

According to REACH Regulations (EC) 1907/2006 and (EU) 2020/878

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product code : GS6316
 Product name : Methyl tert-Butyl Ether, GlenPure™, analytical grade
 CAS number : 1634-04-4
 EINECS : 216-653-1
 Physical form : liquid, substance
 REACH : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

PC21: Laboratory chemicals.

1.3 Details of the supplier of the safety data sheet

| | | | |
|--------------|------------------------------|-----------|--|
| Company name | : Glentham Life Sciences Ltd | Telephone | : +44 (0) 1225 667 798 |
| | Unit 5 Leafield Way | Fax | : +44 (0) 2033 978 909 |
| | Corsham SN13 9SW | Email | : info@glentham.com |
| | United Kingdom | Web | : www.glentham.com |

1.4 Emergency telephone number

Emergency telephone : NHS Direct 111 (UK, 24 hours), 112 (EU, 24 Hours), +44 (0) 1225 667 798 (09.00 – 17.00 GMT) number

2. Hazards identification

2.1 Classification of the substance or mixture

Classification under CLP according to (EC) 1272/2008

| | |
|------|--------------|
| H225 | Flam. Liq. 2 |
| H315 | Skin Irr. 2 |

2.2 Label elements

Label elements under CLP according to (EC) 1272/2008

Pictograms



GHS02 GHS07

Signal words

Danger

Hazard statements

| | |
|------|------------------------------------|
| H225 | Highly flammable liquid and vapour |
| H315 | Causes skin irritation |

Precautionary statements

| | |
|------|---|
| P210 | Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking. |
| P264 | Do not breathe fume. |
| P241 | Use explosion-proof electrical equipment. |

2.3 Other hazards

PBT

This substance is not identified as a PBT substance.

3.0 Composition/information on ingredients

3.1 Substances

| Name | Identifier | % | Classification |
|--|--|-------|---|
| Methyl tert-Butyl Ether, GlenPure™, analytical grade | CAS: 1634-04-4 EC: 216-653-1 REACH: Not applicable | 99.7% | H225, Flam. Liq. 2 H315, Skin Irr. 2 |

4. First aid measures

4.1 Description of first aid measures

| | |
|--------------|--|
| Skin contact | Consult a doctor. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Remove all contaminated clothes and footwear immediately unless stuck to skin. Wash immediately with plenty of soap and water. |
| Eye contact | Consult a doctor. Bathe the eye with running water for 15 minutes. |
| Ingestion | Consult a doctor. Do not induce vomiting. If conscious, give half a litre of water to drink immediately. Wash out mouth with water. |
| Inhalation | Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor. |

4.2 Most important symptoms and effects, both acute and delayed

| | |
|-----------------------------|--|
| Skin contact | There may be mild irritation at the site of contact. |
| Eye contact | There may be irritation and redness. |
| Ingestion | There may be irritation of the throat. There may be soreness and redness of the mouth and throat. |
| Inhalation | Drowsiness or mental confusion may occur. There may be irritation of the throat with a feeling of tightness in the chest. |
| Delayed / immediate effects | Delayed effects can be expected after long-term exposure. Drowsiness or mental confusion may occur. Immediate effects can be expected after short-term exposure. |

4.3 Indication of any immediate medical attention and special treatment needed

Immediate / special treatment

Do not induce vomiting.

5. Fire-fighting measures

5.1 Extinguishing media

Alcohol resistant foam. Carbon dioxide. Dry chemical powder. Suitable extinguishing media for the surrounding fire should be used. Water spray.

5.2 Special hazards arising from the substance or mixture

Exposure hazards

Highly flammable. In combustion emits toxic fumes. May form flammable / explosive dust-air mixture.

5.3 Advice for fire-fighters

Wear protective clothing to prevent contact with skin and eyes. Wear self-contained breathing apparatus.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions

Do not create dust. Eliminate all sources of ignition. If outside do not approach from downwind. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Notify the police and fire brigade immediately. Refer to section 8 of SDS for personal protection details.

6.2 Environmental precautions

Do not discharge into drains or rivers.

