

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Description: Methylmagnesium bromide, 3M solution in diethyl ether
Cat No. : 183540000; 183541000; 183548000
Molecular Formula C H3 Br Mg

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Laboratory chemicals.
Uses advised against No Information available

Details of the supplier of the safety data sheet
Importer

Fisher Scientific Korea
 D5,D6, Incheon Airport Logistics Complex
 150, Gonghangdong-Ro 296 Beon-Gil
 Jung-Gu, Incheon
 Tel: +82-1661-9555
 Fax: +82-2-2023-0603

Supplier

Acros Organics BVBA
 Janssen Pharmaceuticaal 3a
 2440 Geel, Belgium

E-mail address

Chem.KR@thermofisher.com

Emergency Telephone Number

Emergency telephone: Medical: +(82) 070-7686-0086 or + 1-703-741-5970
 CHEMTREC: 080 822 1374 (Local), CHEMTREC: 1-800-424-9300 or + 1-703-527-3887
 Korea: 00-308-13-2549 (24 hours a day, 7 days a week)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture
Physical hazards

Flammable liquids	Category 1
Substances/mixtures which, in contact with water, emit flammable gases	Category 1

Health hazards

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

Environmental hazards

Based on available data, the classification criteria are not met

Label Elements

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Signal Word

Danger

Hazard Statements

H224 - Extremely flammable liquid and vapor

H260 - In contact with water releases flammable gases which may ignite spontaneously

H302 - Harmful if swallowed

H314 - Causes severe skin burns and eye damage

H336 - May cause drowsiness or dizziness

H318 - Causes serious eye damage

Precautionary Statements

Prevention

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P264 - Wash hands and face thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

P233 - Keep container tightly closed

P240 - Ground and bond container and receiving equipment

P241 - Use explosion-proof electrical/ ventilating/ lighting equipment

P242 - Use non-sparking tools

P243 - Take action to prevent static discharges

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P223 - Do not allow contact with water

P231 + P232 - Handle and store contents under inert gas. Protect from moisture

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P271 - Use only outdoors or in a well-ventilated area

Response

P330 - Rinse mouth

P363 - Wash contaminated clothing before reuse

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P312 - Call a POISON CENTER or doctor if you feel unwell

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction

P302 + P335 + P334 - IF ON SKIN: Brush off loose particles from skin. Immerse in cool water or wrap in wet bandages

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P310 - Immediately call a POISON CENTER or doctor

P321 - Specific treatment (see supplemental first aid instructions on this label)

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P403 + P235 - Store in a well-ventilated place. Keep cool

P402 + P404 - Store in a dry place. Store in a closed container

P405 - Store locked up

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Other Hazards

Reacts violently with water

May form explosive peroxides

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Toxic to terrestrial vertebrates
This product does not contain any known or suspected endocrine disruptors

NFPA

Health
3

Flammability
4

Instability
2

Physical hazards
W

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Component	Common Name	CAS No	Index No	Weight %
Methyl magnesium bromide	No information available	75-16-1	Not listed	30 - 40
Ethyl ether	Diethyl ether	60-29-7	KE-27690	60 - 70

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General Advice

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

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.

Ingestion

Do NOT induce vomiting. Call a physician or poison control center immediately.

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.

Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Most important symptoms and effects, both acute and delayed

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.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

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Suitable Extinguishing Media

CO₂, dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

Water.

Special hazards arising from the substance or mixture

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 (CO₂), Hydrogen halides, Magnesium oxides, Methane.

Advice for fire-fighters

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

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 and Material for Containment and Cleaning 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.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe 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.

Conditions for Safe Storage, Including any Incompatibilities

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.

