

Trade name: Diethylene glycol (DEG)**Current version :** 4.0.2, issued: 27.10.2022**Replaced version:** 4.0.1, issued: 14.04.2020**Region:** GB**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name****Diethylene glycol (DEG)**

Substance name diethylene glycol
REACH registration no. 01-2119457857-21-0041

Identification numbers

CAS no. 111-46-6
EC no. 203-872-2
Index no. 603-140-00-6

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

The substance is used as:

- drying agent for inert gases
- solvent for cellulose nitrate, resins, ethereal oils (e.g. for parquet flooring)

The substance is part of:

- antifreeze agents, thermal liquids, hydraulic oils, paint remover

Intermediate product in manufacture of:

- textile auxiliaries and polyester resins
- dioxane

Uses advised against

pharmaceuticals

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

LIQUICHEM Handelsgesellschaft mbH
Kajen 6 – 8
D-20459 Hamburg

Telephone no. 040 89 97 89 0
Fax no. 040 89 97 89 9
e-mail hamburg@liquichem.de

Advice on Safety Data Sheet

sdb_info@umco.de

1.4 Emergency telephone number

For medical advice (in German and English):
+49 (0)551 192 40 (Giftinformationszentrum Nord)

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification in accordance with Regulation (EC) No 1272/2008 (CLP)**

Acute Tox. 4; H302

Classification information

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3 and 4 of Annex I to CLP.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)****Product identifier**

111-46-6 (diethylene glycol)

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GHS07

Signal word

Warning

Hazard statement(s)

H302 Harmful if swallowed.

Precautionary statement(s)

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330 Rinse mouth.
P501 Dispose of contents/container to hazardous or special waste collection point.

2.3 Other hazards

PBT assessment

The product is not considered to be a PBT.

vPvB assessment

The product is not considered to be a vPvB.

SECTION 3: Composition/information on ingredients**3.1 Substances****Chemical characterization**

Substance name diethylene glycol

Identification numbers

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EC no. 203-872-2
Index no. 603-140-00-6

3.2 Mixtures

Not applicable. The product is not a mixture.

SECTION 4: First aid measures**4.1 Description of first aid measures****General information**

In case of persisting adverse effects, consult a physician. Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing. Poisonous symptoms can first be observed after several hours, therefore medical observation for at least 48 hours is necessary.

After inhalation

Ensure supply of fresh air.

After skin contact

In case of contact with skin wash off immediately with soap and water.

After eye contact

Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes). Seek medical assistance.

After ingestion

Do not induce vomiting. Rinse out mouth and give plenty of water to drink. Never give anything by mouth to an unconscious person. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray jet; Carbon dioxide; Extinguishing powder; Alcohol-resistant foam

Unsuitable extinguishing media

High power water jet

5.2 Special hazards arising from the substance or mixture

In the event of fire, the following can be released: Carbon dioxide (CO₂); Carbon monoxide (CO)

5.3 Advice for firefighters

Fire-fighting operations, rescue and clearing work under effect of combustion and smoulder gases just may be done with breathing apparatus. Wear protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Refer to protective measures listed in sections 7 and 8. Keep people away and stay on the upwind side. Ensure adequate ventilation.

For emergency responders

No data available. Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions

Do not allow to enter drains or waterways.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material. When collected, handle material as described under the section heading "Disposal considerations".

6.4 Reference to other sections

No data available.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Provide good ventilation at the work area (local exhaust ventilation, if necessary). Avoid formation of aerosols. Avoid eye, skin and clothing contact.

General protective and hygiene measures

Avoid contact with eyes and skin. At work do not eat, drink, smoke or take drugs. Keep away from food, drink and animal feeding stuffs. Use barrier skin cream. Wash hands before breaks and after work. Do not inhale aerosols.

Advice on protection against fire and explosion

Keep away from sources of ignition - refrain from smoking. Take precautionary measures against static charges. Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Keep container tightly closed and dry in a cool, well-ventilated place.