6.3 Methods and material for containment and cleaning up

Clean-up procedures

Transfer to a closable, labelled salvage container for disposal by an appropriate method. Do not use equipment in clean-up procedure which may produce sparks.

6.4 Reference to other sections

Refer to section 8 of SDS.

7. Handling and storage

7.1 Precautions for safe handling

Handling requirements

Avoid direct contact with the substance. Avoid the formation or spread of dust in the air. Do not handle in a confined space. Ensure there is exhaust ventilation of the area. Smoking is forbidden. Use non-sparking tools. Ensure there is sufficient ventilation of the area.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Avoid contact with water or humidity. Ensure lighting and electrical equipment are not a source of ignition. Keep away from sources of ignition. Keep container tightly closed. Prevent the build up of electrostatic charge in the immediate area. Store in cool, well ventilated area.

7.3 Specific end use(s)

No data available.

8. Exposure controls/personal protection

8.1 Control parameters

Workplace exposure limits

| Substance (CAS) | Control Parameter | Value | Notes | Source |
|--|---|-------|-------|------------------|
| Methyl-tert-butyl-ether (1634-04-4) | Long-term Exposure Limit (ppm) | 50 | | UK HSE EH40/2005 |
| | Long-term Exposure Limit (mg m ⁻³) | 183.5 | | |
| | Short-term Exposure Limit (ppm) | 100 | | |
| | Short-term Exposure Limit (mg m ⁻³) | 367 | | |
| | Long-term Exposure Limit (ppm) | 50 | | |
| | Long-term Exposure Limit (mg m ⁻³) | 183.5 | | |
| | Short-term Exposure Limit (ppm) | 100 | | |
| | Short-term Exposure Limit (mg m ⁻³) | 367 | | |
| | Long-term Exposure Limit (ppm) | 183.5 | | 2009/161/EU |
| | Long-term Exposure Limit (mg m ⁻³) | 50 | | |
| | Short-term Exposure Limit (ppm) | 367 | | |
| | Short-term Exposure Limit (mg m ⁻³) | 100 | | |

| | | | |
|--|---|-------|------------------|
| Tertiary-butyl-methyl ether (1634-04-4) | Long-term Exposure Limit (ppm) | 50 | UK HSE EH40/2005 |
| | Long-term Exposure Limit (mg m ⁻³) | 183.5 | |
| | Short-term Exposure Limit (ppm) | 100 | |
| | Short-term Exposure Limit (mg m ⁻³) | 367 | |
| | Long-term Exposure Limit (ppm) | 50 | |
| | Long-term Exposure Limit (mg m ⁻³) | 183.5 | |
| | Short-term Exposure Limit (ppm) | 100 | |
| | Short-term Exposure Limit (mg m ⁻³) | 367 | |
| | Long-term Exposure Limit (ppm) | 183.5 | 2009/161/EU |
| | Long-term Exposure Limit (mg m ⁻³) | 50 | |
| | Short-term Exposure Limit (ppm) | 367 | |
| | Short-term Exposure Limit (mg m ⁻³) | 100 | |
| Tertiary-butyl-methylether (1634-04-4) | Long-term Exposure Limit (ppm) | 50 | UK HSE EH40/2005 |
| | Long-term Exposure Limit (mg m ⁻³) | 183.5 | |
| | Short-term Exposure Limit (ppm) | 100 | |
| | Short-term Exposure Limit (mg m ⁻³) | 367 | |
| | Long-term Exposure Limit (ppm) | 50 | |
| | Long-term Exposure Limit (mg m ⁻³) | 183.5 | |
| | Short-term Exposure Limit (ppm) | 100 | |
| | Short-term Exposure Limit (mg m ⁻³) | 367 | |
| | Long-term Exposure Limit (ppm) | 183.5 | 2009/161/EU |
| | Long-term Exposure Limit (mg m ⁻³) | 50 | |
| | Short-term Exposure Limit (ppm) | 367 | |
| | Short-term Exposure Limit (mg m ⁻³) | 100 | |

