# Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)

**Ethylene glycol monobutyl ether ≥99 %, for synthesis**

article number: **0341**
Version: **5.0 en**
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Version: (4)

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## SECTION 1: Identification of the substance/mixture and of the company/ undertaking

### 1.1 Product identifier

| | |
|---|---|
| Identification of the substance | **Ethylene glycol monobutyl ether** ≥99 %, for synthesis |
| Article number | 0341 |
| Index No (GB CLP) | 603-014-00-0 |
| EC number | 203-905-0 |
| CAS number | 111-76-2 |

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

| | |
|---|---|
| Relevant identified uses: | Laboratory chemical<br>Laboratory and analytical use |
| Uses advised against: | Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). Food, drink and animal feeding-stuffs. |

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

Carl Roth GmbH + Co. KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

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**Telefax:** +49 (0) 721 - 56 06 149
**e-mail:** sicherheit@carlroth.de
**Website:** www.carlroth.de

| | |
|---|---|
| Competent person responsible for the safety data sheet: | Department Health, Safety and Environment |
| **e-mail (competent person):** | **sicherheit@carlroth.de** |

### 1.4 Emergency telephone number

| Name | Street | Postal code/city | Telephone | Website |
|---|---|---|---|---|
| National Poisons Information Service<br>City Hospital | Dudley Rd | B187QH<br>Birmingham | 844 892 0111 | |

# SECTION 2: Hazards identification

## 2.1 Classification of the substance or mixture

**Classification acc. to GHS**

| Section | Hazard class | Cat-egory | Hazard class and category | Hazard statement |
|---|---|---|---|---|
| 3.1O | Acute toxicity (oral) | 4 | Acute Tox. 4 | H302 |
| 3.1I | Acute toxicity (inhal.) | 3 | Acute Tox. 3 | H331 |
| 3.2 | Skin corrosion/irritation | 2 | Skin Irrit. 2 | H315 |
| 3.3 | Serious eye damage/eye irritation | 2 | Eye Irrit. 2 | H319 |

For full text of abbreviations: see SECTION 16

## 2.2 Label elements

**Labelling**

**Signal word** **Danger**

**Pictograms**

GHS06

**Hazard statements**

H302 Harmful if swallowed
H315 Causes skin irritation
H319 Causes serious eye irritation
H331 Toxic if inhaled

**Precautionary statements**

**Precautionary statements - prevention**

P260 Do not breathe mist/vapours
P280 Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary statements - response**

P302+P352 IF ON SKIN: Wash with plenty of water
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P312 Call a POISON CENTRE/doctor if you feel unwell

## 2.3 Other hazards

This material is combustible, but will not ignite readily.

**Results of PBT and vPvB assessment**

According to the results of its assessment, this substance is not a PBT or a vPvB.

**Endocrine disrupting properties**

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| | |
|---|---|
| Name of substance | Ethylene glycol monobutyl ether |
| Molecular formula | $C_6H_{14}O_2$ |
| Molar mass | 118,2 $^{g}/_{mol}$ |
| CAS No | 111-76-2 |
| EC No | 203-905-0 |
| Index No (GB CLP) | 603-014-00-0 |

**Substance, Specific Conc. Limits, M-factors, ATE**

| Specific Conc. Limits | M-Factors | ATE | Exposure route |
|---|---|---|---|
| - | - | 1.200 $^{mg}/_{kg}$<br>3 $^{mg}/_{l}$/4h | oral<br>inhalation: vapour |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**General notes**

Self-protection of the first aider.

**Following inhalation**

Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration.

**Following skin contact**

Rinse skin with water/shower. In case of skin irritation, consult a physician.

**Following eye contact**

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

**Following ingestion**

Rinse mouth with water (only if the person is conscious). Call a doctor.

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

Irritation, Cough, Headache, Dizziness, Dyspnoea, Unconsciousness, Nausea, Vomiting

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

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media**

co-ordinate firefighting measures to the fire surroundings!
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide ($CO_2$)

**Unsuitable extinguishing media**

water jet

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

Combustible. Vapours are heavier than air, spread along floors and form explosive mixtures with air.

**Hazardous combustion products**

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide ($CO_2$)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

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

**For non-emergency personnel**

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

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

**Advice on how to contain a spill**

Covering of drains.

**Advice on how to clean up a spill**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

**Other information relating to spills and releases**

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Provision of sufficient ventilation. Use extractor hood (laboratory).

