



ETHYLMAGNESIUM BROMIDE IN THF

CAS No. 811-49-4

QS-PDS-054

Revision: 00

**Product Names** Ethylmagnesium bromide

**Formula** C<sub>2</sub>H<sub>5</sub>MgBr

**Appearance** Brown/gray liquid

**Application** Ethylmagnesium bromide, namely a Grignard reagent, is used primarily to add an ethyl group to carbonyl groups. This reagent can also be used as a strong base in aprotic solvents. For reviews see: 1) *J. Am. Chem. Soc.* **1967**, 89, 1964; 2) *Synthesis* **1977**, 18; and 3) *Pure Appl. Chem.* **1980**.

**Product Specification**

Ethylmagnesium bromide Guaranteed\*  
6.5 – 13 wt.% (0.5 – 1.0 Molar)

*\* This product can be made to agreed upon customer specifications, including various concentrations and carrier systems.*

**Solvent** Tetrahydrofuran (THF)

**Physical Properties**

Molecular weight	133.27
Density @20°C	1.01 g/mL (1M)
Boiling point of pure solvent	66°C (THF)
Volatiles, % by weight	87 – 93.5%
Pyrophoricity	Non-pyrophoric
Flash Point	-14°C

**Solubility** Ethylmagnesium bromide in THF crystallizes at <15°C for 1M and <-20°C for 0.5M.

**Thermal Stability** Stable under recommended storage conditions.



## ETHYLMAGNESIUM BROMIDE IN THF

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### Toxicity/Safety Data

Flammable liquid. Water reactive. In case of fire, do not use water or carbon dioxide.

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. Storage temperature should be 20°C to 30°C. Keep container closed. Keep away from sources of ignition, water, air, acids and oxidizing agents.

### Shipping Containers

Bulk containers	2500 – 20000 L
Cylinders	#5 – 420 L
Drums	55 Gal
Glass bottles	125 mL, 500 mL, and 1 L

### Shipping Limitations

Shipments of Ethylmagnesium bromide in THF are described as "Organometallic substance, liquid, water-reactive, flammable (*ETHYLMAGNESIUM BROMIDE, TETRAHYDROFURAN, SOLUTION*) 4.3 (3), UN 3399, PG I." Shipments require "Dangerous When Wet" and "Flammable Liquid" labels.

Post, Parcel	Forbidden
Sea	Class 4.3 (3) (IMDG)
Road, Rail	Class 4.3 (3) (DOT, RID/ADR)
Air	Class 4.3 (3) (IATA)
	1.0 L maximum per inner glass container.
	1.0 L maximum per outer container.
	Cargo aircraft only

For shipments within Europe, labeling for supply requirements are:

F	Flammable
C	Corrosive
R&S Phrase	See Material Safety Data Sheet

Responsible Care<sup>®</sup> initiative dictates that all shipments 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 available on-line at [www.optimachem.com](http://www.optimachem.com).