of harming an unborn child
- Potentially harmful following repeated excessive exposure

Appropriate ventilation, grounding, bonding, protective equipment, fire controls, and spill controls are required.

Refer to the current MSDS/SDS for complete safety information

15. DISCLAIMER

The information in this Technical Data Sheet is based on publicly available information and typical properties of high-purity industrial toluene.

Values identified as typical, approximate, provisional, or proposed are not guaranteed sales specifications.

The customer must review the current Certificate of Analysis, Safety Data Sheet, contractual specification, and regulatory requirements before use.

BASEKIM must verify and approve the purity, impurity limits, test methods, packaging, shelf life, and quality specification before officially publishing this document.