Recommended storage temperature

Value	<	40	°C
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Storage stability

Value	12	months
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Requirements for storage rooms and vessels

Keep container tightly closed.

Appropriate Material	stainless steel; aluminium; HDPE
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Incompatible products

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Do not store together with foodstuffs. Do not store together with: oxidizing agents; Acids

7.3 Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection
8.1 Control parameters
Occupational exposure limit values

No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
List of approved workplace exposure limits (WELs) / EH40			
2,2'-Oxydiethanol			
	WEL long-term (8-hr TWA reference period)	101	mg/m ³ 23 ppm

DNEL, DMEL and PNEC values
DNEL values (worker)

No	Substance name	CAS / EC no		
	Route of exposure	Exposure time	Effect	Value
1	diethylene glycol	111-46-6 203-872-2		
	dermal	Long term (chronic)	systemic	43 mg/kg/day
	inhalative	Long term (chronic)	local	60 mg/m ³
	inhalative	Long term (chronic)	systemic	44 mg/m ³

DNEL value (consumer)

No	Substance name	CAS / EC no		
	Route of exposure	Exposure time	Effect	Value
1	diethylene glycol	111-46-6 203-872-2		
	dermal	Long term (chronic)	systemic	21 mg/kg/day
	inhalative	Long term (chronic)	local	12 mg/m ³
	inhalative	Long term (chronic)	systemic	12 mg/m ³

PNEC values

No	Substance name	CAS / EC no	
	ecological compartment	Type	Value
1	diethylene glycol	111-46-6 203-872-2	
	water	fresh water	10 mg/L
	water	marine water	1 mg/L
	water	fresh water sediment	20.9 mg/kg dry weight
	water	marine water sediment	2.09 mg/kg dry weight
	water	Aqua intermittent	10 mg/L
	soil	-	1.53 mg/kg dry weight
	sewage treatment plant	-	199.5 mg/L

8.2 Exposure controls
Appropriate engineering controls

No data available.

Personal protective equipment
Respiratory protection

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

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Eye / face protection

Safety glasses (EN 166)

Hand protection

Protective gloves (EN 374); Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Other

Normal chemical work clothing.

Environmental exposure controls

No data available.

SECTION 9: Physical and chemical properties
9.1 Information on basic physical and chemical properties

State of aggregation	
liquid	
Form	
liquid, viscous	
Colour	
colourless	
Odour	
almost odourless	
pH value	
No data available	
Boiling point / boiling range	
Value	244.9 °C
Melting point/freezing point	
Value	-6.5 °C
Decomposition temperature	
No data available	
Flash point	
Value	138 °C
Ignition temperature	
No data available	
Auto-ignition temperature	
Value	372 °C
Oxidising properties	
not oxidizing	
Explosive properties	
The product does not have explosive properties.	
Flammability	
No data available	
Lower explosion limit	
No data available	
Upper explosion limit	
No data available	

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Vapour pressure			
Value	0.008	hPa	
Reference temperature	25	°C	
Relative vapour density			
No data available			
Relative density			
No data available			
Density			
Value	1.118	g/cm ³	
Reference temperature	20	°C	
Solubility in water			
Comments	miscible in all proportions		
Solubility			
No data available			
Partition coefficient n-octanol/water (log value)			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
log Pow			-1.98
Source		CSR	
Kinematic viscosity			
Value	30	mPa*s	
Reference temperature	25	°C	
Particle characteristics			
No data available			

9.2 Other information

Other information
No data available.

SECTION 10: Stability and reactivity**10.1 Reactivity**

No data available.

10.2 Chemical stability

Stable under recommended storage and handling conditions (See section 7).

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

Temperatures > 40°C; Protect against humidity.

