



## SAFETY DATA SHEET

# Methyl-tert-butyl ether (MTBE) 99,5+%

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

### 1.1. Product identifier

<i>Trade name:</i>	Methyl-tert-butyl ether (MTBE) 99,5+%
<i>Product no.:</i>	3244531
<i>Other means of identification:</i>	Index No.: 603-181-00-X EC No.: 216-653-1 CAS No.: 1634-04-4

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

<i>Relevant identified uses of the substance or mixture:</i>	Industrial purposes, Laboratory use
<i>Uses advised against:</i>	None known.

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

<i>Company and address:</i>	<b>Laboratoriumdiscounter</b> Zandvoortstraat 75 1976BN IJmuiden Netherlands Tel: +31 255 700 210 <a href="http://www.laboratoriumdiscounter.nl/en/">www.laboratoriumdiscounter.nl/en/</a>
<i>E-mail:</i>	<a href="mailto:info@laboratoriumdiscounter.nl">info@laboratoriumdiscounter.nl</a>
<i>Revision:</i>	13/03/2023
<i>SDS Version:</i>	1.0

### 1.4. Emergency telephone number

Contact The National Poisons Information Service (dial 111, 24 h service).  
See section 4 "First aid measures".

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

Flam. Liq. 2; H225, Highly flammable liquid and vapour.  
Skin Irrit. 2; H315, Causes skin irritation.

### 2.2. Label elements

*Hazard pictogram(s):*



*Signal word:*

Danger

*Hazard statement(s):*

Highly flammable liquid and vapour. (H225)  
Causes skin irritation. (H315)

*Safety statement(s):*



Compiled in accordance with REACH Regulation (EC) No 1907/2006, as retained and amended in UK law

<i>General:</i>	If medical advice is needed, have product container or label at hand. (P101) Keep out of reach of children. (P102)
<i>Prevention:</i>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210) Wash hands and exposed skin thoroughly after handling. (P264) Wear eye protection/protective gloves/protective clothing. (P280)
<i>Response:</i>	In case of fire: Use water mist/carbon dioxide/alcohol-resistant foam to extinguish. (P370+P378)
<i>Storage:</i>	Store in a well-ventilated place. Keep cool. (P403+P235)
<i>Disposal:</i>	Dispose of contents/container in accordance with local regulation. (P501)
<i>Hazardous substances:</i>	None known.
<i>Additional labelling:</i>	Not applicable.

### 2.3. Other hazards

<i>Additional warnings:</i>	This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB. This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.
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## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Product/substance	Identifiers	% w/w	Classification	Note
tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	CAS No.: 1634-04-4 EC No.: 216-653-1 UK-REACH: Index No.: 603-181-00-X	95-100%	Flam. Liq. 2, H225 Skin Irrit. 2, H315	[1]

### 3.2. Mixtures

Not applicable. This product is a substance.

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

### Other information

[1] European occupational exposure limit.



## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

*General information:*

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet.

Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

*Inhalation:*

Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.

*Skin contact:*

IF ON SKIN: Wash with plenty of water and soap.  
Remove contaminated clothing and shoes. Ensure to wash exposed skin thoroughly with water and soap. DO NOT use solvents or thinners.  
If skin irritation occurs: Get medical advice/attention.

*Eye contact:*

Upon irritation of the eye: Remove contact lenses and open eyes widely. Flush eyes with water or saline water (20-30 °C) for at least 5 minutes. Seek medical assistance and continue flushing during transport.

*Ingestion:*

If the person is conscious, rinse the mouth with water and stay with the person. Never give the person anything to drink.  
In case of malaise, seek medical advice immediately and bring the safety data sheet or label from the product. Do not induce vomiting, unless recommended by the doctor. Have the person lean forward with head down to avoid inhalation of or choking on vomited material.

*Burns:*

Rinse with water until pain stops then continue to rinse for 30 minutes.

### 4.2. Most important symptoms and effects, both acute and delayed

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

### 4.3. Indication of any immediate medical attention and special treatment needed

None known.

