

Material Safety Data Sheet

According to (EC) No 1907/2006 (REACH) and 1272/2008 (CLP)

AETHER

EN

FORM-06-14-01 (V00)

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Publication: 13/01/2021

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Version: 01



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

1.1 Product identifier

Product name: Ether
Aether
Ether
Éther
Ether
N° CAS: 60-29-7
N° EC: 200-467-2

1.2 Relevant identified uses of the substance/mixture and uses advised against

Identified uses: Active Pharmaceutical Ingredient or Excipient.

1.3 Details of the supplier of the safety data sheet

Company: Magis-Pharma NV
Neerlandweg 24
2610 Wilrijk
Belgium
Telephone: (+32) (0)3 457 11 76
Email: info@magis-pharma.be
Web page: www.magis-pharma.be

1.4 Emergency telephone number

Public utility foundation:	Belgisch Antigifcentrum	Centre Antipoisons Belge
Telephone:	(+32) (0)70 245 245	(Service 24/7)
Web page:	www.antigifcentrum.be	www.centreantipoisons.be

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance/mixture

Classification according to (EC) n° 1272/2008

Flammable Liquid (category 1)	H224
Acute Toxicity (category 4)	H302
STOT SE (category 3)	H336

2.2 Label elements

Labelling according to (EC) n° 1272/2008

Hazard pictogram(s):



Signal word(s): Danger

Hazard statements:

H224	Extremely flammable liquid and vapour.
H302	Harmful if swallowed.

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H336	May cause drowsiness or dizziness.
Precautionary statements:	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241	Use explosion-proof electrical/ventilating/lighting/.../equipment.
P261	Avoid breathing fumes/gas/mist/vapours/spray.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulation.
Additional applicable label elements:	Not applicable.

2.3 Other hazards

Vapours can form an explosive mixture with air. May form explosive mixtures with air at room temperature. Form highly explosive peroxides when standing in air, especially in the presence of light.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Product name:	Ether
IUPAC name:	Ethoxyethane
Synonyms:	Diethyl ether Ethyl ether
N° CAS:	60-29-7
N° EC:	200-467-2
Molecular Formula:	C ₄ H ₁₀ O
Content:	100 %

3.2 Mixtures

Not applicable.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General notes:	In all cases keep the victim at physical and mental rest and warm. In all serious events and always in case of eye contact, get medical advice.
After inhalation:	Break off the exposition, move the victim to fresh air. In all cases if inhalation causes the symptoms (for instance cough) avoid walk. Even if symptoms stopped and victim feels well, do not allow to go home without the medical control.
After skin contact:	Take off immediately contaminated clothing and flush affected area with plenty of water (preferably lukewarm) and soap.
After eye contact:	Rinse with plenty of water for at least 15 minutes. Immediately call in ophthalmologist.
After ingestion:	

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Rinse the mouth with clean water, do not induce vomiting, give activated charcoal (5 crushed tablets in a small amount of water), seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Narcotic effects. Ingestion causes drunkenness much faster than alcohol.

Symptoms of chronic toxicity are unspecific difficulties, lost of appetite, sick stomach, headache, drowsiness, on other hand searchfully undrowsiness, intolerance to alcohol. The effect on blood creation is very problematic.

4.3 Indication of any immediate medical attention and special treatment needed

Caution if victim vomits: risk of aspiration.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Foam, water mist, carbon dioxide, dry powders.

Unsuitable extinguishing media: Not available.

5.2 Special hazards arising from the substance/mixture

Combustible. Vapours are heavier than air. Forms explosive mixture with air at ambient temperatures. Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Surrounding fires: Cool the tanks containing the product with a water jet from a safe distance. Prevent fire extinguishing water from contaminating surface water or the groundwater system.

Protection against fire: In the event of fire, wear self-contained breathing apparatus (EN 137) and clothing protective against chemicals.

Hazardous combustion products: Not available.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Avoid inhaling product vapours. Avoid contact with skin and eyes. Storing spaces must be sufficiently ventilated. Eliminate all sources of ignition. No smoking. Keep away from open flame. Use only non sparking tools. Use suitable personal protective equipment.

For emergency responders

Not available.

6.2 Environmental precautions

Do not allow to enter sewerage system. Risk of explosion!

6.3 Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, Chemizorb), sweep up.

Keep in suitable, designated, closed containers for disposal.

6.4 Reference to other sections

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Disposal: see section 13.

Using of personal protective equipment: see section 8

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Precautions for safe handling:	Keep away from sources of ignition. No smoking. Do not empty into drains. Do not eat, drink or smoke during the work and observe the personal hygiene principles. Wash with water and soap after working with substances.
Personal protection:	Do not breathe exhalations. Use personal protective equipment.
Technical protective measures:	Take measures against static electricity discharge.
Handling:	Not available.

