

# OTTO CHEMIE PVT LTD

An ISO 9001 : 2015 & GMP Certified Company  
101, Aarkay Ruby Industrial Estate (1B), Opp Shree Narayan Industrial Estate,  
Chinchpada, Vasai East, Waliv, Maharashtra 401208. Tel : + 91 98200 41841  
Email : [info@ottokemi.com](mailto:info@ottokemi.com) Web : [www.ottokemi.com](http://www.ottokemi.com)

## MATERIAL SAFETY DATA SHEET (MSDS)

### SECTION 1. Product identifiers

Product name: Methyl tert-butyl ether, for HPLC, 99.7%  
Product Code: M 2007  
CAS No : 1634-04-4

1.2. Relevant identified uses of the substance or mixture and uses advised against  
Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet

Company identification  
OTTO CHEMIE PVT LTD  
101, Aarkay Ruby Industrial Estate(1B), Opp Shree Narayan Industrial Estate,  
Chinchpada, Vasai East, Waliv, Maharashtra 401208.  
Email [info@ottokemi.com](mailto:info@ottokemi.com)

1.4. Emergency telephone number

Phone no. : + 91 22 2207 0099 (9:00am - 6:00 pm).

### SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Flammable liquids, (Category 2)

Skin irritation, (Category 2)

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word

Hazard Statements

H225

H315

Precautionary Statements

P210

P233

P240

P241

P242

P303 + P361 + P353

Supplemental Hazard  
Statements

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word

Hazard Statements

Precautionary Statements

Supplemental Hazard  
Statements

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation

H225: Highly flammable liquid and vapor.

H315: Causes skin irritation.

Danger

Highly flammable liquid and vapor.

Causes skin irritation.

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.

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

Use non-sparking tools.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

none

Danger

none

none

none

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(EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Formula : C<sub>5</sub>H<sub>12</sub>O  
Molecular weight : 88,15 g/mol  
CAS-No. : 1634-04-4  
EC-No. : 216-653-1

Component	Classification	Concentration
tert-butyl methyl ether		
CAS-No. 1634-04-4 EC-No. 216-653-1	Flam. Liq. 2; Skin Irrit. 2; H225, H315	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

#### If swallowed

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>) Foam Dry powder

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

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

#### Carbon oxides

Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire.

Forms explosive mixtures with air at ambient temperatures.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## SECTION 6: Accidental release measures

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

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert.

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For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®).

Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Protected from light. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Recommended storage temperature see product label.

Storage class

Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Worker DNEL, acute	inhalation	Local effects	357 mg/m3
Worker DNEL, longterm	inhalation	Systemic effects	178,5 mg/m3
Worker DNEL, longterm	dermal	Systemic effects	
Consumer DNEL, acute	inhalation	Local effects	214 mg/m3
Consumer DNEL, acute	inhalation	Local effects	53,6 mg/m3
Consumer DNEL, acute	ora	Systemic effects	
Consumer DNEL, acute	dermal	Systemic effects	

Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	5,1 mg/l
Sea water	0,26 mg/l
Fresh water sediment	23 mg/kg
Sea sediment	1,17 mg/kg
Sewage treatment plant	71 mg/l
Aquatic intermittent release	47,2 mg/l
Soil	1,62 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

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This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,4 mm

Break through time: 120 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type AX

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

## SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Physical state

b) Color

c) Odor

d) Melting

point/freezing point

e) Initial boiling point

and boiling range

f) Flammability (solid, gas)

g) Upper/lower

flammability or

explosive limits

h) Flash point

i) Autoignition

temperature

j) Decomposition

temperature

k) pH

l) Viscosity

Guideline

m) Water solubility

n) Partition coefficient:

n-octanol/water

o) Vapor pressure

p) Density

Relative density

q) Relative vapor

density

r) Particle

characteristics

s) Explosive properties

t) Oxidizing properties

9.2 Other safety information

liquid

colorless

characteristic

Melting point: -108,6 °C at 1.013 hPa

55,3 °C at 1.013 hPa

No data available

Upper explosion limit: 8,5 %(V)

Lower explosion limit: 1,6 %(V)

-28 °C - closed cup

460 °C

at 1013,0 hPa - DIN 51794

Distillable in an undecomposed state at normal pressure.

No data available

Viscosity, kinematic: 0,409 mm<sup>2</sup>/s at 40 °C - OECD Test

1140,464 mm<sup>2</sup>/s at 20 °C - OECD Test Guideline 114

Viscosity, dynamic: 0,36 mPa.s at 20 °C

42 g/l at 20 °C - OECD Test Guideline 105

log Pow: 1,06 at 20 °C - OECD Test Guideline 107 -

Bioaccumulation is not expected.

330 hPa at 25 °C - OECD Test Guideline 104

0,74 g/cm<sup>3</sup> at 20 °C

0,74 at 20 °C

No data available

No data available

none

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Surface tension

72,5 mN/m at 1,07g/l at 21,5 °C  
- Surface tension

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Vapors may form explosive mixture with air.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:

Oxidizing agents

Strong acids

halogens

Strong bases

### 10.4 Conditions to avoid

Heat, flames and sparks.

