

Creation Date 28-May-2009

Revision Date 12-Sep-2014

Revision Number 4

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

1.1. Product identifier

Product Description: tert-Butyl methyl ether
Cat No. : 378720000; 378720010; 378720025; 378720100
Synonyms 2-Methyl-2-methoxy propane; MTBE; Methyl tert-butyl ether
CAS-No 1634-04-4
EC-No. 216-653-1
Molecular Formula C5 H12 O
Reach Registration Number -

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

Recommended Use Laboratory chemicals.
Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company Acros Organics BVBA
 Janssen Pharmaceuticaaan 3a
 2440 Geel, Belgium
E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information **US** call: 001-800-ACROS-01 / **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

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Flammable liquids Category 2

Health hazards

Skin Corrosion/irritation Category 2

Environmental hazards

Based on available data, the classification criteria are not met

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Symbol(s) Xi - Irritant
 F - Highly flammable
R-phrases(s) R11 - Highly flammable
 R38 - Irritating to skin

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

2.2. Label elements



Signal Word

Danger

Hazard Statements

H225 - Highly flammable liquid and vapor

H315 - Causes skin irritation

Precautionary Statements

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P240 - Ground/Bond container and receiving equipment

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

2.3. Other hazards

No information available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

| Component | CAS-No | EC-No. | Weight % | CLP Classification - Regulation (EC) No 1272/2008 | DSD Classification - 67/548/EEC |
|-------------------------|-----------|-------------------|----------|---|---------------------------------|
| Methyl tert-butyl ether | 1634-04-4 | EEC No. 216-653-1 | >95 | Skin Irrit. 2 (H315) Flam. Liq. 2 (H225) | F; R11 Xi; R38 |

| | |
|---------------------------|---|
| Reach Registration Number | - |
|---------------------------|---|

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

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

| | |
|-----------------------------------|--|
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention. |
| Ingestion | Do not induce vomiting. Obtain medical attention. |
| Inhalation | Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur. |
| Protection of First-aiders | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. |

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

Breathing difficulties. 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

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

Notes to Physician Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

Extinguishing media which must not be used for safety reasons

Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO₂).

5.3. Advice 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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges. Ensure adequate ventilation.

6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional ecological information.

6.3. Methods and material for containment and cleaning 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. Take precautionary measures against static discharges.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use explosion-proof equipment. Take precautionary measures against static discharges. Use only under a chemical fume hood. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

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7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Flammables area. Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well-ventilated place. May form explosive peroxides on prolonged storage.

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s): **EU** - Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. **UK** - EH40/2005 Containing the workplace exposure limits (WELs) for use with the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended). Updated by September 2006 official press release and October 2007 Supplement.

| Component | European Union | The United Kingdom | France | Belgium | Spain |
|-------------------------|---|---|--|---|---|
| Methyl tert-butyl ether | TWA: 50 ppm 8 hr TWA: 183.5 mg/m ³ 8 hr STEL: 100 ppm 15 min STEL: 367 mg/m ³ 15 min | STEL: 100 ppm 15 min STEL: 367 mg/m ³ 15 min TWA: 50 ppm 8 hr TWA: 183.5 mg/m ³ 8 hr | TWA / VME: 50 ppm (8 heures). TWA / VME: 183.5 mg/m ³ (8 heures). STEL / VLCT: 367 mg/m ³ . STEL / VLCT: 100 ppm. | TWA: 40 ppm 8 uren TWA: 146 mg/m ³ 8 uren STEL: 100 ppm 15 minuten STEL: 367 mg/m ³ 15 minuten | STEL / VLA-EC: 100 ppm (15 minutos). STEL / VLA-EC: 367 mg/m ³ (15 minutos). TWA / VLA-ED: 50 ppm (8 horas) TWA / VLA-ED: 183.5 mg/m ³ (8 horas) |

| Component | Italy | Germany | Portugal | The Netherlands | Finland |
|-------------------------|-------|---|---|---|--|
| Methyl tert-butyl ether | | TWA: 50 ppm (8 Stunden). AGW - exposure factor 1.5 TWA: 180 mg/m ³ (8 Stunden). AGW - exposure factor 1.5 TWA: 50 ppm (8 Stunden). MAK TWA: 180 mg/m ³ (8 Stunden). MAK Höhepunkt: 75 ppm Höhepunkt: 270 mg/m ³ | STEL: 100 ppm 15 minutos STEL: 367 mg/m ³ 15 minutos TWA: 50 ppm 8 horas TWA: 183.5 mg/m ³ 8 horas | STEL: 360 mg/m ³ 15 minuten TWA: 180 mg/m ³ 8 uren | TWA: 50 ppm 8 tunteina STEL: 100 ppm 15 minuutteina |