8.2 Exposure controls

| | |
|------------------------|---|
| Engineering measures | Ensure lighting and electrical equipment are not a source of ignition. Ensure there is exhaust ventilation of the area. Ensure there is sufficient ventilation of the area. |
| Respiratory protection | Respiratory protective device with particle filter. Self- contained breathing apparatus must be available in case of emergency. |
| Hand protection | Protective gloves. |
| Eye protection | Ensure eye bath is to hand. Safety glasses. |
| Skin protection | Protective clothing. |

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|----------------|--------------------|
| Physical state | Liquid |
| Colour | Colourless |
| Odour | No data available. |

| | |
|---|------------------------------------|
| Melting point/Freezing point | -108.6 °C |
| Boiling point/initial boiling point/boiling range | 55.2 °C |
| Flammability | Highly flammable liquid and vapour |
| Lower/Upper explosion limit | No data available. |
| Flash Point | No data available. |
| Auto-ignition temperature | 460°C |
| Decomposition temperature | No data available. |
| pH | No data available. |
| Kinematic viscosity | No data available. |
| Solubility | 41.85 g/L @ 20 °C |
| Partition coefficient n-octanol/water | No data available. |
| Vapour pressure | No data available. |
| Density/relative density | 0.741 |
| Relative vapour pressure | No data available. |
| Particle characteristics | No data available. |

9.2 Other information

No data available.

10. Stability and reactivity

10.1 Reactivity

Stable under recommended transport or storage conditions.

10.2 Chemical stability

Stable at room temperature. Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions

Decomposition may occur on exposure to conditions or materials listed below. Hazardous reactions will not occur under normal transport or storage conditions.

10.4 Conditions to avoid

Flames. Hot surfaces. Sources of ignition. Heat.

10.5 Incompatible materials

Materials to avoid

Carbon dioxide. Strong acids. Strong oxidising agents.

11. Toxicological information

11.1 Information on toxicological effects

a) Acute toxicity

Methyl-tert-butyl-ether

4 hr LC50 Rat (Inhalation): 23576 ppm

10 min LC50 Mouse (Inhalation): 180000 ppm

LD50 Rat (Oral): 4 mg/kg

Tertiary-butyl-methyl ether

4 hr LC50 Rat (Inhalation): 23576 ppm

10 min LC50 Mouse (Inhalation): 180000 ppm

LD50 Rat (Oral): 4 mg/kg

Tertiary-butyl-methylether

4 hr LC50 Rat (Inhalation): 23576 ppm

10 min LC50 Mouse (Inhalation): 180000 ppm

LD50 Rat (Oral): 4 mg/kg

b) Skin corrosion/irritation

Skin corrosion/irritation (Category 2)

c) Serious eye damage/irritation

No data available.

d) Respiratory or skin sensitisation

No data available.

e) **Germ cell mutagenicity**

No data available.

f) **Carcinogenicity**

No data available.

g) **Reproductive toxicity**

No data available.

h) **STOT-single exposure**

No data available.

i) **STOT-repeated exposure**

No data available.

j) **Aspiration hazard**

No data available.

11.2 **Symptoms / routes of exposure**

| | |
|-----------------------------|--|
| Skin contact | There may be mild irritation at the site of contact. |
| Eye contact | There may be irritation and redness. |
| Ingestion | There may be irritation of the throat. There may be soreness and redness of the mouth and throat. |
| Inhalation | Drowsiness or mental confusion may occur. There may be irritation of the throat with a feeling of tightness in the chest. |
| Delayed / immediate effects | Delayed effects can be expected after long-term exposure. Drowsiness or mental confusion may occur. Immediate effects can be expected after short-term exposure. |
| Other information | No data available. |

12. **Ecological information**

12.1 **Toxicity**

No data available.

12.2 **Persistence and degradability**

Biodegradable.

12.3 **Bioaccumulative potential**

No bioaccumulation potential.

12.4 **Mobility in soil**

Readily absorbed into soil.

12.5 **Results of PBT and vPvB assessment**

This substance is not identified as a PBT substance.