Specific End Uses

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Use in laboratories.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Component	CAS No	Korea	ACGIH TLV	OSHA PEL
Methyl magnesium bromide	75-16-1	Not listed	Not listed	Not listed
Ethyl ether	60-29-7	STEL: 500 ppm TWA: 400 ppm	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

Component	CAS No	European Union	The United Kingdom	Germany
Methyl magnesium bromide	75-16-1	Not listed	Not listed	Not listed
Ethyl ether	60-29-7	TWA: 100 ppm (8h) TWA: 308 mg/m ³ (8h) STEL: 200 ppm (15min) STEL: 616 mg/m ³ (15min)	STEL: 200 ppm 15 min STEL: 620 mg/m ³ 15 min TWA: 100 ppm 8 hr TWA: 310 mg/m ³ 8 hr	TWA: 400 ppm (8 Stunden). AGW - exposure factor 1 TWA: 1200 mg/m ³ (8 Stunden). AGW - exposure factor 1 TWA: 400 ppm (8 Stunden). MAK TWA: 1200 mg/m ³ (8 Stunden). MAK Höhepunkt: 400 ppm Höhepunkt: 1200 mg/m ³

ACGIH - Biological Exposure Indices

Component	CAS No	ACGIH - Biological Exposure Indices
Methyl magnesium bromide	75-16-1	Not listed
Ethyl ether	60-29-7	Not listed

Exposure Controls

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

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, 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.

Remove gloves with care avoiding skin contamination.

Personal protective equipment

Respiratory Protection

Use only those certified by the Korea Occupational Safety and Health Administration. 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

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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
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly
When RPE is used a face piece Fit Test should be conducted

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls No information available

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance (Physical State, Color, etc.) Brown Liquid

Odor No information available

Odor Threshold No data available

pH No information available

Melting Point/Range No data available

Softening Point No data available

Boiling Point/Range No information available

Flash Point -40 °C / -40 °F

Method - (based on components)

Evaporation Rate No data available

Flammability (solid,gas) Not applicable

Liquid

Explosion Limits No data available

Vapor Pressure No data available

Vapor Density No data available

(Air = 1.0)

Specific Gravity / Density 1.035

Bulk Density Not applicable

Liquid

Water Solubility vigorous reaction

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Component	CAS No	log Pow
Methyl magnesium bromide	75-16-1	No data available
Ethyl ether	60-29-7	0.82

Autoignition Temperature No data available

Decomposition Temperature No data available

Viscosity No data available

Explosive Properties

Vapors may form explosive mixtures with air

Oxidizing Properties No information available

Molecular Formula C H3 Br Mg

Molecular Weight 119.26

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SECTION 10: STABILITY AND REACTIVITY

Reactivity

Yes

Chemical Stability

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

Possibility of Hazardous Reactions

Hazardous Polymerization

Hazardous polymerization does not occur.

Hazardous Reactions

Contact with water liberates extremely flammable gases.

Conditions to Avoid

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

Incompatible Materials

Acids. Bases. Water. Alcohols.

Hazardous Decomposition Products

Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrogen halides. Magnesium oxides. Methane.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information

Information on expected route of exposure

Use only in closed systems permitted

Inhalation

Harmful by inhalation.

Ingestion

Ingestion causes burns of the upper digestive and respiratory tracts. Can burn mouth, throat, and stomach. Harmful if swallowed.

Eyes

Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Risk of serious damage to eyes.

Skin

Causes burns.

Information on Health Hazards

(a) acute toxicity;

Oral

Category 4

Dermal

Based on available data, the classification criteria are not met

Inhalation

Based on available data, the classification criteria are not met

Toxicology data for the components

Component	CAS No	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methyl magnesium bromide	75-16-1	No data available	No data available	No data available
Ethyl ether	60-29-7	1215 mg/kg (Rat)	20 mL/kg (Rabbit)	32000 ppm (Rat) 4 h

(b) skin corrosion/irritation;

Category 1

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(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory No data available
Skin No data available

Component	CAS No	Test method	Test species	Study result
Methyl magnesium bromide	75-16-1	No data available	No data available	No data available
Ethyl ether	60-29-7	No data available	No data available	No data available

(e) germ cell mutagenicity; No data available

Component	CAS No	Test method	Test species	Study result
Methyl magnesium bromide	75-16-1	No data available	No data available	No data available
Ethyl ether	60-29-7	No data available	No data available	No data available

