

**TETRAETHYLENE GLYCOL DIMETHYL  
ETHER TEGDME****Section 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Product name:	Tetraethylene glycol dimethyl ether TEGDME
CAS Number:	143-24-8
EC Number:	205-594-7

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

Industry sector	Functional Fluids
Type of use	Phase transfer catalyst
	Solvent

**1.3 Details of the supplier of the safety data sheet**

<b>Company name:</b>	East Harbour Group Ltd 20 Clough Road, Severalls Industrial Park Colchester, Essex, CO4 9QS United Kingdom
<b>Telephone:</b>	+44 (0) 333 242 0100
<b>Email:</b>	<a href="mailto:info@eastharbourgroup.com">info@eastharbourgroup.com</a>

**1.4 Emergency telephone number**

<b>Emergency telephone:</b>	0800 246 1274
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**Section 2: Hazardous identification****2.1 Classification of the substance or mixture****GHS Classification****Reproductive toxicity, Category 1B**

H360Df	May damage the unborn child. Suspected of damaging fertility.
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**2.2 Label elements****Pictogram**

Signal word	Danger
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Hazard statements	May damage the unborn child. Suspected of damaging fertility.
H360Df	

**Precautionary statements****Prevention**



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P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

**Response**  
 P308 + P313 IF exposed or concerned: Get medical advice/attention.

**Storage**  
 P405 Store locked up.

**Disposal**  
 P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards which do not result in classification**  
 No additional hazards are known except those derived from the labelling.

**Section 3: Composition/information on ingredients**

Substance / Mixture	Substance
Substance name	bis(2-(2-Methoxyethoxy)ethyl)ether
CAS-No.	Not Assigned

**Components**

Chemical name	CAS-No.	Concentration (% w/w)
bis(2-(2-methoxyethoxy)ethyl) ether	143-24-8	>= 90 -<= 100

**Section 4: First aid measures**

**General advice**  
 Remove contaminated clothing and shoes.

**If inhaled**  
 If inhaled, remove to fresh air.  
 Get medical advice/ attention.

**In case of skin contact**  
 In case of contact, immediately flush skin with plenty of water.

**In case of eye contact**  
 In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**If swallowed**  
 Get medical attention immediately.

**Most important symptoms and effects, both acute and delayed**  
 No symptoms known currently.  
 No hazards known at this time.

**Notes to physician**



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Treat symptomatically.

## Section 5: Fire-fighting measures

### Suitable extinguishing media

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

### Specific hazards during firefighting

In case of fires, hazardous combustion gases are formed:  
Carbon monoxide (CO)  
Carbon dioxide (CO<sub>2</sub>)

### Specific extinguishing methods

Apply foam in large quantities because some of it will be destroyed by the product.

### Special protective equipment for firefighters

Self-contained breathing apparatus

## Section 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Wear suitable protective equipment.

### Environmental precautions

Do not allow contact with soil, surface or ground water.  
Prevent product from entering drains.

### Methods and materials for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

## Section 7: Handling and storage

### Advice on protection against fire and explosion

Cool endangered containers with water spray jet.

### Advice on safe handling

Ensure adequate ventilation.

### Further information on storage conditions

Do not leave vessels/containers open  
Prevent entry of air/oxygen (peroxide formation)

## Section 8: Exposure controls/personal protection

### Components with workplace control parameters



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**Personal protective equipment**

**Respiratory protection**

Use respiratory protection in case of insufficient exhaust ventilation or prolonged exposure

Full mask to standard DIN EN 136

Filter A (organic gases and vapours) to standard DIN EN 141 The use of filter apparatus presupposes that the environment atmosphere contains at least 17% oxygen by volume, and does not exceed the maximum gas concentration, usually 0.5% by volume. Relevant guidelines to be considered include EN 136/141/143/371/372 as well as other national regulations.

**Hand protection**

Break through time	480 min
Glove thickness	0.7 mm
Remarks	Long-term exposure Impervious butyl rubber gloves
Break through time	10 min
Glove thickness	0.4 mm

**Remarks**

For short-term exposure (splash protection): Nitrile rubber gloves.

**Remarks**

These types of protective gloves are offered by various manufacturers. Please note the manufacturers' detailed statements, especially about the minimum thickness and the minimum breakthrough time. Consider also the particular working conditions under which the gloves are being used.

Eye protection  
Safety glasses

**Protective measures**

Avoid contact with skin and eyes.

**Hygiene measures**

Keep away from food and drink.

