METHYLMAGNESIUM CHLORIDE IN THF (MeMgCl)  
CAS No. 676-58-4

Product Names  
Methylmagnesium chloride in THF, MeMgCl

Formula  
$\text{CH}_3\text{MgCl}$

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  
Guaranteed*  
Methylmagnesium chloride 21.0 – 23.0 wt. %

* This product can be made to agreed upon customer specifications

Solvent  
Tetrahydrofuran (THF)

Physical Properties  
Molecular weight 74.80
Density @20°C 1.01 g/mL
Boiling point of pure solvent 66°C (THF)
Volatile, % 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).