**Measures to prevent fire as well as aerosol and dust generation**

Keep away from sources of ignition - No smoking.

**Advice on general occupational hygiene**

Wash hands before breaks and after work.

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

Keep container tightly closed. Keep only in original container.

**Incompatible substances or mixtures**

Observe hints for combined storage.

**Protect against external exposure, such as**

UV-radiation/sunlight

**Consideration of other advice:**

Store locked up.

**Ventilation requirements**

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.

**Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 – 25 °C

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**National limit values**

**Occupational exposure limit values (Workplace Exposure Limits)**

| Country | Name of agent | CAS No | Identifier | TWA [ppm] | TWA [mg/m³] | STEL [ppm] | STEL [mg/m³] | Ceiling-C [ppm] | Ceiling-C [mg/m³] | Notation | Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EU | 2-butoxyethanol | 111-76-2 | IOELV | 20 | 98 | 50 | 246 | | | H | 2000/39/EC |
| GB | 2-butoxyethanol | 111-76-2 | WEL | 25 | 123 | 50 | 246 | | | | EH40/2005 |

**Notation**

| | |
|---|---|
| Ceiling-C | Ceiling value is a limit value above which exposure should not occur |
| H | Absorbed through the skin |
| STEL | Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified) |
| TWA | Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified) |

### Biological limit values

| Country | Name of agent | CAS No | Parameter | Notation | Identifier | Value | Material | Source |
|---|---|---|---|---|---|---|---|---|
| GB | 2-butoxyethanol | 111-76-2 | 2-butoxyacetic acid | crea | BMGV | 240 mmol/mol | urine | EH40/2005 |

**Notation**
crea Creatinine

### Human health values

**Relevant DNELs and other threshold levels**

| Endpoint | Threshold level | Protection goal, route of exposure | Used in | Exposure time |
|---|---|---|---|---|
| DNEL | 125 mg/kg bw/day | human, dermal | worker (industry) | chronic - systemic effects |
| DNEL | 89 mg/kg bw/day | human, dermal | worker (industry) | acute - systemic effects |
| DNEL | 98 mg/m³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| DNEL | 1.091 mg/m³ | human, inhalatory | worker (industry) | acute - systemic effects |
| DNEL | 246 mg/m³ | human, inhalatory | worker (industry) | acute - local effects |

### Environmental values

**Relevant PNECs and other threshold levels**

| End-point | Threshold level | Organism | Environmental compartment | Exposure time |
|---|---|---|---|---|
| PNEC | 8,8 $^{mg}/_{l}$ | aquatic organisms | freshwater | short-term (single instance) |
| PNEC | 0,88 $^{mg}/_{l}$ | aquatic organisms | marine water | short-term (single instance) |
| PNEC | 463 $^{mg}/_{l}$ | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| PNEC | 34,6 $^{mg}/_{kg}$ | aquatic organisms | freshwater sediment | short-term (single instance) |
| PNEC | 3,46 $^{mg}/_{kg}$ | aquatic organisms | marine sediment | short-term (single instance) |
| PNEC | 2,33 $^{mg}/_{kg}$ | terrestrial organisms | soil | short-term (single instance) |

## 8.2 Exposure controls

### Individual protection measures (personal protective equipment)

### Eye/face protection

Use safety goggle with side protection.

**Skin protection**

**• hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

**• type of material**

NBR (Nitrile rubber)

**• material thickness**

>0,11 mm

**• breakthrough times of the glove material**

>480 minutes (permeation: level 6)

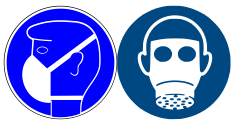
**• Splash protection - Protective gloves**

• type of material: NBR (Nitrile rubber)
• material thickness: >0,3 mm
• breakthrough times of the glove material: >120 minutes (permeation: level 4)

**• other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

**Respiratory protection**



Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C , colour code: Brown).