### Information to medics

Bring this safety data sheet or the label from this product.



## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.  
Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

### 5.2. Special hazards arising from the substance or mixture

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.

If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:

Carbon oxides (CO / CO<sub>2</sub>)

### 5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact The National Poisons Information Service (dial 111, 24 h service) in order to obtain further advice.

Hazchem Code: ●3YE

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

Storages not yet ignited must be cooled by water mist. Remove flammable materials if conditions allow it. Ensure sufficient ventilation.

Avoid direct contact with spilled substances.

### 6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc.

### 6.3. Methods and material for containment and cleaning up

Limit spillage and collect using granular absorbent or similar materials, and dispose of it in accordance with the regulations on dangerous waste.

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

### 6.4. Reference to other sections

See section 13 "Disposal considerations" on handling of waste.

See section 8 "Exposure controls/personal protection" for protective measures.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Ground and bond container and receiving equipment.

Use explosion-proof [electrical/lighting/ventilating] equipment.

Use non-sparking tools.

Take action to prevent static discharges.

Smoking, drinking and consumption of food is not allowed in the work area.

See section 8 "Exposure controls/personal protection" for information on personal protection.



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## 7.2. Conditions for safe storage, including any incompatibilities

Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Take action to prevent static discharges.

Must be stored in a cool and well-ventilated area, away from possible sources of ignition.

*Recommended storage material:*

Keep only in original packaging.

*Storage temperature:*

Room temperature 15 to 25°C

*Incompatible materials:*

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

## 7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

# SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

## 8.1. Control parameters

tert-butyl methyl ether;MTBE;2-methoxy-2-methylpropane

Long term exposure limit (8 hours) (ppm): 50

Long term exposure limit (8 hours) (mg/m<sup>3</sup>): 183,5

Short term exposure limit (15 minutes) (ppm): 100

Short term exposure limit (15 minutes) (mg/m<sup>3</sup>): 367

The Control of Substances Hazardous to Health Regulations 2002. SI 2002/2677 The Stationery Office 2002.

EH40/2005 Workplace exposure limits (Fourth Edition 2020).

## DNEL

tert-butyl methyl ether;MTBE;2-methoxy-2-methylpropane

Duration:	Route of exposure:	DNEL:
Long term – Systemic effects - General population	Dermal	3570 mg/kg bw/day
Long term – Systemic effects - Workers	Dermal	5100 mg/kg bw/day
Long term – Systemic effects - General population	Inhalation	53.6 mg/m <sup>3</sup>
Long term – Systemic effects - Workers	Inhalation	178.5 mg/m <sup>3</sup>
Short term – Local effects - General population	Inhalation	214 mg/m <sup>3</sup>
Short term – Local effects - Workers	Inhalation	357 mg/m <sup>3</sup>
Long term – Systemic effects - General population	Oral	7.1 mg/kg bw/day

## PNEC

tert-butyl methyl ether;MTBE;2-methoxy-2-methylpropane

Route of exposure:	Duration of Exposure:	PNEC:
Freshwater		5.1 mg/L
Freshwater sediment		23 mg/kg
Intermittent release (freshwater)		47.2 mg/L
Marine water		260 µg/L
Marine water sediment		1.17 mg/kg



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Sewage treatment plant		71 mg/L
Soil		1.56 mg/kg

## 8.2. Exposure controls

Compliance with the given occupational exposure limits values should be controlled on a regular basis.

*General recommendations:*

Smoking, drinking and consumption of food is not allowed in the work area.

*Exposure scenarios:*

There are no exposure scenarios implemented for this product.

*Exposure limits:*

Professional users are subjected to the legally set maximum concentrations for occupational exposure. See occupational hygiene limit values above.

*Appropriate technical measures:*

The formation of vapours must be kept at a minimum and below current limit values (see above). Installation of a local exhaust system if normal air flow in the work room is not sufficient is recommended. Ensure eyewash and emergency showers are clearly marked.

