



## METHYLMAGNESIUM CHLORIDE IN THF (MeMgCl)

CAS No. 676-58-4

QS-PDS-026 Revision: 03

**Product Names** Methylmagnesium chloride in THF, MeMgCl

**Formula** CH<sub>3</sub>MgCl

**Appearance** Dark Brown Liquid

**Application** Methylmagnesium chloride, namely a Grignard reagent, is used primarily as an alkylating agent. This reagent readily adds a methyl group to carbonyl groups, such as aldehydes and ketones, providing synthetically useful routes to alcohols. Methylmagnesium chloride 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

Methylmagnesium chloride	<u>Guaranteed*</u> 21.0 – 23.0 wt.%
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*\* This product can be made to agreed upon customer specifications*

**Solvent** Tetrahydrofuran (THF)

<b>Physical Properties</b>	Molecular weight	74.80
	Density @20°C	1.01 g/mL
	Boiling point of pure solvent	66°C (THF)
	Volatiles, % by weight	77 - 79%
	Pyrophoricity	Non-pyrophoric

**Solubility** Methylmagnesium chloride in THF may crystallize at <5°C. Crystals can be redissolved by warming and agitation.

**Thermal Stability** Methylmagnesium chloride in THF is thermally stable under the recommended storage conditions.



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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.

*COMPLETE INFORMATION ON TOXICITY AND SAFETY IS CONTAINED IN THE OPTIMA 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. Storage temperatures above 5°C are recommended to avoid crystallization. Keep container closed. Keep away from sources of ignition, water, air, acids and oxidizing agents.

**Shipping Containers**

Glass bottles	125 mL, 500 mL and 1L
55 gal drums	190 kg solution per drum

**Shipping Limitations**

Shipments of Methylmagnesium chloride in THF are described as "Organometallic substance, liquid, water-reactive, flammable (METHYLMAGNESIUM CHLORIDE SOLUTION IN TETRAHYDROFURAN) 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® 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).