

## SAFETY DATA SHEET

Revision Date 25-Feb-2020

Revision Number 2

### 1. Identification

**Product Name** 4-Methoxybenzylmagnesium chloride, 0.25M in 2-MeTHF

**Cat No. :** H54078

**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**

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
**Email:** tech@alfa.com  
www.alfa.com

**Emergency Telephone Number**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.  
After normal business hours, call Carechem 24 at (866) 928-0789.

### 2. Hazard(s) identification

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|                                   |            |
|-----------------------------------|------------|
| Flammable liquids                 | Category 2 |
| Acute oral toxicity               | Category 4 |
| Skin Corrosion/Irritation         | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 1 |

**Label Elements**

**Signal Word**

Danger

**Hazard Statements**

Highly flammable liquid and vapor  
Harmful if swallowed  
Causes skin irritation  
Causes serious eye damage



### Precautionary Statements

#### Prevention

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Wear protective gloves/protective clothing/eye protection/face protection  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
Keep container tightly closed  
Ground/bond container and receiving equipment  
Use explosion-proof electrical/ventilating/lighting/equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge

#### Skin

If skin irritation occurs: Get medical advice/attention  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse

#### Eyes

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 or doctor/physician

#### Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

#### Fire

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

#### Storage

Store in a well-ventilated place. Keep cool

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

Reacts violently with water  
May form explosive peroxides

## 3. Composition/Information on Ingredients

| Component                         | CAS-No     | Weight % |
|-----------------------------------|------------|----------|
| Methyltetrahydrofuran             | 96-47-9    | 95.5     |
| 4-Methoxybenzylmagnesium chloride | 38769-92-5 | 4.5      |

## 4. First-aid measures

#### General Advice

If symptoms persist, call a physician.

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

#### Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

#### Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if

|                                            |                                                                                                                                                                                          |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                            | symptoms occur.                                                                                                                                                                          |
| <b>Ingestion</b>                           | Clean mouth with water and drink afterwards plenty of water.                                                                                                                             |
| <b>Most important symptoms and effects</b> | Difficulty in breathing. Causes eye burns. Causes severe eye damage. 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>     | Dry sand. Carbon dioxide (CO <sub>2</sub> ). Powder. Do not use water or foam. 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>   | No information available                                                                                                                                                                           |
| <b>Flash Point</b>                      | No information available                                                                                                                                                                           |
| <b>Method -</b>                         | No information available                                                                                                                                                                           |
| <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

Reacts violently with water. Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Hydrogen chloride. Metal oxides.

### 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**  
3

**Flammability**  
3

**Instability**  
2

**Physical hazards**  
W

## 6. Accidental release measures

|                                             |                                                                                                                                                                                                                        |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal Precautions</b>                 | Ensure adequate ventilation. Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges.                                                     |
| <b>Environmental Precautions</b>            | Should not be released into the environment. See Section 12 for additional Ecological Information. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system. |
| <b>Methods for Containment and Clean Up</b> | Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Do not expose spill to water. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.            |

## 7. Handling and storage

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Handling</b> | Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Do not allow contact with water. If peroxide formation is suspected, do not open or move container. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

grounded. Take precautionary measures against static discharges.

#### Storage

Keep away from water or moist air. 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 container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks and flame.

## 8. Exposure controls / personal protection

#### Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

#### Engineering Measures

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

#### Personal Protective Equipment

##### Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

##### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

##### 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.

##### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

|                                        |                                     |
|----------------------------------------|-------------------------------------|
| Physical State                         | Liquid                              |
| Appearance                             | No information available            |
| 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                            | No information available            |
| 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                       | No information available            |
| 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 <sub>8</sub> H <sub>9</sub> ClMgO |
| Molecular Weight                       | 180.92                              |

## 10. Stability and reactivity

|                                         |                                                                                                                         |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Reactive Hazard</b>                  | Yes                                                                                                                     |
| <b>Stability</b>                        | Air sensitive. Moisture sensitive.                                                                                      |
| <b>Conditions to Avoid</b>              | Exposure to moist air or water. Exposure to moisture. Keep away from open flames, hot surfaces and sources of ignition. |
| <b>Incompatible Materials</b>           | Strong bases, Oxidizing agent                                                                                           |
| <b>Hazardous Decomposition Products</b> | Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Hydrogen chloride, Metal oxides                                |
| <b>Hazardous Polymerization</b>         | Hazardous polymerization does not occur.                                                                                |
| <b>Hazardous Reactions</b>              | None under normal processing. Reacts violently with water.                                                              |

