SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name Linear Alkylbenzene, LAB

Synonyms Linear Alkyl (C_{10}-C_{13}) benzene

Product Use This high purity product is used primarily for the production of biodegradable detergents.

SECTION 2 HAZARDS IDENTIFICATION

GHS Hazards

Aspiration hazard Category 1

LABEL ELEMENTS

Hazard symbols



Signal word Danger

Hazard statements H304 May be fatal if swallowed and enters airways.

Precautionary statements

Response P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P333 do not induce vomiting.

Storage P405 Store locked up.

Disposal P501 Dispose of contents/ container to an approved waste disposal plant.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Components	EC No.	CAS-No.	Weight percent
Benzene, C10-13-alkyl derivs.	267-051-0	67774-74-7	92 Min

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

SECTION 4 FIRST AID MEASURES

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Inhalation	Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. In case of shortness of breath, give oxygen. Call a physician immediately.
Ingestion	If swallowed, call a poison control centre or doctor immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

SECTION 5 FIREFIGHTING MEASURES

FLAMMABLE PROPERTIES	
Fire/explosion	May be ignited by open flame. NFPA Class IIIB combustible liquid.
Suitable extinguishing media	Water spray or fog, foam, dry chemical, CO_2
Protective equipment and precautions for firefighters	Wear self-contained breathing apparatus and protective suit. Keep containers and surroundings cool with water spray.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7 HANDLING AND STORAGE

Safe handling advice	Ensure all equipment is electrically grounded before beginning transfer operations.
Storage/Transport pressure	Ambient
Load/Unload temperature	Ambient

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES	Ensure adequate ventilation, especially in confined areas.
PERSONAL PROTECTIVE EQUIPMENT	
Eyes	Wear as appropriate: Goggles, Face-shield
Skin	Wear suitable protective clothing, gloves and eye/face protection.
Inhalation	Respiratory protection is normally not required except in emergencies or when conditions cause excessive airborne levels of mists or vapors. Use NIOSH approved respiratory protection.
EXPOSURE GUIDELINES	Contains no substances with occupational exposure limit values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	liquid;

Colour	colourless
Form	liquid
Odour	odourless
Odour Threshold	no data available
Flash point	120 °C (248°F) Min.
Flammability	Upper explosion limit: no data available Lower explosion limit: no data available
Boiling point/boiling range	210 - 310 °C (410 - 590 °F)
Auto-ignition temperature	no data available
Decomposition temperature	no data available
Average Molecular weight	238-244 g/mol
Vapour pressure	8.3 mm Hg @ 38 °C, 100 °F;
Vapour density	8 – 10 kg/m^3
Density	0.8575-0.8700 g/cm^3 @ 15.6°C (60°F)
Water solubility	Insoluble
Viscosity	7.8 c.St@ 20°C
pH	no data available
Evaporation rate	no data available
Partition coefficient: n-octanol/water	no data available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	Stable at normal ambient temperature and pressure.
Chemical stability	No decomposition if stored and applied as directed.
Conditions to avoid	Stable under recommended storage conditions.
Hazardous decomposition products	None.
Materials to avoid	Oxidizing agents
Hazardous polymerisation	None.

SECTION 11 TOXICOLOGICAL INFORMATION

Additional Remarks	The product itself has not been tested. Information given is based on data obtained from similar substances. The following effects have been reported in studies with animals exposed by a variety of routes to similar linear alkylbenzenes on a repeated basis: Decreased body weight, food consumption and maternal weight gain; effects on offspring (none at low dose); liver toxicity; increased tumors following lifetime dermal exposure at skin damaging concentrations (skin damage confounds the interpretation of the significance of these effects for human health).
Acute dermal toxicity	LD50 rabbit: > 2,000 mg/kg

Acute inhalation toxicity	rat (1 hours): > 71 mg/l All rats survived at indicated concentration.
Acute oral toxicity	LD50 rat: > 5,000 mg/kg
Skin corrosion/irritation	Primary irritation (rabbit): 1.4 (Max. score is 8.0.)
Eye damage/irritation	Primary irritation (rabbit): 0.7 (Max. score is 110.) (unwashed eyes)
Respiratory or skin sensitization	no data available
Germ cell mutagenicity	**Genotoxicity in vitro:** no data available **Genotoxicity in vivo:** no data available **Assessment Mutagenicity:** no data available
Reproductive toxicity	**Reproductive toxicity:** no data available **Assessment Reproductive toxicity:** no data available **Teratogenicity:** no data available **Assessment teratogenicity:** no data available
STOT - single exposure	no data available
STOT - repeated exposure	no data available
Aspiration toxicity	no data available
Carcinogenicity	**Assessment carcinogenicity:** Contains no ingredient listed as a carcinogen

SECTION 12 ECOLOGICAL INFORMATION

Aquatic toxicity	Not toxic to aquatic organisms (fish, daphnia, algae) up to water solubility.
Toxicity to fish	LC50 (Pimephales promelas (fathead minnow)) 96 hours Test substance: Linear Alkylbenzene In the range of water solubility not toxic under test conditions. LC50 (Oncorhynchus mykiss (rainbow trout)) 96 hours Test substance: Linear Alkylbenzene In the range of water solubility not toxic under test conditions.

Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 48 hours Test substance: Linear Alkylbenzene In the range of water solubility not toxic under test conditions.
Toxicity to algae	ErC50 (Desmodesmus subspicatus (green algae)) 72 hours Test substance: Linear Alkylbenzene In the range of water solubility not toxic under test conditions.
Chronic toxicity to fish	no data available
Chronic toxicity to aquatic invertebrates	no data available
Biodegradation	Readily biodegradable. OECD Test Guideline 301F (28 d): 64 % Test substance: Linear Alkylbenzene
Bioaccumulation	no data available
Mobility in soil	no data available
Other adverse effects	no data available

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Code	Any unused product or empty containers may be disposed of as non-hazardous in accordance with state and federal requirements. If the resulting material is determined to be hazardous, please dispose in accordance with state and federal (40 CFR 262) hazardous waste regulations. Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures, contamination, and spillage may change the classification.
Disposal methods	Dispose of only in accordance with local, state, and federal regulations.
Empty containers.	Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, triple-rinsed, properly bunged and promptly returned to a drum reconditioner, or properly disposed.

SECTION 14 TRANSPORT INFORMATION

CANADIAN TRANSPORTATION OF DANGEROUS GOODS (CTDG)

This product is not a dangerous good as defined by TDG for ground transportation.

U.S. DOT DESCRIPTION (ground transportation)

This product is not hazardous for ground transportation according to DOT regulations.

ICAO/IATA DESCRIPTION/IMO DESCRIPTION (IMDG CODE)

This product is not a dangerous good as defined by IATA for air transportation, IMO in the IMDG Code for water transportation.

ISIC Number 24113537

SECTION 15 REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

OSHA Hazards (HCS 1994)

Non-hazardous substance

TSCA Inventory Listing

Components	CAS-No.
Benzene, C10-13-alkyl derivs.	67774-74-7

SARA 302 Status

Components	CAS-No.	Weight percent

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Classification

"Immediate (acute) health hazard"

SARA 313 Chemical

Components	CAS-No.	Weight percent

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US. EPA CERCLA Hazardous Substances (40 CFR 302)

Components	Reportable Quantity	Weight percent
none		

INTERNATIONAL REGULATIONS

WHMIS Classification

WHMIS hazardous composition: No ingredients are hazardous according to the CPR criteria.

European Union

Classification according to Regulation (EU) 1272/2008.

Aspiration hazard, Category 1
Repeated exposure may cause skin dryness or cracking.

Australia. Inventory of Chemical Substances (AICS)	Listed
Japan. Inventory of Existing and New Chemical Substances (ENCS)	Listed
Japan. Industrial Safety & Health Law (ISHL) Inventory	Not listed
Canada. Domestic Substances List (DSL) Inventory	Listed
Canadian Non-Domestic Substance Listing (NDSL)	Not listed
European Inventory of Existing Commercial Chemical Substances (EINECS) Listing	Listed
Philippines. Inventory of Chemicals / Chemical Substances (PICCS)	Listed
Korea. Existing Chemicals Inventory (KECI)	Listed
China. Inventory of Existing Chemical Substances (IECSC)	Listed

Mexico. National Inventory of Chemical Substances (INSQ)	Not listed
New Zealand. Inventory of Chemicals (NZIoC)	Not listed
Switzerland. Inventory of Notified New Substances (CHINV)	Listed
Taiwan. National Existing Chemical Inventory (NECI)	Not listed

STATE REGULATIONS

California Prop. 65

Components	**CAS-No.**
none	

SECTION 16 OTHER INFORMATION

HAZARD RATINGS

	Health	Flammability	Physical Hazard/ Instability
HMIS®	1	1	0
NFPA	1	1	0

Abbreviations and Acronyms:

CAS: Chemical Abstracts Service (division of the American Chemical Society)

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act

CFR: Code of Federal Regulations

CPR: Controlled Products Regulation

CTDG: Canadian Transportation of Dangerous Goods

DOT: Department Of Transportation

EC50: Median Effective Concentration required to induce a 50% effect

ErC50: EC50 in terms of reduction of growth rate

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

HMIS: Hazardous Materials Identification System

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

IMDG: International Maritime Code for Dangerous Goods

IMO: International Maritime Organization

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OECD: Office of Environmental Compliance and Documentation

OSHA: Occupational Safety & Health Administration

SARA: SuperFund Amendments & Reauthorization Act

STOT: Specific Target Organ Toxicity.

TSCA: United States Toxic Substances Control Act Inventory

US. EPA: United States Environmental Protection Agency

WHMIS: Workplace Hazardous Materials Information System

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