7.2 Conditions for safe storage, including any incompatibilities

Storage:	Tightly closed in a cool place.
Conditions for safe storage, including any incompatibilities:	Warehouse facilities must be equipped with ventilation system of sufficient capacity. Protect from light and air. Take precautionary measures against static discharges.
Storage – away from:	Keep away from sources of ignition and heat.

7.3 Specific end use(s)

Active Pharmaceutical Ingredient or Excipient

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure limits for workplace (country in EU): long-term: 308 mg/m³ (100 ppm); short-term: 616 mg/m³ (200 ppm)
DNEL:
Workers: inhalation, acute effects - 616 mg/m³; inhalation, long-term effects - 308 mg/m³; dermal, long-term effects - 44 mg/kg bw/day
Consumers: inhalation, long-term effects - 54.5 mg/m³; dermal, long-term effects - 15.6 mg/kg bw/day; oral, long-term effects - 15.6 mg/kg bw/day
PNEC:
Aqua (freshwater) - 2 mg/l; Aqua (marine water) - 0.2 mg/l; Aqua (intermittent releases) - 1.65 mg/l
Sediment (freshwater) - 9.14 mg/kg; Sediment (marine water) - 0.914 mg/kg Soil - 0.66 mg/kg
STP (Sewage treatment plant) - 4.2 mg/l

8.2 Exposure controls

Appropriate engineering control

Use process enclosures, local exhaust, general ventilation. Ensure good ventilation or use local exhaust ventilation to maintain ambient vapour concentrations below the exposure limit. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Individual protection measures

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Eye/face protection:	Tight protective goggles.
Skin protection:	Antistatic protective clothing, boots with antistatic sole, cap.
Hand protection:	Rubber gloves.
Respiratory protection:	Protective mask with filter AX against organic vapour.
Thermal hazards:	Not determined.

Environmental exposure control

Do not empty into drains.

Avoid uncontrolled release of the substance/mixture to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	Colourless clear liquid
Odour:	Sweetish to fruity
Odour threshold:	1 – 27 mg/m ³
pH:	Not available.
Melting/freezing point:	-116.3 °C
Initial boiling point:	34.6 °C
Boiling range:	Not available.
Flash point:	-45 °C
Evaporation rate:	Not available.
Flammability (solid/gas):	Extremely flammable
Upper/lower flammability or explosive limits:	Upper: 35.5% (in the gaseous state) Lower: 1.85% (in the gaseous state)
Vapour pressure:	71.60 kPa, 25 °C
Vapour density:	2.6
Relative density:	0.71 g/cm ³
Solubility:	Miscible with ethanol, chloroform, benzene and other organic solvents.
Solubility in water:	64.9 g/l (20 °C)
Partition coefficient (n-octanol/water):	1.05 (20 °C)
Auto-ignition temperature:	175 °C
Decomposition temperature:	Not available.
Viscosity:	0.235 mPa.s (20 °C)
Explosive properties:	Non explosive
Oxidising properties:	Non oxidizing.

9.2 Other information

Not available.

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SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Reacts with strong oxidants for rapid evolution of heat. Risk of explosion at uncontrolled reaction. Rapid evolution of heat in reaction with acids.

10.2 Chemical stability

Stable under recommended storage and handling conditions.

10.3 Possibility of hazardous reactions

Easy evaporates at the air, vapours form with air the explosive mixture. Air (particularly with sunlight) causes the self oxidation forming peroxides.

10.4 Conditions to avoid

Heat, open flame, electrostatic discharges.

10.5 Incompatible materials

Oxidizing agents. Acids and bases.

10.6 Hazardous decomposition products

Carbon oxides, peroxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:	LD ₅₀ , Oral, Rat (mg/kg): 1200 LD ₅₀ , Skin, Rat or Rabbit (mg/kg): > 2 000 (rabbit) LD ₅₀ , Inhalation, Rat (gas and vapour) (mg/m ³): 97 000 (4 h)
Skin corrosion/irritation:	Not irritating (rabbit).
Serious eye damage/irritation:	Not irritating (rabbit).
Respiratory/skin sensitisation:	Not sensitizing to skin (mouse).
Germ cell mutagenicity:	Based on available data, the classification criteria are not met.
Carcinogenicity:	Not available.
Reproductive toxicity:	Based on available data, the classification criteria are not met.
Summary of evaluation of the CMR properties:	Not available.
STOT-single exposure:	May cause drowsiness or dizziness.
STOT-repeated exposure:	Based on available data, the classification criteria are not met.
Aspiration Hazard:	Not available.
Other:	Not available.