## 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      |
|-----------------------|------------------------|-----------------------|----------------------|
| Methyltetrahydrofuran | 300-2000 mg/kg ( Rat ) | 4500 mg/kg ( Rabbit ) | 6000 ppm ( Rat ) 4 h |

**Toxicologically Synergistic** No information available

#### Products

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

**Irritation** No information available

**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     |
|-----------------------------------|------------|------------|------------|------------|------------|------------|
| Methyltetrahydrofuran             | 96-47-9    | Not listed | Not listed | Not listed | Not listed | Not listed |
| 4-Methoxybenzylmagnesium chloride | 38769-92-5 | 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** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** 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

May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

| Component             | Freshwater Algae                                | Freshwater Fish                                                  | Microtox   | Water Flea                                          |
|-----------------------|-------------------------------------------------|------------------------------------------------------------------|------------|-----------------------------------------------------|
| Methyltetrahydrofuran | NOEC >= 104 mg/l (72h)<br>EC50 > 104 mg/l (72h) | LC50 (96h) > 100 mg/l<br>Onchorhynchus mykiss<br>(Rainbow trout) | Not listed | Chronic NOEC >=120 mg/l<br>(21 days, Daphnia magna) |

**Persistence and Degradability** May persist based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Is not likely mobile in the environment due its low water solubility.

| Component             | log Pow |
|-----------------------|---------|
| Methyltetrahydrofuran | 1.1     |

## 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.

## 14. Transport information

### DOT

UN-No UN2924  
 Proper Shipping Name Flammable liquid, corrosive, n.o.s.  
 Technical Name (4-Methoxybenzylmagnesium chloride, METHYLTETRAHYDROFURAN)  
 Hazard Class 3  
 Subsidiary Hazard Class 8  
 Packing Group II

### TDG

UN-No UN2924  
 Proper Shipping Name Flammable liquid, corrosive, n.o.s.  
 Hazard Class 3  
 Subsidiary Hazard Class 8  
 Packing Group II

### IATA

UN-No UN2924  
 Proper Shipping Name Flammable liquid, corrosive, n.o.s.  
 Hazard Class 3  
 Subsidiary Hazard Class 8  
 Packing Group II

### IMDG/IMO

UN-No UN2924  
 Proper Shipping Name Flammable liquid, corrosive, n.o.s.  
 Hazard Class 3  
 Subsidiary Hazard Class 8  
 Packing Group II

## 15. Regulatory information

### United States of America Inventory

| Component             | CAS-No  | TSCA | TSCA Inventory notification -<br>Active/Inactive | TSCA - EPA Regulatory<br>Flags |
|-----------------------|---------|------|--------------------------------------------------|--------------------------------|
| Methyltetrahydrofuran | 96-47-9 | X    | ACTIVE                                           | -                              |

**4-Methoxybenzylmagnesium chloride, 0.25M in 2-MeTHF**

Revision Date 25-Feb-2020

|                                   |            |   |   |   |
|-----------------------------------|------------|---|---|---|
| 4-Methoxybenzylmagnesium chloride | 38769-92-5 | - | - | - |
|-----------------------------------|------------|---|---|---|

**Legend:**

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

TSCA 12(b) - Notices of Export Not applicable

**International Inventories**

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

| Component                         | CAS-No     | DSL | NDSL | EINECS    | PICCS | ENCS | AICS | IECSC | KECL     |
|-----------------------------------|------------|-----|------|-----------|-------|------|------|-------|----------|
| Methyltetrahydrofuran             | 96-47-9    | -   | X    | 202-507-4 | X     | -    | X    | X     | KE-33479 |
| 4-Methoxybenzylmagnesium chloride | 38769-92-5 | -   | -    | -         | -     | -    | -    | -     | -        |

**U.S. Federal Regulations**

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

| Component             | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-----------------------|---------------|------------|--------------|----------|--------------|
| Methyltetrahydrofuran | X             | X          | X            | -        | -            |

**U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

**Other International Regulations**

Mexico - Grade No information available

**16. Other information**

Prepared By

Health, Safety and Environmental Department  
Email: tech@alfa.com  
www.alfa.com

---

|                         |                                                             |
|-------------------------|-------------------------------------------------------------|
| <b>Revision Date</b>    | 25-Feb-2020                                                 |
| <b>Print Date</b>       | 25-Feb-2020                                                 |
| <b>Revision Summary</b> | SDS authoring systems update, replaces ChemGes SDS No. 453. |

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**