(f) carcinogenicity; No data available

Component	CAS No	Test method	Test species / Duration	Study result
Methyl magnesium bromide	75-16-1	No data available	No data available	No data available
Ethyl ether	60-29-7	No data available	No data available	No data available

There are no known carcinogenic chemicals in this product

Component	CAS No	IARC	NTP	ACGIH	OSHA	UK
Methyl magnesium bromide	75-16-1	Not listed	Not listed	Not listed	Not listed	Not listed
Ethyl ether	60-29-7	Not listed	Not listed	Not listed	Not listed	Not listed

(g) reproductive toxicity; No data available

Component	CAS No	Test method	Test species / Duration	Study result
Methyl magnesium bromide	75-16-1	No data available	No data available	No data available
Ethyl ether	60-29-7	No data available	No data available	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

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.

Component	CAS No	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Methyl magnesium bromide	75-16-1	Not applicable	Not applicable	Not applicable
Ethyl ether	60-29-7	Not applicable	Not applicable	Not applicable

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SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity effects

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

Component	CAS No	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Methyl magnesium bromide	75-16-1	No data available	No data available	No data available	No data available
Ethyl ether	60-29-7	LC50: > 10000 mg/L, 96h static (Lepomis macrochirus) LC50: = 2560 mg/L, 96h flow-through (Pimephales promelas)	EC50 = 165 mg/L/24h	No data available	EC50 = 5600 mg/L 15 min

Persistence and degradability

Persistence

Soluble in water, Persistence is unlikely, based on information available.

Bioaccumulative potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Ethyl ether	0.82	No data available

Mobility in soil

The product is water soluble, and may spread in water systems . Will likely be mobile in the environment due to its water solubility. Highly mobile in soils.

Ozone Depletion Potential

Component	CAS No	Ozone Depletion Potential
Methyl magnesium bromide	75-16-1	Not listed
Ethyl ether	60-29-7	Not listed

Other adverse effects

No information available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues/Unused Products

Waste is classified as hazardous. Dispose in accordance with the Wastes Control Act (폐기물관리법).

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

Other Information

Waste codes should be assigned by the user based on the application for which the product was used. Do not flush to sewer. Can be landfilled or incinerated, when in compliance with local regulations. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms.

SECTION 14: TRANSPORT INFORMATION

Road and Rail Transport

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

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ATA

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

MDG/IMO

UN-No UN1928
 Proper Shipping Name Methylmagnesium bromide in ethyl ether (Mixture)
 Hazard Class 4.3
 Subsidiary Hazard Class 3
 Packing Group I
 Marine Pollutant No hazards identified

Special Precautions for User No special precautions required

SECTION 15: REGULATORY INFORMATION

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

Legend: X - Listed '-' - Not Listed

International Inventories

Component	CAS No	KECL	TSCA	EINECS	IECSC	DSL	NDSL	PICCS	ENCS	ISHL	AICS
Methyl magnesium bromide	75-16-1	-	X	200-844-1	-	-	X	X	X	X	-
Ethyl ether	60-29-7	KE-27690	X	200-467-2	X	X	-	X	X	X	X

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)
Methyl magnesium bromide	75-16-1	Not applicable	Not applicable	Not applicable	Not applicable
Ethyl ether	60-29-7	Not applicable	Not applicable	Not applicable	Annex I - Y40 Annex I - Y42

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential
Methyl magnesium bromide	75-16-1	Not applicable	Not applicable	Not applicable
Ethyl ether	60-29-7	Listed	Not applicable	Not applicable

Korean National Regulations

Component	CAS No	Act on Registration and Evaluation of Chemical Substances (K-REACH)	Authorised Chemicals	Existing Substances Subject to Registration
Methyl magnesium bromide	75-16-1	Not applicable	Not applicable	Not applicable
Ethyl ether	60-29-7	Annex 1 - KE-27690	Not applicable	Not applicable

Component	CAS No	Chemical Control Act - Toxic Chemicals	Chemical Control Act - Prohibited Chemicals	Chemical Control Act - Use Restricted Chemicals
Methyl magnesium bromide	75-16-1	Not applicable	Not applicable	Not applicable
Ethyl ether	60-29-7	Not applicable	Not applicable	Not applicable