10.5 Incompatible materials

Oxidizing agents; Acids

10.6 Hazardous decomposition products

Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Acute oral toxicity			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
LD50		19600	mg/kg bodyweight
Species	rat		

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Source	CSR
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Acute dermal toxicity			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
LD50		13300	mg/kg bodyweight
Species	rabbit		
Source	CSR		

Acute inhalational toxicity			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
LC50	>	4.6	mg/l
Duration of exposure		4	h
State of aggregation	Dust/mist		
Species	rat		
Source	CSR		

Skin corrosion/irritation			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
Species	rabbit		
Source	CSR		
Evaluation	non-irritant		

Serious eye damage/irritation			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
Species	rabbit		
Source	CSR		
Evaluation	non-irritant		

Respiratory or skin sensitisation			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
Route of exposure	Skin		
Species	guinea pig		
Source	CSR		
Evaluation	non-sensitizing		

Germ cell mutagenicity			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
Source	CSR		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Reproduction toxicity			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
Source	CSR		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Carcinogenicity			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
Source	CSR		
Evaluation/classification	Based on available data, the classification criteria are not met.		

STOT - single exposure			
No data available			

STOT - repeated exposure			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2

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Evaluation/classification	Based on available data, the classification criteria are not met.
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Aspiration hazard
No data available

Delayed and immediate effects as well as chronic effects from short and long-term exposure
Has a degreasing effect on the skin.

11.2 Information on other hazards

Endocrine disrupting properties

No data available.

Other information

No data available.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish (acute)			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
LC50		75200	mg/l
Duration of exposure		96	h
Species	Pimephales promelas		
Source	CSR		

Toxicity to fish (chronic)
No data available

Toxicity to Daphnia (acute)			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
EC50	>	10000	mg/l
Duration of exposure		24	h
Species	Daphnia magna		
Source	CSR		

Toxicity to Daphnia (chronic)
No data available

Toxicity to algae (acute)
No data available

Toxicity to algae (chronic)			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
NOEC		2700	mg/l
Duration of exposure		8	day(s)
Species	Scenedesmus quadricauda		
Source	ECHA		

Bacteria toxicity			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
EC20	>	1995	mg/l
Duration of exposure		30	min
Species	activated sludge		
Source	CSR		

12.2 Persistence and degradability

Biodegradability			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
Source	CSR		

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Evaluation | readily biodegradable

12.3 Bioaccumulative potential

Bioconcentration factor (BCF)			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
BCF		100	
Species		Leuciscus idus	
Source		CSR	

Partition coefficient n-octanol/water (log value)			
No	Substance name	CAS no.	EC no.
1	diethylene glycol	111-46-6	203-872-2
log Pow		-1.98	
Source		CSR	

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	
PBT assessment	The product is not considered to be a PBT.
vPvB assessment	The product is not considered to be a vPvB.

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.

12.8 Other information

Other information
Do not discharge product unmonitored into the environment.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product**

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging

Residues must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

SECTION 14: Transport information**14.1 Transport ADR/RID/ADN**

The product is not subject to ADR/RID/ADN regulations.

14.2 Transport IMDG

The product is not subject to IMDG regulations.

14.3 Transport ICAO-TI / IATA

The product is not subject to ICAO-TI / IATA regulations.

14.4 Other information

No data available.

14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

14.6 Special precautions for user

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No data available.

14.7 Maritime transport in bulk according to IMO instruments

Not relevant

SECTION 15: Regulatory information
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU regulations
Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)

In accordance with the REACH regulation (EC) 1907/2006, the product does not contain any substances that are considered as subject to listing in annex XIV, inventory of substances requiring authorisation.

REACH candidate list of substances of very high concern (SVHC) for authorisation

In accordance with article 57 and article 59 of the Reach regulation (EC) 1907/2006, this substance is not considered as subject to listing in annex XIV, inventory of substances requiring authorisation ("Authorization list").

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES

The product is considered being subject to REACH regulation (EC) 1907/2006 annex XVII. No 3

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances

This substance is not subject to Part 1 or 2 of Annex I

15.2 Chemical safety assessment

A chemical safety assessment has been carried out for this substance.

SECTION 16: Other information
Further information

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The information is based on our current knowledge however it does not represent a guarantee of product properties nor does it create any legal obligation.

Sources of key data used to compile the data sheet:

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding section.

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