**Section 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	Liquid
<b>Colour</b>	colourless
<b>Odour</b>	weak
<b>Odour Threshold</b>	not tested.
<b>pH</b>	Concentration: 100 g/l neutral
<b>Melting point</b>	-30 °C Method: DIN 51583
<b>Boiling point</b>	275 °C Method: OECD Test Guideline 103
<b>Flash point</b>	136 °C Method: DIN EN 22719 / ISO 2719 (closed cup)
<b>Evaporation rate</b>	> 3,000 Method: DIN 53170



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<b>Self-ignition</b>	Not applicable
<b>Burning number</b>	Not applicable
<b>Upper explosion limit / upper flammability limit</b>	not tested.
<b>Lower explosion limit / Lower flammability limit</b>	not tested.
<b>Vapour pressure</b>	0.099 Pa (20 °C)
<b>Method</b>	OECD Test Guideline 104
<b>Relative vapour density</b>	Not applicable
<b>Density</b>	1.01 - 1.02 g/cm <sup>3</sup> (20 °C)
<b>Method</b>	DIN 51757
<b>Bulk density</b>	Not applicable
<b>Solubility(ies)</b>	
<b>Water solubility</b>	completely miscible (20 °C) Method: OECD Test Guideline 105
<b>Solubility in other solvents</b>	not tested.
<b>Solvent</b>	fat
<b>Partition coefficient n-octanol/water</b>	log Pow: -0.84 (23 °C) Method: OECD Test Guideline 107
<b>Auto-ignition temperature</b>	270 °C Method: EC/440/2008, A.15
<b>Decomposition temperature</b>	360 °C Method: DSC Can be distilled without decomposing, however, beware of possible peroxide content.
<b>Viscosity</b>	
<b>Viscosity, dynamic</b>	3.73 mPa.s (20 °C) Method: OECD Test Guideline 114
<b>Viscosity, kinematic</b>	4.1 mm <sup>2</sup> /s (20 °C) Method: DIN 51562 3.69 mm <sup>2</sup> /s (20 °C) Method: OECD Test Guideline 114
<b>Explosive properties</b>	Not explosive Method: OECD Test Guideline 113
<b>Oxidizing properties</b>	Not applicable
<b>Surface tension</b>	66.7 mN/m, 20 °C, OECD Test Guideline 115
<b>Molecular weight</b>	222.3 g/mol
<b>Minimum ignition energy</b>	not tested.
<b>Particle size</b>	Not applicable

### Section 10: Stability and Reactivity

<b>Reactivity</b>	See section 10.3. "Possibility of hazardous reactions"
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	None known.
<b>Incompatible materials</b>	not known
<b>Hazardous decomposition products</b>	When handled and stored appropriately, no dangerous decomposition products are known



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**Section 11: Toxicological Information**

**Acute toxicity**

**Components:**

**bis(2-(2-methoxyethoxy)ethyl) ether**

Acute oral toxicity LD50 (Rat, female): 3,850 mg/kg  
 Method: OECD Test Guideline 401

Acute inhalation toxicity Remarks: No adverse effect has been observed in acute toxicity tests.

Acute dermal toxicity Remarks: No adverse effect has been observed in acute toxicity tests.

**Skin corrosion/irritation**

**Components:**

**bis(2-(2-methoxyethoxy)ethyl) ether**

Species Rabbit

Method OECD Test Guideline 404

Result No skin irritation

**Serious eye damage/eye irritation**

**Components:**

**bis(2-(2-methoxyethoxy)ethyl) ether**

Species Rabbit

Method OECD Test Guideline 405

Result No eye irritation

**Respiratory or skin sensitisation**

**Product**

Remarks no data available

**Components:**

**bis(2-(2-methoxyethoxy)ethyl) ether**

Test Type Local lymph node assay (LLNA)

Species Mouse

Method OECD Test Guideline 429

Result Not a skin sensitizer.

Remarks By analogy with a product of similar composition

**Germ cell mutagenicity**

**Components:**

**bis(2-(2-methoxyethoxy)ethyl) ether**

Genotoxicity in vitro

Test Type: Ames test in vitro

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type Mammalian cell gene mutation assay

Test system Chinese hamster ovary cells

Metabolic activation with and without metabolic activation

Method OECD Test Guideline 476

Result negative



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Remarks	By analogy with a product of similar composition
Test Type	unscheduled DNA synthesis assay
Test system	human diploid fibroblasts
Metabolic activation	with and without metabolic activation
Method	OECD Test Guideline 482
Result	negative
Remarks	By analogy with a product of similar composition

Germ cell mutagenicity - Assessment  
 In vitro tests did not show mutagenic effects, In vivo tests did not show mutagenic effects

**Carcinogenicity**

**Components:**

**bis(2-(2-methoxyethoxy)ethyl) ether**

Carcinogenicity – Assessment No information available.

