



LITHIUM *t*-BUTOXIDE (LTB) 10% IN HEPTANE

CAS No. 1907-33-1

QS-PDS-015 Revision: 01

Product Name Lithium *t*-butoxide, Lithium *tert*-butoxide, Lithium *tertiary*-butoxide, LTB

Formula (CH₃)₃CO-Li

Appearance Clear, yellowish solution

Application This heptane solution is a **DEVELOPMENTAL** formulation of lithium *t*-butoxide (LTB). LTB is a mild base used mainly in organic synthesis. It can also be used in conjunction with organometallic reagents/catalysts to modify their reactivity and selectivity. For a brief review of this reagent, please consult *Handbook of Reagents for Organic Synthesis, Acidic and Basic Reagents, 1999* John Wiley & Sons, p. 208.

Product Specification

	<u>Guaranteed*</u>
Lithium <i>t</i> -butoxide, wt%	10.0 +/- 1.0
Lithium hydroxide, wt%	0.1 max.
Turbidity	100 NTUs max.

* This product can be made to agreed upon customer specifications

Solvent Commercial Heptane

Physical Properties	
Molecular weight	80.06
Density @20°C	0.69 g/mL (5.76 lb/gal)
Contained lithium <i>t</i> -butoxide	69 g/L (0.58 lb/gal)
Pyrophoricity	Non-pyrophoric

Solubility LTB is soluble in hexanes, MTBE, and several other organic solvents. 10 wt% LTB in heptane will crystallize at ~45°F.

Thermal Stability LTB in heptane is very stable at room temperature. At 40°C, solutions slowly become hazy with little detectable decomposition. The introduction of oxygen into LTB solutions may cause darkening of color.



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Toxicity/Safety Data Flammable liquid. Water reactive. In case of fire, do not use water or carbon dioxide. Colorless to yellow liquid. Corrosive to the eyes (may cause blindness), skin, mucous membranes and upper respiratory tract. Inhalation of vapors may cause dizziness, nausea, anesthesia, numbness, motor weakness in fingers and toes, incoordination, and headache.

ADDITIONAL INFORMATION ON SAFETY IS CONTAINED IN THE OPTIMA NEW PRODUCT DATA SHEET (NPDS) AVAILABLE FOR THIS PRODUCT.

Handling/Storage/Disposal Use in a closed system under argon or nitrogen. Do not get in eyes, on skin or clothing. Do not breathe vapors or mist. Store in a cool place. Keep container closed. Keep away from sources of ignition, water, air, acids and oxidizing agents.

Shipping Containers	Bulk containers	2000 – 20000 L
	Cylinders	#5 – 420 L
	Glass bottles	125 mL, 500 mL and 1 L

Shipping Limitations Shipments of LTB are described as "Flammable Liquid, Corrosive, N.O.S., (LITHIUM *T*-BUTOXIDE IN HEPTANE), 3 (8), UN2924, PG II." Shipments require "Flammable Liquid" and "Corrosive" labels.

Post, Parcel	Not acceptable
Sea	Class 3 (8) (IMDG)
Road, Rail (USA)	Class 3 (8) (DOT)
Road, Rail (EU)	Class 3 (8) (RID/ADR)
Air	Class 3 (8) (IATA)

2.5 L maximum per inner glass container.
5.0 L maximum per single/outer container.
Cargo aircraft only.

For shipments within Europe, labeling for supply requirements are:

F	Highly Flammable
C	Corrosive
N	Dangerous for the Environment
R&S Phrases	See Material Safety Data Sheet

Responsible Care® initiative dictates that all shipments of lithium chemicals must be transported in a DOT-approved vehicle in a responsible manner (i.e., no flat bed trucks).

Additional Resources Refer to the Organometallics and Reactive Specialty Organics Safe Handling Guide.