Component	CAS No	Chemical Control Act - Accident Precaution Chemicals (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Storage (% in	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Manufacture/Use

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			mixtures)	(% in mixtures)
Methyl magnesium bromide	75-16-1	Not applicable	Not applicable	Not applicable
Ethyl ether	60-29-7	Not applicable	Not applicable	Not applicable

Component	CAS No	Waste Control Law	Ministry of Environment - CMR risk	Ministry of Environment - Critically Controlled Substance
Methyl magnesium bromide	75-16-1	Not applicable	Not applicable	Not applicable
Ethyl ether	60-29-7	Not applicable	Not applicable	Not applicable

Component	CAS No	ISHA - Harmful Agents Subject to Work Environment Monitoring	ISHA - Prohibited substances	ISHA - Substances requiring permission
Methyl magnesium bromide	75-16-1	Not applicable	Not applicable	Not applicable
Ethyl ether	60-29-7	Listed	Not applicable	Not applicable

Component	CAS No	ISHA - Substances subject to control	ISHA - Harmful Agents Requiring Health Examination	ISHA - Permissible Exposure Limits
Methyl magnesium bromide	75-16-1	Not applicable	Not applicable	Not applicable
Ethyl ether	60-29-7	Listed	Listed	Not applicable

Component	CAS No	ISHA - Subject to Process Safety Reports (minimum quantity)	ISHA - Threshold Limit Values (TLVs) Chemicals	ISHA - Special management materials
Methyl magnesium bromide	75-16-1	5000 kg	Not applicable	Not applicable
Ethyl ether	60-29-7	5000 kg	STEL: 500 ppm TWA: 400 ppm	Not applicable

National Fire Association - Dangerous Substances Minimum quantity requiring a permit

Component	CAS No	Class 1 - Oxidising solids	Class 2 - Flammable solid	Class 3 - Spontaneously Combustible Substances and Dangerous Substances When Wet	Class 4 - Flammable liquids	Class 5 - Self-reactive substances	Class 6 - Oxidising liquids
Methyl magnesium bromide	75-16-1	Not applicable	Not applicable	7. Organic metal compounds (except for alkyl aluminium and alkyl lithium) 50 kg	Not applicable	Not applicable	Not applicable
Ethyl ether	60-29-7	Not applicable	Not applicable	Not applicable	1. Special flammables 50 L	Not applicable	Not applicable

Control Parameters

Component	CAS No	Korea	ACGIH - Biological Exposure Indices
Methyl magnesium bromide	75-16-1	Not listed	Not listed
Ethyl ether	60-29-7	STEL: 500 ppm TWA: 400 ppm	Not listed

US Management Information

OSHA - Occupational Safety and Health Administration

Not applicable

Component	CAS No	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Methyl magnesium bromide	75-16-1	Not applicable	Not applicable

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Ethyl ether	60-29-7	Not applicable	Not applicable
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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	CAS No	CERCLA Extremely Hazardous Substances RQs	Hazardous Substances RQs	SARA 313 - Threshold Values %
Methyl magnesium bromide	75-16-1	Not applicable	Not applicable	Not applicable
Ethyl ether	60-29-7	Not applicable	100 lb	Not applicable

GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Danger.

H224 - Extremely flammable liquid and vapor. H260 - In contact with water releases flammable gases which may ignite spontaneously. H314 - Causes severe skin burns and eye damage. H336 - May cause drowsiness or dizziness. H302 - Harmful if swallowed. EUH019 - May form explosive peroxides. EUH014 - Reacts violently with water.

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P310 - Immediately call a POISON CENTER or doctor/physician. P223 - Do not allow contact with water. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P302 + P335 + P334 - IF ON SKIN: Brush off loose particles from skin. Immerse in cool water.

SECTION 16: OTHER INFORMATION

Legend

CAS - Chemical Abstracts Service

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

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

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

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

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

POW - Partition coefficient Octanol:Water

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit

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and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts.

Chemical incident response training.

Creation Date	21-May-2012
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End of Safety Data Sheet