

SAFETY DATA SHEET

Creation Date 01-Sep-2009

Revision Date 19-Dec-2025

Revision Number 6

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

1. Identification

| | |
|---|---|
| Product Name | Octylmagnesium bromide, 2M solution in diethyl ether |
| Cat No. : | AC427810000; AC427811000; AC427818000 |
| Synonyms | No information available |
| Recommended Use Uses advised against | Laboratory chemicals. Food, drug, pesticide or biocidal product use. |

Details of the supplier of the safety data sheet

Company

Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

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

This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

| | |
|---|--------------|
| Flammable liquids | Category 1 |
| Acute oral toxicity | Category 4 |
| Skin Corrosion/Irritation | Category 1 B |
| Serious Eye Damage/Eye Irritation | Category 1 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Target Organs - Respiratory system, Central nervous system (CNS). | |

Label Elements

Signal Word

Danger

Hazard Statements

Extremely flammable liquid and vapor
Harmful if swallowed
Causes severe skin burns and eye damage
May cause respiratory irritation
May cause drowsiness or dizziness



Precautionary Statements

Prevention

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

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
Take off contaminated clothing and wash before reuse
Immediately call a POISON CENTER or doctor

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: Rinse mouth. DO NOT induce vomiting
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Fire

Explosion risk
Fight fire with normal precautions from a reasonable distance
Evacuate area

Storage

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

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Repeated exposure may cause skin dryness or cracking

Hazards classified under paragraph (d)(1)(ii) of 1910.1200

Hazards resulting from a reaction with other chemicals under normal conditions of use

May form explosive peroxides. Reacts violently with water.

Unknown Acute Toxicity

45 percent of the mixture consists of ingredient(s) of unknown acute toxicity

3. Composition/information on Ingredients

| Component | CAS No | Weight % |
|------------------------|------------|----------|
| Ethyl ether | 60-29-7 | 55 |
| Magnesium, bromooctyl- | 17049-49-9 | 45 |

4. First-aid measures

| | |
|--|---|
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required. |
| Inhalation | 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. |
| Ingestion | Do NOT induce vomiting. Call a physician or poison control center immediately. |
| Most important symptoms and effects | Difficulty in breathing. Causes burns by all exposure routes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: 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 |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---|---|
| Suitable Extinguishing Media | CO ₂ , dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers. |
| Unsuitable Extinguishing Media | DO NOT USE WATER |
| Flash Point | -35 °C / -31 °F |
| Method - | No information available |
| Autoignition Temperature | No information available |
| Explosion Limits | No information available |
| Upper | No data available |
| Lower | No data available |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |

Specific Hazards Arising from the Chemical

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

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂). Magnesium 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. Thermal decomposition can lead to release of irritating gases and vapors.

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

Ensure adequate ventilation. Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions

Should not be released into the environment. See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. 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. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. If peroxide formation is suspected, do not open or move container. Use spark-proof tools and explosion-proof equipment. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Do not allow contact with water. 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.

Flammables area. Corrosives area. Keep under nitrogen. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. 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. Incompatible Materials. Strong oxidizing agents.

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

| Component | ACGIH TLV | OSHA PEL | NIOSH | Mexico OEL (TWA) |
|-------------|-------------------------------|---|----------------|-------------------------------|
| Ethyl ether | TWA: 400 ppm STEL: 500 ppm | (Vacated) TWA: 400 ppm (Vacated) TWA: 1200 mg/m ³ (Vacated) STEL: 500 ppm (Vacated) STEL: 1500 mg/m ³ TWA: 400 ppm TWA: 1200 mg/m ³ | IDLH: 1900 ppm | TWA: 400 ppm STEL: 500 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. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting equipment. Ensure adequate ventilation, especially in confined areas.

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. |
| Recommended Filter type: | low boiling organic solvent. Type AX. Brown. conforming to EN371. |
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice. |

9. Physical and chemical properties

Appearance

Physical State

Liquid

Color

Odor

No information available

Odor Threshold

No information available

Property

Values

Remarks

• Method

Melting Point/Range

No data available

Softening Point

No data available

Boiling Point/Range

35 °C / 95 °F

Flash Point

-35 °C / -31 °F

@ 760 mmHg

Flammability (liquid)

Extremely flammable

Method - No information available

Flammability (solid,gas)

Not applicable

On basis of test data

Explosion Limits

No data available

Liquid

Autoignition Temperature

No data available

Decomposition Temperature

No data available

pH

No information available

Viscosity

No data available

Water Solubility

No information available

Solubility in other solvents

No information available

Partition Coefficient (n-octanol/water)

log Pow

Component

0.82

Vapor Pressure

No data available

Density / Specific Gravity

0.961

Bulk Density

Not applicable

Liquid

Vapor Density

No data available

(Air = 1.0)

Particle characteristics

Not applicable (liquid)

Other Information

Molecular Formula

C8 H17 Br Mg

Molecular Weight

217.43

Explosive Properties

Vapors may form explosive mixtures with air

10. Stability and reactivity

Reactive Hazard

Yes

Stability

Moisture sensitive. Reacts violently with water. May form explosive peroxides.