**Environmental exposure controls**

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| Physical state | liquid |
| Colour | colourless |
| Odour | faintly perceptible - like ether |
| Odour threshold | 0,1 – 48 ppm |
| Melting point/freezing point | -74,8 °C at 1 atm (ECHA) |

| | |
|---|---|
| Boiling point or initial boiling point and boiling range | 172 °C at 1.013 hPa |
| Flammability | this material is combustible, but will not ignite readily |
| Lower and upper explosion limit | 1,1 vol% (LEL) - 10,6 vol% (UEL) |
| Flash point | 67 °C at 1.013 hPa (ECHA) |
| Auto-ignition temperature | 230 °C at 1 atm (ECHA) (auto-ignition temperature (liquids and gases)) |
| Decomposition temperature | not relevant |
| pH (value) | 7 (20 °C) |
| Kinematic viscosity | 6,746 $^{mm^2}/_{s}$ at 0 °C |
| Dynamic viscosity | 3,3 mPa s at 20 °C |
| Solubility(ies) | |
| Water solubility | 900 $^{g}/_{l}$ at 20 °C (ECHA) |
| Partition coefficient | |
| Partition coefficient n-octanol/water (log value): | 0,81 (pH value: 7, 25 °C) (ECHA) |
| Vapour pressure | 0,8 hPa at 20 °C |
| Density and/or relative density | |
| Density | 0,9 $^{g}/_{cm^3}$ at 20 °C (ECHA) |
| Relative vapour density | 4,07 (air = 1) |
| Particle characteristics | not relevant (liquid) |
| Other safety parameters | |
| Oxidising properties | none |

**9.2 Other information**

| | |
|---|---|
| Information with regard to physical hazard classes: | hazard classes acc. to GHS (physical hazards): not relevant |
| Other safety characteristics: | |
| Surface tension | 65,03 $^{mN}/_{m}$ (20 °C) (ECHA) |

## SECTION 10: Stability and reactivity

**10.1 Reactivity**

May form explosive peroxides.

**If heated**

Vapours may form explosive mixtures with air.

**10.2 Chemical stability**

Reactivity if exposed to light. Reactivity if exposed to air.

**10.3 Possibility of hazardous reactions**

**Violent reaction with:** strong oxidiser

**10.4 Conditions to avoid**

Keep away from heat. UV-radiation/sunlight.

**10.5 Incompatible materials**

aluminium, Light metals

**10.6 Hazardous decomposition products**

Hazardous combustion products: see section 5. Peroxides.

## SECTION 11: Toxicological information

**11.1 Information on toxicological effects**

**Classification acc. to GHS**

**Acute toxicity**

Harmful if swallowed. Toxic if inhaled.

| Acute toxicity | | | | | |
|---|---|---|---|---|---|
| **Exposure route** | **Endpoint** | **Value** | **Species** | **Method** | **Source** |
| oral | LD50 | 1.414 $^{mg}/_{kg}$ | guinea pig | | ECHA |

**Skin corrosion/irritation**

Causes skin irritation.

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Respiratory or skin sensitisation**

Shall not be classified as a respiratory or skin sensitiser.

**Germ cell mutagenicity**

Shall not be classified as germ cell mutagenic.

**Carcinogenicity**

Shall not be classified as carcinogenic.

**Reproductive toxicity**

Shall not be classified as a reproductive toxicant.

**Specific target organ toxicity - single exposure**

Shall not be classified as a specific target organ toxicant (single exposure).

**Specific target organ toxicity - repeated exposure**

Shall not be classified as a specific target organ toxicant (repeated exposure).

**Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

**Symptoms related to the physical, chemical and toxicological characteristics**

**• If swallowed**

vomiting, nausea

**• If in eyes**

Causes serious eye irritation

**• If inhaled**

irritant effects, cough, headache, dizziness, Dyspnoea, pulmonary oedema

**• If on skin**

causes skin irritation, risk of absorption via the skin

**• Other information**

Other adverse effects: Cardiovascular system, Central nervous system, Liver and kidney damage

### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

### 11.3 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

**Aquatic toxicity (acute)**

| Endpoint | Value | Species | Source | Exposure time |
|---|---|---|---|---|
| LC50 | 1.474 $^{mg}/_{l}$ | fish | ECHA | 96 h |
| EC50 | 1.550 $^{mg}/_{l}$ | aquatic invertebrates | ECHA | 48 h |
| ErC50 | 1.840 $^{mg}/_{l}$ | algae | ECHA | 72 h |

**Aquatic toxicity (chronic)**

| Endpoint | Value | Species | Source | Exposure time |
|---|---|---|---|---|
| EC50 | 297 $^{mg}/_{l}$ | aquatic invertebrates | ECHA | 21 d |

### 12.2 Persistence and degradability

Theoretical Oxygen Demand: 2,301 $^{mg}/_{mg}$
Theoretical Carbon Dioxide: 2,234 $^{mg}/_{mg}$

**Biodegradation**

The substance is readily biodegradable.

| Process of degradability | | |
|---|---|---|
| **Process** | **Degradation rate** | **Time** |
| carbon dioxide generation | 18,3 % | 3 d |

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

| | |
|---|---|
| n-octanol/water (log KOW) | 0,81 (pH value: 7, 25 °C) (ECHA) |

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Sewage disposal-relevant information**

Do not empty into drains.

