

## SAFETY DATA SHEET

Creation Date 21-May-2012

Revision Date 25-March-2024

Revision Number 4

### 1. Identification

**Product Name** Methylmagnesium bromide, 3M in ether

**Cat No. :** 87324

**Synonyms** No information available

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

#### Details of the supplier of the safety data sheet

##### Company

##### **Importer/Distributor**

Fisher Scientific  
112 Colonnade Road,  
Ottawa, ON K2E 7L6,  
Canada  
Tel: 1-800-234-7437

##### **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11

Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99

**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### Classification

**WHMIS 2015 Classification** Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

<b>Flammable liquids</b>	Category 1	
<b>Substances/mixtures which, in contact with water, emit flammable gases</b>	Category 1	Gas(es) = Methane
<b>Acute oral toxicity</b>	Category 4	
<b>Skin Corrosion/Irritation</b>	Category 1 B	
<b>Serious Eye Damage/Eye Irritation</b>	Category 1	
<b>Specific target organ toxicity (single exposure)</b>	Category 3	
Target Organs - Respiratory system, Central nervous system (CNS).		
<b>Physical Hazards Not Otherwise Classified</b>	Category 1	
Reacts violently with water		
May form explosive peroxides		

#### Label Elements

**Signal Word**

Danger

**Hazard Statements**

Extremely flammable liquid and vapor  
In contact with water releases flammable gases which may ignite spontaneously  
Harmful if swallowed  
Causes severe skin burns and eye damage  
Causes serious eye damage  
May cause respiratory irritation  
May cause drowsiness and dizziness  
Reacts violently with water  
May form explosive peroxides

**Precautionary Statements****Prevention**

Do not allow contact with water  
Keep container tightly closed  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
Ground/bond container and receiving equipment  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Use only outdoors or in a well-ventilated area  
Wear protective gloves/protective clothing/eye protection/face protection  
Use non-sparking tools  
Take action to prevent static discharges  
Handle and store contents under inert gas. Protect from moisture

**Response**

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
IF INHALED: Remove person to fresh air and keep comfortable for breathing  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Immediately call a POISON CENTER/doctor  
Rinse mouth  
Do NOT induce vomiting  
Wash contaminated clothing before reuse  
Explosion risk in case of fire  
Fight fire with normal precautions from a reasonable distance  
Evacuate area

**Storage**

Store locked up  
Store in a dry place  
Store in a closed container  
Store in a well-ventilated place. Keep cool

**Disposal**

Dispose of contents/container to an approved waste disposal plant

### 3. Composition/Information on Ingredients

Component	CAS-No	Weight %
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Ethyl ether	60-29-7	65
Methylmagnesium bromide	75-16-1	35

#### 4. First-aid measures

<b>General Advice</b>	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. If not breathing, give artificial respiration.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Most important symptoms/effects</b>	Causes burns by all exposure routes. Difficulty in breathing. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
<b>Notes to Physician</b>	Treat symptomatically

#### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	CO <sub>2</sub> , dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.
<b>Unsuitable Extinguishing Media</b>	DO NOT USE WATER
<b>Flash Point</b>	-40 °C / -40 °F
<b>Method -</b>	(based on components)
<b>Autoignition Temperature</b>	No information available
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

#### Specific Hazards Arising from the Chemical

Extremely flammable. Corrosive material. Reacts violently with water. Contact with water liberates extremely flammable gases. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

#### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Hydrogen halides. Magnesium oxides. Methane.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**Health  
3Flammability  
4Instability  
2Physical hazards  
W**6. Accidental release measures****Personal Precautions**

Use personal protective equipment as required. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing.

**Environmental Precautions**

Avoid release to the environment. See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up**

Do not expose spill to water. Remove all sources of ignition. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Use spark-proof tools and explosion-proof equipment.

**7. Handling and storage****Handling**

Use only under a chemical fume hood. Wear personal protective equipment/face protection. Use spark-proof tools and explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not get in eyes, on skin, or on clothing. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Do not allow contact with water. If peroxide formation is suspected, do not open or move container. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

**Storage.**

Store indoors. Keep away from heat, sparks and flame. Keep away from water or moist air. Store under an inert atmosphere. Flammables area. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals. Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Incompatible Materials. Acids. Bases. Water. Alcohols.

**8. Exposure controls / personal protection****Exposure Guidelines**

Component	Alberta	British Columbia	Ontario TWAEV	Quebec	ACGIH TLV	OSHA PEL	NIOSH
Ethyl ether	TWA: 400 ppm TWA: 1210 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1520 mg/m <sup>3</sup>	TWA: 400 ppm STEL: 500 ppm	TWA: 400 ppm STEL: 500 ppm	TWA: 400 ppm TWA: 1210 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1520 mg/m <sup>3</sup>	TWA: 400 ppm STEL: 500 ppm	(Vacated) TWA: 400 ppm (Vacated) TWA: 1200 mg/m <sup>3</sup> (Vacated) STEL: 500 ppm (Vacated) STEL: 1500 mg/m <sup>3</sup> TWA: 400 ppm TWA: 1200 mg/m <sup>3</sup>	IDLH: 1900 ppm

**Legend**

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

**Engineering Measures**

Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact,

and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

#### Eye Protection

Goggles

#### Hand Protection

Protective gloves

Glove material	Breakthrough time	Glove thickness	Glove comments
Nitrile rubber Viton (R)	See manufacturers recommendations	-	Splash protection only

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

#### Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Recommended Filter type:** low boiling organic solvent Type AX Brown conforming to EN371 or Organic gases and vapours filter Type A Brown conforming to EN14387

When RPE is used a face piece Fit Test should be conducted

### Environmental exposure controls

No information available.

