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LITHIUM METHOXIDE (LiOMe) 10 % IN METHANOL

CAS No. 865-34-9

QS-PDS-014 Revision: 01

FMC Product Code No. 519-01

Product Names Lithium methoxide, LiOMe, LME

Formula $Li\text{-}OCH_3$

Appearance Colorless to pale yellow solution

Application LiOMe is a mild base used mainly in organic synthesis, most often in transesterifications. This reagent is offered currently in methanol solution of LiOMe (2.2M) and therefore is very easy to transfer from shipping container to storage or reactor. On contact with moisture, it is converted to methanol and lithium hydroxide causing the solution to become cloudy. For leading references, consult *J. Mater. Res.* **1999**, *14,* 1510.

Product Specification

	Guaranteed*
Lithium methoxide, wt %	10.0 +/- 0.2
Lithium hydroxide, wt %	0.1 max

**This product can be made to agreed upon customer specifications.*

Physical Properties

Molecular weight	37.97
Density @20°C	0.85 g/cm^3 at 10 wt %
Contained LiOMe	85 g/L (0.71 lb/gal)
Pyrophoricity	Non-pyrophoric

Solvent Methanol

Solubility Methanol is the best solvent for LiOMe as it has very low solubility in many common solvents including THF (tetrahydrofuran).

Thermal Stability LiOMe in methanol is very stable at room temperature. At 40°C, solutions could very slowly become hazy because of desolvation of the LiOMe.

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Toxicity/Safety Data

Flammable liquid. Water reactive. In case of fire, do not use water or carbon dioxide. Clear colorless, alcohol odor. Corrosive to eyes (may cause blindness), skin, nose and throat. Contains methanol which is toxic if inhaled or swallowed. Methanol can very readily form extremely high vapor concentrations at room temperature.

COMPLETE INFORMATION ON TOXICITY AND SAFETY IS CONTAINED IN THE FMC MATERIAL SAFETY DATA SHEET (MSDS) 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	17,500 – 24,000 L
Cylinders	#20
Drums	55 gallon
Glass bottles	125 mL, 500 mL, and 1 L

Shipping Limitations

Shipments of LiMeO are described as “Flammable Liquid, Corrosive, N.O.S., (*LITHIUM METHOXIDE IN METHANOL*) 3 (8), UN2924, PGII.” 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
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 Organometallics and Reactive Specialty Organics Safe Handling Guide.