| Component | Austria | Denmark | Switzerland | Poland | Norway |
|-------------------------|---|---|--|---|---|
| Methyl tert-butyl ether | MAK-KZW: 100 ppm 15 Minuten MAK-KZW: 360 mg/m ³ 15 Minuten MAK-TMW: 50 ppm 8 Stunden MAK-TMW: 180 mg/m ³ 8 Stunden | TWA: 40 ppm 8 timer TWA: 144 mg/m ³ 8 timer | STEL: 75 ppm 15 Minuten STEL: 270 mg/m ³ 15 Minuten TWA: 50 ppm 8 Stunden TWA: 180 mg/m ³ 8 Stunden | STEL: 270 mg/m ³ 15 minutach TWA: 180 mg/m ³ 8 godzinach | TWA: 50 ppm 8 timer TWA: 183.5 mg/m ³ 8 timer STEL: 100 ppm 15 minutter. listed in the List of Administrative Norms STEL: 367 mg/m ³ 15 minutter. listed in the List of Administrative Norms |

| Component | Bulgaria | Croatia | Ireland | Cyprus | Czech Republic |
|-----------|----------|---------|---------|--------|----------------|
| | | | | | |

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| | | | | | |
|-------------------------|---|---|---|---|--|
| Methyl tert-butyl ether | TWA: 50 ppm TWA: 183.5 mg/m ³ STEL : 100 ppm STEL : 367 mg/m ³ | TWA-GVI: 50 ppm 8 satima. TWA-GVI: 183.5 mg/m ³ 8 satima. STEL-KGVI: 100 ppm 15 minutama. STEL-KGVI: 367 mg/m ³ 15 minutama. | TWA: 50 ppm 8 hr. TWA: 183.5 mg/m ³ 8 hr. STEL: 100 ppm 15 min STEL: 367 mg/m ³ 15 min | STEL: 367 mg/m ³ STEL: 100 ppm TWA: 183.5 mg/m ³ TWA: 50 ppm | TWA: 100 mg/m ³ 8 hodinách. Ceiling: 200 mg/m ³ |
|-------------------------|---|---|---|---|--|

| Component | Estonia | Gibraltar | Greece | Hungary | Iceland |
|-------------------------|--|---|---|---|---|
| Methyl tert-butyl ether | TWA: 50 ppm 8 tundides. TWA: 180 mg/m ³ 8 tundides. STEL: 75 ppm 15 minutites. STEL: 250 mg/m ³ 15 minutites. | TWA: 183.5 mg/m ³ 8 hr TWA: 50 ppm 8 hr STEL: 367 mg/m ³ 15 min STEL: 100 ppm 15 min | STEL: 100 ppm STEL: 367 mg/m ³ TWA: 50 ppm TWA: 183.5 mg/m ³ | STEL: 367 mg/m ³ 15 percekben. CK TWA: 183.5 mg/m ³ 8 órában. AK | STEL: 100 ppm STEL: 367 mg/m ³ TWA: 50 ppm 8 klukkustundum. TWA: 183.5 mg/m ³ 8 klukkustundum. Ceiling: 100 ppm Ceiling: 367 mg/m ³ |

| Component | Latvia | Lithuania | Luxembourg | Malta | Romania |
|-------------------------|---|---|---|---|---|
| Methyl tert-butyl ether | STEL: 100 ppm STEL: 367 mg/m ³ TWA: 50 ppm TWA: 183.5 mg/m ³ | TWA: 50 ppm IPRD TWA: 183.5 mg/m ³ IPRD STEL: 100 ppm STEL: 367 mg/m ³ | TWA: 50 ppm 8 Stunden STEL: 367 mg/m ³ 15 Minuten STEL: 100 ppm 15 Minuten | TWA: 183.5 mg/m ³ TWA: 50 ppm STEL: 367 mg/m ³ 15 minuti STEL: 100 ppm 15 minuti | TWA: 50 ppm 8 ore TWA: 183.5 mg/m ³ 8 ore STEL: 100 ppm 15 minute STEL: 367 mg/m ³ 15 minute |

| Component | Russia | Slovak Republic | Slovenia | Sweden | Turkey |
|-------------------------|---|--------------------------------|---|--|--|
| Methyl tert-butyl ether | TWA: 100 mg/m ³ STEL: 300 mg/m ³ vapor | Ceiling: 367 mg/m ³ | TWA: 50 ppm 8 urah TWA: 183.5 mg/m ³ 8 urah STEL: 100 ppm 15 minutah STEL: 367 mg/m ³ 15 minutah | STV: 60 ppm 15 minuter STV: 220 mg/m ³ 15 minuter LLV: 30 ppm 8 timmar. LLV: 110 mg/m ³ 8 timmar. | STEL: 100 ppm 15 dakika STEL: 367 mg/m ³ 15 dakika |