Conditions to Avoid

Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition. Exposure to moist air or water.

Incompatible Materials

Strong oxidizing agents

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO₂), Magnesium oxides

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Information on expected route of exposure

Inhalation Causes burns. May be harmful if inhaled. May cause drowsiness and dizziness.

Ingestion Causes burns. Harmful if swallowed.

Eyes Causes burns.

Skin Causes burns. May be harmful in contact with skin. Repeated exposure may cause skin dryness or cracking.

Toxicology data for the components

| 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

(b) skin corrosion/irritation; Category 1 B

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory No data available
Skin No data available

(e) germ cell mutagenicity; No data available

(f) 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 |
| Magnesium, bromooctyl- | 17049-49-9 | Not listed |

(g) reproductive toxicity; No data available

(h) STOT-single exposure; Category 3

Results / Target organs Central nervous system (CNS).

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; No data available

Other Adverse Effects

The toxicological properties have not been fully investigated.

Symptoms / effects, both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. 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.

Other Adverse Effects

The toxicological properties have not been fully investigated.

Endocrine Disrupting Properties

This product does not contain any known or suspected endocrine disruptors.

12. Ecological information

Ecotoxicity

Do not empty into drains. Do not flush into surface water or sanitary sewer system.

| 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 Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its volatility.

| 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 | UN2924 |
| Proper Shipping Name | Flammable liquid, corrosive, n.o.s. |
| Hazard Class | 3 |
| Subsidiary Hazard Class | 8 |
| Packing Group | I |

TDG

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

IATA

| | |
|--------------------------------|--------------------------------------|
| UN-No | UN2924 |
| Proper Shipping Name | Alcohols,n.o.s., (Ethanol, Methanol) |
| Hazard Class | 3 |
| Subsidiary Hazard Class | 8 |

| | |
|-------------------------|--------------------------------------|
| Packing Group | I |
| IMDG/IMO | |
| UN-No | UN2924 |
| Proper Shipping Name | Alcohols,n.o.s., (Ethanol, Methanol) |
| Hazard Class | 3 |
| Subsidiary Hazard Class | 8 |
| Packing Group | I |

15. Regulatory Information

United States of America Inventory

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|------------------------|------------|------|---|-----------------------------|
| Ethyl ether | 60-29-7 | X | ACTIVE | - |
| Magnesium, bromooctyl- | 17049-49-9 | X | INACTIVE | - |

Legend:

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

X - Listed

'-' - Not Listed

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT) Not applicable

TSCA 12(b) - Notices of Export Not applicable

International Inventories

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

| Component | CAS No | DSL | NDSL | EINECS | PICCS | ENCS | ISHL | AICS | IECSC | KECL |
|------------------------|------------|-----|------|-----------|-------|------|------|------|-------|----------|
| Ethyl ether | 60-29-7 | X | - | 200-467-2 | X | X | X | X | X | KE-27690 |
| Magnesium, bromooctyl- | 17049-49-9 | - | X | - | - | - | - | - | - | - |

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

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

| Component | Hazardous Substances RQs | CERCLA Extremely Hazardous Substances RQs | SARA Reportable Quantity (RQ) |
|-------------|--------------------------|---|-------------------------------|
| Ethyl ether | 100 lb | - | 100 lb 45.4 kg |

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 |
|-------------|---------------|------------|--------------|----------|--------------|
| Ethyl ether | X | X | X | - | X |

U.S. Department of Transportation

Reportable Quantity (RQ): Y
 DOT Marine Pollutant N
 DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product contains the following DHS chemicals:

Legend - STQs = Screening Threshold Quantities, APA = A placarded amount

| Component | DHS Chemical Facility Anti-Terrorism Standard |
|-------------|---|
| Ethyl ether | Release STQs - 10000lb |

Other International Regulations**Mexico - Grade**

Severe risk, Grade 4

Authorisation/Restrictions according to EU REACH

Not applicable

| Component | CAS No | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|------------------------|------------|---|---|---|
| Ethyl ether | 60-29-7 | - | - | - |
| Magnesium, bromooctyl- | 17049-49-9 | - | - | - |

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 |
| Magnesium, bromooctyl- | 17049-49-9 | Not applicable | Not applicable | Not applicable | Not applicable |

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Other International Regulations

| 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 |

| | | | | | |
|------------------------|------------|----------------|----------------|----------------|----------------|
| Magnesium, bromooctyl- | 17049-49-9 | Not applicable | Not applicable | Not applicable | Not applicable |
|------------------------|------------|----------------|----------------|----------------|----------------|

16. Other Information

| | |
|------------------|---|
| Prepared By | Product stewardship (Regulatory Affairs) Thermo Fisher Scientific email - begel.sdsdesk@thermofisher.com |
| Creation Date | 01-Sep-2009 |
| Revision Date | 19-Dec-2025 |
| Print Date | 19-Dec-2025 |
| Revision Summary | Updated to the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) which published its Final Rule in the Federal Register revising the Hazard Communication Standard (HCS/HazCom), 29 CFR 1910.1200 (2024) (HCS §1910.1200, 2024), May 20, 2024, effective July 19, 2024. |

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