**Waste treatment of containers/packagings**

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

**Properties of waste which render it hazardous**

**HP 4** irritant - skin irritation and eye damage
**HP 6** acute toxicity

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

## SECTION 14: Transport information

### 14.1 UN number or ID number

| | |
|---|---|
| ADRRID | UN 2810 |
| IMDG-Code | UN 2810 |
| ICAO-TI | UN 2810 |

### 14.2 UN proper shipping name

| | |
|---|---|
| ADRRID | TOXIC LIQUID, ORGANIC, N.O.S. |
| IMDG-Code | TOXIC LIQUID, ORGANIC, N.O.S. |
| ICAO-TI | Toxic liquid, organic, n.o.s. |
| Technical name | Ethylene glycol monobutyl ether |

### 14.3 Transport hazard class(es)

| | |
|---|---|
| ADRRID | 6.1 |
| IMDG-Code | 6.1 |
| ICAO-TI | 6.1 |

### 14.4 Packing group

| | |
|---|---|
| ADRRID | III |
| IMDG-Code | III |
| ICAO-TI | III |

### 14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

### 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

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

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

**Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)Additional information**

| | |
|---|---|
| Proper shipping name | TOXIC LIQUID, ORGANIC, N.O.S. |
| Particulars in the transport document | UN2810, TOXIC LIQUID, ORGANIC, N.O.S., (Ethylene glycol monobutyl ether), 6.1, III, (E) |
| Classification code | T1 |
| Danger label(s) | 6.1 |

| | |
|---|---|
| Special provisions (SP) | 274, 614, 802(ADN) |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 5 L |

| | |
|---|---|
| Transport category (TC) | 2 |
| Tunnel restriction code (TRC) | E |
| Hazard identification No | 60 |
| **Emergency Action Code** | 2X |

**Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)Additional information**

| | |
|---|---|
| **Classification code** | T1 |
| **Danger label(s)** | 6.1 |

| | |
|---|---|
| **Special provisions (SP)** | 274, 614, 802(ADN) |
| **Excepted quantities (EQ)** | E1 |
| **Limited quantities (LQ)** | 5 L |
| **Transport category (TC)** | 2 |
| **Hazard identification No** | 60 |

**International Maritime Dangerous Goods Code (IMDG) - Additional information**

| | |
|---|---|
| Proper shipping name | TOXIC LIQUID, ORGANIC, N.O.S. |
| Particulars in the shipper's declaration | UN2810, TOXIC LIQUID, ORGANIC, N.O.S., (Ethylene glycol monobutyl ether), 6.1, III |
| Marine pollutant | - |
| Danger label(s) | 6.1 |

| | |
|---|---|
| Special provisions (SP) | 223, 274 |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 5 L |
| EmS | F-A, S-A |
| Stowage category | A |

**International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information**

| | |
|---|---|
| Proper shipping name | Toxic liquid, organic, n.o.s. |
| Particulars in the shipper's declaration | UN2810, Toxic liquid, organic, n.o.s., (Ethylene glycol monobutyl ether), 6.1, III |
| Danger label(s) | 6.1 |

| | |
|---|---|
| Special provisions (SP) | A3, A4, A137 |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 2 L |

# SECTION 15: Regulatory information

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

### Relevant provisions of the European Union (EU)

### Seveso Directive

| 2012/18/EU (Seveso III) | | | | |
|---|---|---|---|---|
| **No** | **Dangerous substance/hazard categories** | **Qualifying quantity (tonnes) for the application of lower and upper-tier requirements** | | **Notes** |
| H2 | acute toxic (cat. 2 + cat. 3, inhal.) | 50 | 200 | 41) |