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS70 General methods for sampling airborne gases and vapours

MDHS 88 Volatile organic compounds in air. Laboratory method using diffusive samplers, solvent desorption and gas chromatography

MDHS 96 Volatile organic compounds in air - Laboratory method using pumped solid sorbent tubes, solvent desorption and gas chromatography

Derived No Effect Level (DNEL) No information available

| <u>Route of exposure</u> | Acute effects (local) | Acute effects (systemic) | Chronic effects (local) | Chronic effects (systemic) |
|------------------------------|-----------------------|--------------------------|-------------------------|----------------------------|
| Oral Dermal Inhalation | | | | |

Predicted No Effect Concentration (PNEC) No information available.

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8.2. Exposure controls

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment.

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

Safety glasses with side-shields (European standard - EN 166)

Hand Protection

Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments |
|----------------|-------------------|-----------------|-------------|--|
| Nitrile rubber | < 211 minutes | 0.38 mm | Level 4 | Permeation rate 1 µg/cm ² /min |
| Viton (R) | < 152 minutes | 0.7 mm | Level 4 | Permeation rate 17 µg/cm ² /min |
| | | | EN 374 | As tested under EN374-3 Determination of Resistance to Permeation by Chemicals |

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.

Respiratory Protection

No protective equipment is needed under normal use conditions.

Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 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

Small scale/Laboratory use

Maintain adequate ventilation Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance

Colorless

Physical State

Liquid

Odor

Petroleum distillates

Odor Threshold

No data available

pH

No information available

Melting Point/Range

-110 °C / -166 °F

Softening Point

No data available

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| | | |
|--|--|---|
| Boiling Point/Range | 54 - 56 °C / 129.2 - 132.8 °F | |
| Flash Point | -28 °C / -18.4 °F | Method - No information available |
| Evaporation Rate | No data available | |
| Flammability (solid,gas) | Not applicable | Liquid |
| Explosion Limits | Lower 1.6 vol% Upper 8.4 vol% | |
| Vapor Pressure | 268 mbar @ 20 °C | |
| Vapor Density | 0.2 | (Air = 1.0) |
| Specific Gravity / Density | 0.740 | |
| Bulk Density | Not applicable | Liquid |
| Water Solubility | 51 g/L (20°C) | |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | | |
| Component | log Pow | |
| Methyl tert-butyl ether | 1.06 | |
| Autoignition Temperature | 224 - °C / 435.2 - °F | |
| Decomposition temperature | No data available | |
| Viscosity | 0.36 mPa.s at 20 °C | |
| Explosive Properties | No information available | Vapors may form explosive mixtures with air |
| Oxidizing Properties | No information available | |

9.2. Other information

| | |
|--------------------------|----------|
| Molecular Formula | C5 H12 O |
| Molecular Weight | 88.15 |

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

| | |
|---------------------------------|--|
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

10.4. Conditions to avoid

Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO₂).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information

(a) acute toxicity;

| | |
|-------------------|--|
| Oral | Based on available data, the classification criteria are not met |
| Dermal | Based on available data, the classification criteria are not met |
| Inhalation | Based on available data, the classification criteria are not met |

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-----------|-----------|-------------|-----------------|
|-----------|-----------|-------------|-----------------|

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| | | | |
|-------------------------|--------------------|------------------------|-----------------------|
| Methyl tert-butyl ether | 2963 mg/kg (Rat) | 10000 mg/kg (Rabbit) | 23576 ppm (Rat) 4 h |
|-------------------------|--------------------|------------------------|-----------------------|

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;
Respiratory No data available
Skin No data available

(e) germ cell mutagenicity; No data available
 Mutagenic effects have occurred in experimental animals

(f) carcinogenicity; No data available
 The table below indicates whether each agency has listed any ingredient as a carcinogen
 Limited evidence of a carcinogenic effect

| Component | EU | UK | Germany | IARC |
|-------------------------|----|----|---------|---------|
| Methyl tert-butyl ether | | | Cat. 3B | group 3 |

(g) reproductive toxicity; No data available
Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.
Developmental Effects Developmental effects have occurred in experimental animals.
Teratogenicity Teratogenic effects have occurred in experimental animals.