12.6 **Endocrine disrupting properties**

This substance is not identified as having endocrine disrupting properties

12.7 **Other adverse effects**

No data available.

13. **Disposal considerations**

13.1 **Waste treatment methods**






Disposal operations

Transfer to a suitable container and arrange for collection by specialised disposal company.

NB

The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

14. Transport information

| ADR | IMDG | IATA | ADN | RID |
|---|---|--|---|---|
| 14.1. UN number | | | | |
| UN2398 | UN2398 | UN2398 | UN2398 | UN2398 |
| 14.2. UN proper shipping name | | | | |
| METHYL TERT-BUTYL ETHER | METHYL TERT-BUTYL ETHER | Methyl tert-butyl ether | METHYL TERT-BUTYL ETHER | METHYL TERT-BUTYL ETHER |
| Transport document description | | | | |
| UN2398 METHYL TERT-BUTYL ETHER (METHYL TERT-BUTYL ETHER, GLENPURE™, ANALYTICAL GRADE), 3, II | UN2398 METHYL TERT-BUTYL ETHER (METHYL TERT-BUTYL ETHER, GLENPURE™, ANALYTICAL GRADE), 3, II | UN2398 Methyl tert-butyl ether (Methyl tert-Butyl Ether, GlenPure™, analytical grade), 3, II | UN2398 METHYL TERT-BUTYL ETHER (METHYL TERT-BUTYL ETHER, GLENPURE™, ANALYTICAL GRADE), 3, II | UN2398 METHYL TERT-BUTYL ETHER (METHYL TERT-BUTYL ETHER, GLENPURE™, ANALYTICAL GRADE), 3, II |
| 14.3. Transport hazard class(es) | | | | |
| 3 | 3 | 3 | 3 | 3 |
|  |  |  |  |  |
| 14.4. Packing group | | | | |
| II | II | II | II | II |
| 14.5. Environmental hazards | | | | |
| No | No | No | No | No |

15. Regulatory information

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

This Safety Data Sheet is prepared in accordance with Commission Regulation (EC) 1907/2006, amended by Commission Regulation (EU) 2020/787.

Authorisations/Restrictions

Regulation (EC) 1907/2006, REACH, Annex XIV list of substances subject to authorisation: No data available.

Regulation (EC) 1907/2006, REACH, Annex XVII restrictions on the manufacture, placing on the market and use of certain dangerous substances: No data available.

Regulation (EC) 1005/2009 on substances that deplete the ozone layer: No data available.

Regulation (EC) 850/2004 on persistent organic pollutants, amended by (EU) No 2019/1021: No data available.

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

16. Other information

H-Statement Full Texts

H225 Highly flammable liquid and vapour
H315 Causes skin irritation

Abbreviations Full Texts

| | |
|-----------|---|
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ALARP | As low as is reasonably practicable |
| CAS | Chemical Abstracts Service |
| CLP | Classification, Labelling and Packaging Regulations |
| COSHH | Control of Substances Hazardous to Health |
| EC Number | European Community Number |
| EC50 | Effective Concentration 50% |
| EILINCS | European List of Notified Chemical Substances |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| GHS | Globally Harmonised System |
| HSE | Health & Safety Executive UK |
| IATA | International Air Transport Association |
| IM | Intramuscular |
| IMDG | The International Maritime Dangerous Goods Code |
| IP | Intraperitoneal |
| IV | Intravascular |
| LD50 | Lethal Dose 50% |
| LOEC | Lowest Observable Effective Concentration |
| LTEL | Long Term Exposure Limit |
| NOEC | No Observable Effective Concentration |
| OECD | Organisation for Economic Cooperations and Development |
| PBT | Persistent Bioaccumulative Toxic |
| PPE | Personal Protective Equipment |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Regulations Concerning the International Carriage of Dangerous Goods by Rail |
| SC | Subcutaneous |
| SDS | Safety Data Sheet |
| STEL | Short Term Exposure Limit |
| VOC | Volatile Organic Compounds |
| vPvB | Very Persistent and Very Bioaccumulative |
| WEL | Workplace Exposure Limits |

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