11.2 Additional information on potential adverse human health effects and symptoms

Eye contact:	May cause irritation.
Skin contact:	Not available.
Inhalation:	Acute inhalation poisoning is similar to drunkenness.

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Ingestion: Harmful. Ingestion causes intoxication more promptly as alcohol, its lasting is but shorter. Death caused by ingestion of about 25 to 50 ml. Risk of gastric distension and a vapour pressure.

Aspiration: Not available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Acute Aquatic Toxicity:

LC₅₀, 96 h, Fish (mg/l): 2560 (Pimephales promelas)

EC₅₀, 48 h, Crustacea (mg/l): 165 (24 h, Daphnia magna)

IC₅₀, 72 h, Algae (mg/l): > 100 (Desmodesmus subspicatus)

Chronic Aquatic Toxicity:

NOEC (21 d, Daphnia magna): 100 mg/l

Toxicity for Other Environment:

EC₅₀, 5 min, microorganisms (mg/l): 3 536

12.2 Persistence and degradability

Non biodegradable.

12.3 Bioaccumulative potential

Not bioaccumulation potential.

BCF: 2; Log Kow: 1.05

12.4 Mobility in soil

Expected to have high mobility in soil.

12.5 Results of PBT and vPvB assessment

The substance does not meet the criteria for PBT or vPvB.

12.6 Other adverse effects

Concentration of 0.3 mg/l does not affect the ecotoxicity of water streams.

Concentration of 1000 mg/l is mortal for the fish.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

For disposal of the substance/mixture: Remains absorb with wooden sawdust or sand and then burn in waste incineration plant.

For disposal of the contaminated packaging: Rinse with suitable solvent or incinerate at a reserved place in accordance with local environmental regulations.

SECTION 14: TRANSPORT INFORMATION

Transport information according to ADR/RID/IMDG/ICAO/IATA

14.1 UN Number

ADR/ RID(Land),IMDG(Sea), UN1155
IATA/ICAO (Air) :

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14.2 UN proper shipping name

ADR/ RID(Land),IMDG(Sea),
IATA/ICAO (Air) : ADR/RID: DIETHYL ETHER (ETHYL ETHER)
IMDG, ICAO/IATA: DIETHYL ETHER

14.3 Transport hazard class(es)

ADR/ RID(Land),IMDG(Sea),
IATA/ICAO (Air) : ADR/RID: 3 / F1 / I
IMDG, ICAO/IATA: 3 / I

14.4 Packing group

ADR/ RID(Land),IMDG(Sea),
IATA/ICAO (Air) : I

14.5 Environmental hazards

ADR/ RID(Land),IMDG(Sea),
IATA/ICAO (Air) : ADR/RID, IMDG: no
ICAO/IATA: Not classified.

14.6 Special precautions for user

Warning: Flammable liquids.

14.7 Transport in bulk according to annex II of Marpol and the IBC Code

Not available.

14.8 Additional transport information

Highly flammable: will be easily ignited by heat, sparks or flames.

SECTION 15: REGULATORY INFORMATION

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

Hazard symbol:



Irritant Danger

Risk phrases:

R12 Extremely flammable
R19 May form explosive peroxides.
R22 Harmful if swallowed.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.

Safety phrases:

S9 Keep container in a well-ventilated place.
S16 Keep away from sources of ignition – No smoking
S29 Do not empty into drains
S33 Take precautionary measures against static discharges

15.2 Chemical safety assessment

Chemical safety assessment has not been carried out for this substance.

SECTION 16: OTHER INFORMATION

16.1 Changes since the previous version

Not applicable.

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16.2 Abbreviations and acronyms used

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS:	Chemical Abstracts Service (division of the American Chemical Society)
EC (number):	European Community (number)
IATA:	International Air Transport Association
ICAO:	International Civil Aviation Organization
IMDG:	International Maritime Code for Dangerous Goods
IUPAC:	International Union of Pure and Applied Chemistry
PBT:	Persistent, Bioaccumulative and Toxic substance
RID:	Regulations Concerning the International Transport of Dangerous Goods by Rail
STOT:	Specific Target Organ Toxicity
UN (number):	United Nations (number)
vPvB:	very Persistent and very Bioaccumulative

16.3 Key literature references/sources for data

European Chemicals Agency.
<https://www.echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database/>

16.4 Method of classification in case of mixture

Not applicable.

16.5 Relevant Hazard statements and/or precautionary statements

For information on hazard and/or precautionary statements refer to section 2 up to and including section 15.

16.6 Training advisement

Not available

16.7 Notice for user(s)

The information provided in this MSDS has been established in accordance with Commission Regulation (EU) 2015/830 of 28 May 2015, amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council, on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94, as well as Council Directive 76/769/EEC and Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC of the Commission.

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16.8 Department issuing MSDS

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