**Reproductive toxicity**

**Components:**

**bis(2-(2-methoxyethoxy)ethyl) ether**

Effects on foetal development

Test Type: Pre-natal

Species: Rabbit

Strain: New Zealand white

Application Route: oral (gavage)

General Toxicity Maternal: NOEL: 125 mg/kg body weight

Developmental Toxicity: NOAEL: 75 mg/kg body weight

Method: OECD Test Guideline 414

Remarks: By analogy with a product of similar composition

Reproductive toxicity – Assessment  
 May damage the unborn child. Suspected of damaging fertility.  
 Presumed human reproductive toxicant

STOT - single exposure

Components:

bis(2-(2-methoxyethoxy)ethyl) ether:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

**STOT - repeated exposure**

**Components:**

**bis(2-(2-methoxyethoxy)ethyl) ether**

Assessment The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Repeated dose toxicity**

**Components:**

**bis(2-(2-methoxyethoxy)ethyl) ether**

Species Rat, male and female

NOAEL 250 mg/kg bw/day

Application Route oral (gavage)

Exposure time 28 d

Method OECD Test Guideline 407

**TETRAETHYLENE GLYCOL DIMETHYL  
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No aspiration toxicity classification

**Section 12: Ecological Information****Ecotoxicity****Product**

Toxicity to microorganisms                      Remarks: no data available

**Components:****bis(2-(2-methoxyethoxy)ethyl) ether****Toxicity to fish**

LC50 (Danio rerio (zebra fish)): &gt; 5,000 mg/l

End point: mortality

Exposure time: 96 h

Test Type: static test

Method: OECD Test Guideline 203

Remarks: By analogy with a product of similar composition

**Toxicity to daphnia and other aquatic invertebrates**

EC50 (Daphnia magna (Water flea)): 7,467 mg/l

End point: Immobilization

Exposure time: 48 h

Test Type: static test

Analytical monitoring: yes

Method: OECD Test Guideline 202

GLP: yes

**Toxicity to algae/aquatic plants**

EC50 ( Pseudokirchneriella subcapitata (microalgae)): 8,996 mg/l

End point: Growth rate

Exposure time: 72 h

Test Type: static test

Analytical monitoring: yes

Method: OECD Test Guideline 201

GLP: yes

**Toxicity to fish (Chronic toxicity)**

Remarks: no data available

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)**

320 mg/l

End point: Reproduction rate

Exposure time: 21 d

Species: Daphnia magna (Water flea)

Test Type: semi-static test

Method: OECD Test Guideline 211

Remarks: By analogy with a product of similar composition





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### Section 13: Disposal considerations

#### Disposal methods

##### Waste from residues

Incineration in suitable incineration plant, observing local authority regulations.

##### Contaminated packaging

Packaging that cannot be cleaned should be disposed of as product waste.

### Section 14: Transport Information

Road Transport India	not restricted
IATA	not restricted
IMDG	not restricted

### Section 15: Regulatory Information

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

Apart from the data/regulations specified in this chapter, no further information is available concerning safety, health and environmental protection.

The factories act, 1948

The Motor Vehicles Acts, 1988

This product is classified and labelled in accordance with Indian regulations.

### Section 16: Other Information

#### Full text of other abbreviations

AICC	Australian Inventory of Industrial Chemicals;
ANTT	National Agency for Transport by Land of Brazil;
ASTM	American Society for the Testing of Materials;
bw	Body weight;
CMR	Carcinogen, Mutagen or Reproductive Toxicant;
DIN	Standard of the German Institute for Standardisation;
DSL	Domestic Substances List (Canada);
ECx	Concentration associated with x% response;
ELx	Loading rate associated with x% response;
EmS	Emergency Schedule;
ENCS	Existing and New Chemical Substances (Japan);
ErCx	Concentration associated with x% growth rate response;
ERG	Emergency Response Guide;
GHS	Globally Harmonized System;
GLP	Good Laboratory Practice;
IARC	International Agency for Research on Cancer;
IATA	International Air Transport Association;
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk;
IC50	Half maximal inhibitory concentration;
ICAO	International Civil Aviation Organization;



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IECSC	Inventory of Existing Chemical Substances in China;
IMDG	International Maritime Dangerous Goods;
IMO	International Maritime Organization;
ISHL	Industrial Safety and Health Law (Japan);
ISO	International Organisation for Standardization;
KECI	Korea Existing Chemicals Inventory;
LC50	Lethal Concentration to 50 % of a test population;
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose);
MARPOL	International Convention for the Prevention of Pollution from Ships;
n.o.s.	Not Otherwise Specified;
Nch	Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration;
NO(A)EL	No Observed (Adverse) Effect Level;
NOELR	No Observable Effect Loading Rate;
NOM	Official Mexican Norm;
NTP	National Toxicology Program;
NZIoC	New Zealand Inventory of Chemicals;
OECD	Organization for Economic Co-operation and Development;
OPPTS	Office of Chemical Safety and Pollution Prevention;
PBT	Persistent, Bioaccumulative and Toxic substance;
PICCS	Philippines Inventory of Chemicals and Chemical Substances;
(Q)SAR	(Quantitative) Structure Activity Relationship;
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals;
SADT	Self-Accelerating Decomposition Temperature;
SDS	Safety Data Sheet;
TCSI	Taiwan Chemical Substance Inventory;
TDG	Transportation of Dangerous Goods;
TSCA	Toxic Substances Control Act (United States);
UN	United Nations;
UNRTDG	United Nations Recommendations on the Transport of Dangerous Goods;
vPvB	Very Persistent and Very Bioaccumulative;
WHMIS	Workplace Hazardous Materials Information System