*Hygiene measures:*

Take off contaminated clothing and wash it before reuse.

*Measures to avoid environmental exposure:*


No specific requirements.

## Individual protection measures, such as personal protective equipment


*Generally:*

Use only UKCA marked protective equipment.


*Respiratory Equipment:*

Type	Class	Colour	Standards	
AX		Brown	EN14387	


*Skin protection:*

Recommended	Type/Category	Standards	
Dedicated work clothing should be worn.	-	-	

*Hand protection:*

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
Nitrile	0,2	> 480	EN374-2, EN374-3, EN388	

*Eye protection:*

Type	Standards	
Safety glasses with side shields.	EN166	



## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

<i>Physical state:</i>	Liquid
<i>Colour:</i>	Colourless
<i>Odour / Odour threshold:</i>	Characteristic (Odour threshold: 0,053 ppm)
<i>pH:</i>	Testing not relevant or not possible due to the nature of the product.
<i>Density (g/cm<sup>3</sup>):</i>	0.74 (20 °C)
<i>Kinematic viscosity:</i>	Testing not relevant or not possible due to the nature of the product.
<i>Particle characteristics:</i>	Does not apply to liquids.

### Phase changes

<i>Melting point/Freezing point (°C):</i>	-108,6
<i>Softening point/range (waxes and pastes) (°C):</i>	Does not apply to liquids.
<i>Boiling point (°C):</i>	55.3
<i>Vapour pressure:</i>	33 Pa (25 °C)
<i>Relative vapour density:</i>	Testing not relevant or not possible due to the nature of the product.
<i>Decomposition temperature (°C):</i>	Testing not relevant or not possible due to the nature of the product.

### Data on fire and explosion hazards

<i>Flash point (°C):</i>	-28 °C at 101,3 kPa (ECHA)
<i>Flammability (°C):</i>	The material is ignitable.
<i>Auto-ignition temperature (°C):</i>	460
<i>Lower and upper explosion limit (% v/v):</i>	1.5 - 8.5

### Solubility

<i>Solubility in water:</i>	41,85 g /l
<i>n-octanol/water coefficient:</i>	Testing not relevant or not possible due to the nature of the product.
<i>Solubility in fat (g/L):</i>	Testing not relevant or not possible due to the nature of the product.

### 9.2. Other information

<i>Other physical and chemical parameters:</i>	No data available.
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## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

No data available.

### 10.2. Chemical stability

The product is stable under the conditions, noted in section 7 "Handling and storage".



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### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

Avoid static electricity.

### 10.5. Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

### 10.6. Hazardous decomposition products

The product is not degraded when used as specified in section 1.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 as retained and amended in UK law

#### Acute toxicity

Based on available data, the classification criteria are not met.

#### Skin corrosion/irritation

Causes skin irritation.

#### Serious eye damage/irritation

Based on available data, the classification criteria are not met.

#### Respiratory sensitisation

Based on available data, the classification criteria are not met.

#### Skin sensitisation

Based on available data, the classification criteria are not met.

#### Germ cell mutagenicity

Based on available data, the classification criteria are not met.

#### Carcinogenicity

Based on available data, the classification criteria are not met.

#### Reproductive toxicity

Based on available data, the classification criteria are not met.

#### STOT-single exposure

Based on available data, the classification criteria are not met.

#### STOT-repeated exposure

Based on available data, the classification criteria are not met.

#### Aspiration hazard

Based on available data, the classification criteria are not met.

### 11.2. Information on other hazards

#### Long term effects

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

#### Endocrine disrupting properties

Not applicable.

#### Other information

tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane has been classified by IARC as a group 3 carcinogen.





## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

No data available.

### 12.2. Persistence and degradability

No data available.

### 12.3. Bioaccumulative potential

No data available.

### 12.4. Mobility in soil

No data available.

### 12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.

### 12.6. Endocrine disrupting properties

Not applicable.

### 12.7. Other adverse effects

None known.

## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

Product is covered by the regulations on hazardous waste.