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

Physical State	Liquid
Appearance	Brown
Odor	No information available
Odor Threshold	No information available
pH	No information available
Melting Point/Range	No data available
Boiling Point/Range	No information available
Flash Point	-40 °C / -40 °F
Method -	(based on components)
Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	No information available
Specific Gravity	1.035
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	No information available
Molecular Formula	C H3 Br Mg
Molecular Weight	119.26

## 10. Stability and reactivity

<b>Reactive Hazard</b>	Yes
<b>Stability</b>	Reacts violently with water. Moisture sensitive. Air sensitive. May form explosive peroxides.
<b>Conditions to Avoid</b>	Keep away from open flames, hot surfaces and sources of ignition. Exposure to moist air or water. Exposure to air. Incompatible products.
<b>Incompatible Materials</b>	Acids, Bases, Water, Alcohols
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Hydrogen halides, Magnesium oxides, Methane
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	Contact with water liberates extremely flammable gases.

## 11. Toxicological information

### Acute Toxicity

#### Product Information

##### Oral LD50

Category 4. ATE = 300 - 2000 mg/kg.

##### Dermal LD50

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

##### Vapor LC50

Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethyl ether	1215 mg/kg (Rat)	20 mL/kg (Rabbit)	32000 ppm ( Rat ) 4 h

**Toxicologically Synergistic Products** No information available

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation** Causes burns by all exposure routes

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Ethyl ether	60-29-7	Not listed	Not listed	Not listed	Not listed	Not listed
Methylmagnesium bromide	75-16-1	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** Respiratory system Central nervous system (CNS)

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Inhalation of

high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

This product contains the following substance(s) which are hazardous for the environment. .

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Ethyl ether	Not listed	LC50: > 10000 mg/L, 96h static (Lepomis macrochirus) LC50: = 2560 mg/L, 96h flow-through (Pimephales promelas)	EC50 = 5600 mg/L 15 min	EC50 = 165 mg/L/24h

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** . Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Ethyl ether	0.82

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Ethyl ether - 60-29-7	U117	-

## 14. Transport information

### DOT

UN-No UN1928  
Proper Shipping Name consumer commodity METHYL MAGNESIUM BROMIDE, IN ETHYL ETHER  
Hazard Class 4.3  
Subsidiary Hazard Class 3  
Packing Group I

### TDG

UN-No UN1928  
Proper Shipping Name METHYL MAGNESIUM BROMIDE, IN ETHYL ETHER  
Hazard Class 4.3  
Subsidiary Hazard Class 3  
Packing Group I

### IATA

UN-No UN1928  
Proper Shipping Name Methyl magnesium bromide in ethyl ether (Mixture)  
Hazard Class 4.3  
Subsidiary Hazard Class 3  
Packing Group I

### IMDG/IMO

UN-No UN1928  
Proper Shipping Name Methylmagnesium bromide in ethyl ether (Mixture)  
Hazard Class 4.3  
Subsidiary Hazard Class 3

## Packing Group

I

## 15. Regulatory information

## International Inventories

Component	CAS-No	DSL	NDSL	TSCA	TSCA Inventory notification - Active-Inactive	EINECS	ELINCS	NLP
Ethyl ether	60-29-7	X	-	X	ACTIVE	200-467-2	-	-
Methylmagnesium bromide	75-16-1	-	X	X	ACTIVE	200-844-1	-	-

Component	CAS-No	IECSC	KECL	ENCS	ISHL	TCSI	AICS	NZIoC	PICCS
Ethyl ether	60-29-7	X	KE-27690	X	X	X	X	X	X
Methylmagnesium bromide	75-16-1	-	-	X	X	X	-	X	X

## Legend:

X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

## Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

Component	Canada - National Pollutant Release Inventory (NPRI)	Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances	Canada's Chemicals Management Plan (CEPA)
Ethyl ether	Part 4 Substance		

## Other International Regulations

## Authorisation/Restrictions according to EU REACH

Not applicable

## Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS-No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Ethyl ether	60-29-7	Listed	Not applicable	Not applicable	Not applicable
Methylmagnesium bromide	75-16-1	Not applicable	Not applicable	Not applicable	Not applicable

Component	CAS-No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Ethyl ether	60-29-7	Not applicable	Not applicable	Not applicable	Annex I - Y40 Annex I - Y42
Methylmagnesium bromide	75-16-1	Not applicable	Not applicable	Not applicable	Not applicable

## 16. Other information



<b>Prepared By</b>	Product Safety Department Email: chem.techinfo@thermofisher.com www.thermofisher.com
<b>Creation Date</b>	21-May-2012
<b>Revision Date</b>	25-March-2024
<b>Print Date</b>	25-March-2024
<b>Revision Summary</b>	New emergency telephone response service provider.

**Disclaimer**

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**End of SDS**