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available
Target Organs Skin, Eyes, Central nervous system (CNS), Liver, Kidney, Blood.

(j) aspiration hazard; No data available

Other Adverse Effects Tumorigenic effects have been reported in experimental animals. See actual entry in RTECS for complete information

Symptoms / effects, both acute and delayed 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

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects . Do not empty into drains.

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|-------------------------|--|----------------------|--|--|
| Methyl tert-butyl ether | 887 mg/L LC50 96 h 100 mg/L LC50 96 h 929 mg/L LC50 96 h 672 mg/L LC50 96 h | 542 mg/L EC50 = 48 h | 800 mg/L EC50 > 72 h 184 mg/L EC50 = 96 h | EC50 = 11.4 mg/L 30 min EC50 = 8.23 mg/L 5 min EC50 = 9.67 mg/L 15 min |

12.2. Persistence and degradability

Persistence Persistence is unlikely, based on information available.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

| Component | log Pow | Bioconcentration factor (BCF) |
|-------------------------|---------|-------------------------------|
| Methyl tert-butyl ether | 1.06 | No data available |

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12.4. Mobility in soil

The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces. Will likely be mobile in the environment due to its volatility. Disperses rapidly in air.

12.5. Results of PBT and vPvB assessment

No data available for assessment.

12.6. Other adverse effects

Endocrine Disruptor Information

| Component | EU - Endocrine Disruptors Candidate List | EU - Endocrine Disruptors - Evaluated Substances | Japan - Endocrine Disruptor Information |
|-------------------------|--|--|---|
| Methyl tert-butyl ether | Group III Chemical | | |

Persistent Organic Pollutant

This product does not contain any known or suspected substance

Ozone Depletion Potential

This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

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.

European Waste Catalogue (EWC)

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Other Information

Waste codes should be assigned by the user based on the application for which the product was used. Do not dispose of waste into sewer. Can be incinerated, when in compliance with local regulations.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

| | |
|---|--------------------|
| <u>14.1. UN number</u> | UN2398 |
| <u>14.2. UN proper shipping name</u> | Methyl butyl ether |
| <u>14.3. Transport hazard class(es)</u> | 3 |
| <u>14.4. Packing group</u> | II |

ADR

| | |
|---|-------------------------|
| <u>14.1. UN number</u> | UN2398 |
| <u>14.2. UN proper shipping name</u> | METHYL tert-BUTYL ETHER |
| <u>14.3. Transport hazard class(es)</u> | 3 |
| <u>14.4. Packing group</u> | II |

IATA

| | |
|---|-------------------------|
| <u>14.1. UN number</u> | UN2398 |
| <u>14.2. UN proper shipping name</u> | METHYL TERT-BUTYL ETHER |
| <u>14.3. Transport hazard class(es)</u> | 3 |
| <u>14.4. Packing group</u> | II |

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required

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14.7. Transport in bulk according to Not applicable, packaged goods
Annex II of MARPOL73/78 and the IBC Code

SECTION 15: REGULATORY INFORMATION

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

International Inventories X = listed

| Component | EINECS | ELINCS | NLP | TSCA | DSL | NDSL | PICCS | ENCS | IECSC | AICS | KECL |
|-------------------------|-----------|--------|-----|------|-----|------|-------|------|-------|------|------|
| Methyl tert-butyl ether | 216-653-1 | - | | X | X | - | X | X | X | X | X |

National Regulations

| Component | Germany - Water Classification (VwVwS) | Germany - TA-Luft Class |
|-------------------------|--|-------------------------|
| Methyl tert-butyl ether | WGK 1 | |

| Component | France - INRS (Tables of occupational diseases) |
|-------------------------|--|
| Methyl tert-butyl ether | Tableaux des maladies professionnelles (TMP) - RG 84 |

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.

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

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3

R11 - Highly flammable

R38 - Irritating to skin

Full text of H-Statements referred to under sections 2 and 3

H225 - Highly flammable liquid and vapor

H315 - Causes skin irritation

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

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

PNEC - Predicted No Effect Concentration

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

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

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

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

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - Volatile Organic Compounds

Key literature references and sources for data

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.

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

Chemical incident response training.

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

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

Creation Date 28-May-2009

Revision Date 12-Sep-2014

Revision Summary Update to Format.

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

Disclaimer

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of Safety Data Sheet