**Notation**
41) - Category 2, all exposure routes
- category 3, inhalation exposure route

### Deco-Paint Directive

| | |
|---|---|
| VOC content | 100 % |
| VOC content | 900 $^{g}/_{l}$ |

### Industrial Emissions Directive (IED)

| | |
|---|---|
| VOC content | 100 % |
| VOC content | 900 $^{g}/_{l}$ |

### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

### Water Framework Directive (WFD)

| List of pollutants (WFD) | | | | |
|---|---|---|---|---|
| **Name of substance** | **Name acc. to inventory** | **CAS No** | **Listed in** | **Remarks** |
| Ethylene glycol monobutyl ether | Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment | | a) | |

**Legend**
a) Indicative list of the main pollutants

### Regulation on the marketing and use of explosives precursors

not listed

### Regulation on drug precursors

not listed

### Regulation on substances that deplete the ozone layer (ODS)

not listed

### Regulation concerning the export and import of hazardous chemicals (PIC)

not listed

### Regulation on persistent organic pollutants (POP)

not listed

### National regulations(GB)

### List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

not listed

### Restrictions according to GB REACH, Annex 17

**Dangerous substances with restrictions (GB REACH, Annex 17)**

| Name of substance | Name acc. to inventory | CAS No | No |
|---|---|---|---|
| Ethylene glycol monobutyl ether | this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC | | 3 |

### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

### National inventories

| Country | Inventory | Status |
|---|---|---|
| AU | AIIC | substance is listed |
| CA | DSL | substance is listed |
| CN | IECSC | substance is listed |
| EU | ECSI | substance is listed |
| EU | REACH Reg. | substance is listed |
| JP | CSCL-ENCS | substance is listed |
| KR | KECI | substance is listed |
| MX | INSQ | substance is listed |
| NZ | NZIoC | substance is listed |
| PH | PICCS | substance is listed |
| TR | CICR | substance is listed |
| TW | TCSI | substance is listed |
| US | TSCA | substance is listed (ACTIVE) |
| VN | NCI | substance is listed |

**Legend**

AIIC Australian Inventory of Industrial Chemicals
CICR Chemical Inventory and Control Regulation
CSCL-ENCS List of Existing and New Chemical Substances (CSCL-ENCS)

**Legend**

| | |
|---|---|
| DSL | Domestic Substances List (DSL) |
| ECSI | EC Substance Inventory (EINECS, ELINCS, NLP) |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ | National Inventory of Chemical Substances |
| KECI | Korea Existing Chemicals Inventory |
| NCI | National Chemical Inventory |
| NZIoC | New Zealand Inventory of Chemicals |
| PICCS | Philippine Inventory of Chemicals and Chemical Substances (PICCS) |
| REACH Reg. | REACH registered substances |
| TCSI | Taiwan Chemical Substance Inventory |
| TSCA | Toxic Substance Control Act |

### 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relevant |
|---|---|---|---|
| 2.3 | | Endocrine disrupting properties:<br>Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%. | yes |
| 15.1 | VOC content:<br>100 %<br>900 $^{g}/_{l}$ | VOC content:<br>100 % | yes |
| 15.1 | | VOC content:<br>900 $^{g}/_{l}$ | yes |
| 15.1 | | National inventories:<br>change in the listing (table) | yes |

### Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|---|---|
| 2000/39/EC | Commission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC |
| ADR | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road) |
| ATE | Acute Toxicity Estimate |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DNEL | Derived No-Effect Level |
| EC50 | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval |
| EC No | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union) |
| ED | Endocrine disruptor |
| EH40/2005 | EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/) |
| EINECS | European Inventory of Existing Commercial Chemical Substances |

| Abbr. | Descriptions of used abbreviations |
|---|---|
| ELINCS | European List of Notified Chemical Substances |
| EmS | Emergency Schedule |
| ErC50 | ≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control |
| GB CLP | The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/720 (as amended) |
| GB REACH | The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended) |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| ICAO-TI | Technical instructions for the safe transport of dangerous goods by air |
| IMDG | International Maritime Dangerous Goods Code |
| IMDG-Code | International Maritime Dangerous Goods Code |
| index No | The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 |
| IOELV | Indicative occupational exposure limit value |
| LC50 | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval |
| LD50 | Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval |
| LEL | Lower explosion limit (LEL) |
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| ppm | Parts per million |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| STEL | Short-term exposure limit |
| TWA | Time-weighted average |
| UEL | Upper explosion limit (UEL) |
| VOC | Volatile Organic Compounds |
| vPvB | Very Persistent and very Bioaccumulative |
| WEL | Workplace exposure limit |

### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

**List of relevant phrases (code and full text as stated in section 2 and 3)**

| Code | Text |
|---|---|
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |

**Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.