



TECHNICAL DATA SHEET (TDS)

Linear Alkyl Benzene (LAB)

Product Name: Linear Alkyl Benzene (LAB)

Chemical Name: Benzene, C10–13 Alkyl Derivatives

CAS Number: 67774-74-7

EC Number: 267-051-0

Molecular Formula: $C_6H_5-C_nH_{2n+1}$ (mixed homologues)

Appearance: Clear, colorless to pale yellow liquid

Product Grades: 97.5%, 98%, 99% Purity

Application: Detergent and surfactant intermediate

1. PRODUCT DESCRIPTION

Linear Alkyl Benzene (LAB) is a biodegradable organic intermediate widely used in the manufacture of Linear Alkyl Benzene Sulfonic Acid (LABSA), which serves as the primary active ingredient in household and industrial detergents. LAB is produced through the alkylation of benzene with linear olefins and is characterized by excellent biodegradability, high detergent performance, and favorable environmental properties.

LAB is the preferred raw material for producing anionic surfactants used in:

- Laundry detergents
- Dishwashing liquids
- Industrial cleaners
- Household cleaning products
- Textile processing chemicals
- Emulsifiers
- Wetting agents
- Agricultural formulations



2. CHEMICAL IDENTIFICATION

Property	Value
Product Name	Linear Alkyl Benzene
Chemical Family	Alkyl Aromatic Hydrocarbon
CAS Number	67774-74-7
EC Number	267-051-0
Molecular Weight	Approx. 238–246 g/mol
Carbon Chain Distribution	C10–C13
Structural Type	Linear Alkyl Aromatic Compound
Purity Grades	97.5%, 98%, 99%

3. TYPICAL SPECIFICATIONS

Property	Unit	Specification
Appearance	Visual	Clear, Bright Liquid
LAB Purity	wt.%	≥ 97.5
Active Matter	wt.%	≥ 97.5
Bromine Index	mg Br ₂ /100g	≤ 15
Color (Saybolt)	-	+25 Min
Density @ 20°C	g/cm ³	0.860 – 0.870
Refractive Index @ 20°C	-	1.480 – 1.490
Water Content	wt.%	≤ 0.10
Sulfur Content	ppm	≤ 10
Paraffin Content	wt.%	≤ 1.5
Kinematic Viscosity @ 20°C	cSt	6.5 – 8.0
Initial Boiling Point	°C	≥ 280
Flash Point (CC)	°C	≥ 140
Acidity as H ₂ SO ₄	wt.%	≤ 0.005

Values represent typical production specifications and may vary slightly between manufacturing batches.



4. PHYSICAL AND CHEMICAL PROPERTIES

Property	Value
Physical State	Liquid
Color	Colorless to Pale Yellow
Odor	Mild Aromatic Hydrocarbon
Density @ 20°C	0.860–0.870 g/cm ³
Boiling Range	280–320°C
Melting Point	Below -40°C
Flash Point	Approx. 140–145°C
Auto-Ignition Temperature	Approx. 230–280°C
Vapor Pressure @ 20°C	Very Low
Water Solubility	Insoluble
Solubility in Organic Solvents	Soluble
Viscosity @ 20°C	6.5–8.0 cSt

5. PERFORMANCE CHARACTERISTICS

High Detergent Efficiency

Provides excellent raw material performance for manufacturing high-foaming and high-cleaning surfactants.

Biodegradability

Linear molecular structure enables rapid biodegradation compared with branched alkyl benzene products.

Sulfonation Efficiency

Offers high conversion rates during LABSA production.

Thermal Stability

Maintains product quality during transportation, storage, and processing.



Low Sulfur Content

Suitable for environmentally responsible detergent formulations.

6. APPLICATIONS

Detergent Industry

- Laundry powder detergents
- Liquid detergents
- Concentrated detergent formulations

Household Cleaning Products

- Dishwashing liquids
- Multi-purpose cleaners
- Surface cleaners

Industrial Cleaning

- Degreasers
- Hard-surface cleaners
- Institutional cleaning formulations

Chemical Manufacturing

- LABSA production
- Surfactant manufacture
- Emulsifier production

Textile Industry

- Wetting agents
- Scouring agents
- Textile auxiliaries

7. ADVANTAGES

- Excellent biodegradability



- High sulfonation yield
- Low toxicity profile
- Superior detergent performance
- Consistent quality
- Long storage stability
- Worldwide regulatory acceptance
- Suitable for eco-friendly formulations

8. STORAGE AND HANDLING

Store in tightly closed containers or storage tanks.

Recommended Storage Conditions

- Store in dry, well-ventilated areas.
- Avoid direct sunlight.
- Keep away from strong oxidizing agents.
- Recommended storage temperature: 15–40°C.
- Prevent water contamination.

Shelf Life

Minimum 24 months under recommended storage conditions.

9. PACKAGING

Available in:

- ISO Tank Containers
- Flexitanks
- Bulk Tank Trucks
- Bulk Storage Tanks
- IBC Containers (upon request)
- Steel Drums (upon request)

10. QUALITY CONTROL

Each production batch is tested for:

- Purity



- Density
- Color
- Bromine Index
- Moisture Content
- Sulfur Content
- Flash Point
- Appearance

Certificate of Analysis (COA) is issued with every shipment.

11. REGULATORY STATUS

- CAS No. 67774-74-7
- Complies with industrial chemical requirements for detergent manufacturing
- Suitable for use as a raw material in biodegradable surfactant production
- Manufactured according to applicable quality management standards

12. TYPICAL PRODUCT DATA

Parameter	Typical Value
Purity	98.0–99.0 wt.%
Density @20°C	0.865 g/cm ³
Saybolt Color	+30
Bromine Index	<10
Water Content	<0.05 wt.%
Sulfur Content	<5 ppm
Flash Point	143°C
Refractive Index	1.486

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CAS Number: 67774-74-7

Industry: Detergent & Surfactant Manufacturing

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