Warming.

### 10.5 Incompatible materials

rubber, various plastics

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals:

Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg

Inhalation LC50 Rat: > 50mg/L.

Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Special Remarks on Toxicity

to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish semi-static test LC50 - Menidia beryllina - 574 mg/l - 96 h  
(OECD Test Guideline 203)

Toxicity to daphnia

and other aquatic

invertebrates

flow-through test EC50 - Americamysis bahia (Mysid) - 187 mg/l -  
96 h

(US-EPA OPPTS 850,1035)

Toxicity to algae static test IC50 - Pseudokirchneriella subcapitata (green algae) - 491  
mg/l - 96 h

Toxicity to bacteria static test EC10 - Pseudomonas putida - 710 mg/l - 18 h

Remarks: (ECHA)

Toxicity to

fish(Chronic toxicity)

flow-through test NOEC - Pimephales promelas (fathead minnow) -  
299 mg/l - 31 d

Remarks: (ECHA)

flow-through test NOEC - Pimephales promelas (fathead minnow) -  
450 mg/l - 31 d

Remarks: (ECHA)

Toxicity to daphnia flow-through test NOEC - Daphnia magna (Water flea) - 51 mg/l -  
and other aquatic

invertebrates(Chronic

toxicity)

21 d

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(OPPTS 850.1300)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d

Result: 0 % - Not readily biodegradable.

(OECD Test Guideline 301D)

12.3 Bioaccumulative potential

Bioaccumulation Cyprinus carpio (Carp) - 28 d

at 25 °C(tert-butyl methyl ether)

Bioconcentration factor (BCF): 1,5

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

## SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

## SECTION 14: Transport information

14.1 UN number

ADR/RID: 2398

IMDG: 2398

IATA: 2398

14.2 UN proper shipping name

ADR/RID : METHYL tert-BUTYL ETHER

IMDG : METHYL tert-BUTYL ETHER

IATA : Methyl tert-butyl ether

14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

Tunnel restriction code : (D/E)

Further information : No data available

## SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use  
National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

P5c FLAMMABLE LIQUIDS

Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

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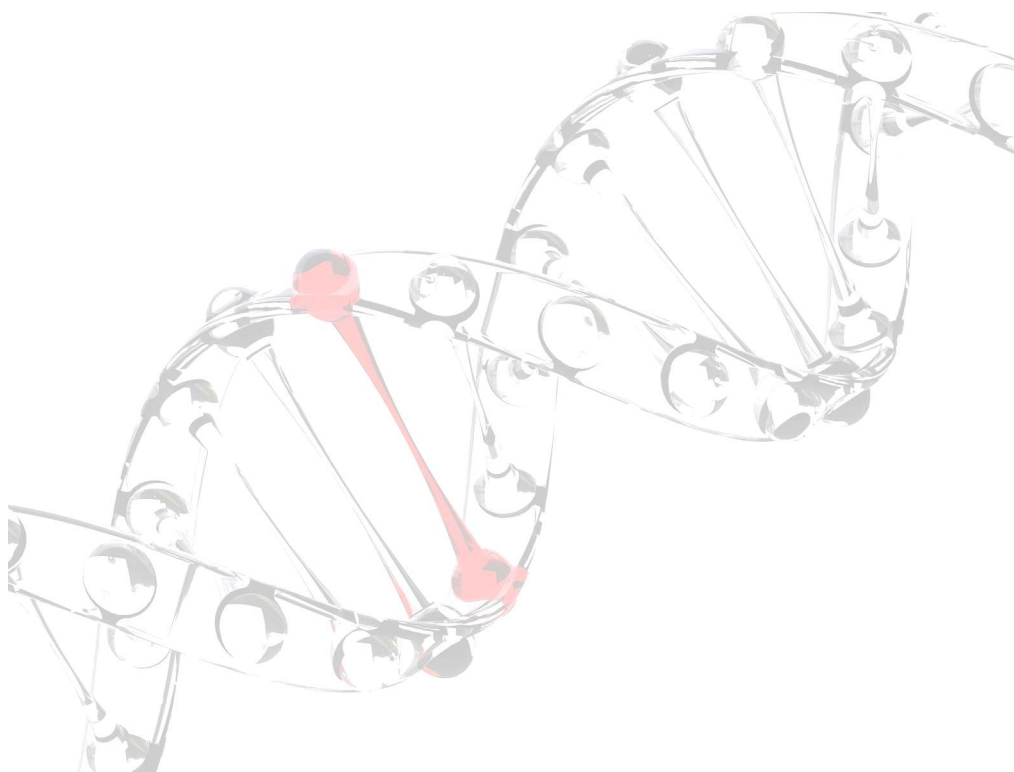
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A Chemical Safety Assessment has been carried out for this substance.

## **SECTION 16: Other Information**

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.



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