HP 3 - Flammable

HP 4 - Irritant (skin irritation and eye damage)

Dispose of contents/container to an approved waste disposal plant.

Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.

### EWC code

Not applicable.


### Specific labelling

Not applicable.

### Contaminated packing



Packaging containing residues of the product must be disposed of similarly to the product.

## SECTION 14: TRANSPORT INFORMATION

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
ADR	UN2398	METHYL tert- BUTYL ETHER	Class: 3 Labels: 3 Classification code: F1 	II	No	Limited quantities: 1 L Tunnel restriction code: (D/E) See below for additional



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	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
						information.
IMDG	UN2398	METHYL tert-BUTYL ETHER	Class: 3 Labels: 3 Classification code: F1 	II	No	Limited quantities: 1 L EmS: F-E S-D See below for additional information.
IATA	UN2398	METHYL tert-BUTYL ETHER	Class: 3 Labels: 3 Classification code: F1 	II	No	See below for additional information.

\* Packing group

\*\* Environmental hazards

#### Additional information

ADR / See Table A, Section 3.2.1 for any information on special provisions, requirements, or warnings in connection with transport. See section 5.4.3, for instructions in writing regarding mitigation of damages in relation to incidents or accidents during transport.

IMDG / See section 3.2.1, for any information on special provisions, requirements, or warnings in connection with transport.

IATA / See Table 4.2 for any information on special provisions, requirements, or warnings in connection with transport.

This product is within scope of the regulations of transport of dangerous goods.

Hazchem Code: ●3YE

#### 14.6. Special precautions for user

Not applicable.

#### 14.7. Maritime transport in bulk according to IMO instruments

No data available.

## SECTION 15: REGULATORY INFORMATION

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

*Restrictions for application:*

People under the age of 18 shall not be exposed to this product.

*Demands for specific education:*

No specific requirements.

*SEVESO - Categories / dangerous substances:*

P5c - FLAMMABLE LIQUIDS, Qualifying quantity (lower-tier): 5.000 tonnes / (upper-tier): 50.000 tonnes

*Additional information:*

Tactile warning.

*Sources:*

Control of Major Accident Hazards (COMAH) Regulations 2015.



Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.  
Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP) as retained and amended in UK law.  
Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as retained and amended in UK law.

## 15.2. Chemical safety assessment

No

## SECTION 16: OTHER INFORMATION

### Full text of H-phrases as mentioned in section 3

H225, Highly flammable liquid and vapour.

H315, Causes skin irritation.

### Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

CAS = Chemical Abstracts Service

CE = Conformité Européenne

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

CSA = Chemical Safety Assessment

CSR = Chemical Safety Report

DMEL = Derived Minimal Effect Level

DNEL = Derived No Effect Level

EINECS = European Inventory of Existing Commercial chemical Substances

ES = Exposure Scenario

EUH statement = CLP-specific Hazard statement

EWC = European Waste Catalogue

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IARC = International Agency for Research on Cancer (IARC)

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

OECD = Organisation for Economic Co-operation and Development

PBT = Persistent, Bioaccumulative and Toxic

PNEC = Predicted No Effect Concentration

RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail

RRN = REACH Registration Number

SCL = A specific concentration limit

SVHC = Substances of Very High Concern



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STOT-RE = Specific Target Organ Toxicity - Repeated Exposure

STOT-SE = Specific Target Organ Toxicity - Single Exposure

TWA = Time weighted average

UN = United Nations

UVBC = Unknown or variable composition, complex reaction products or of biological materials

VOC = Volatile Organic Compound

vPvB = Very Persistent and Very Bioaccumulative

### **Additional information**

The classification of the substance/mixture in regard of health hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP) as retained and amended in UK law.

The classification of the mixture in regard to physical hazards has been based on experimental data.

### **The safety data sheet is validated by**

Laboratoriumdiscounter

### **Other**

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a blue triangle.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

It is recommended to hand over this safety data sheet to the actual user of the product.

Information in this safety data sheet cannot be used as a product specification.

Country-language: GB-en