



# Rymax Vector 4

## Safety Data Sheet

according to Regulation (EC) No. 453/2010

**MADE IN HOLLAND**

Date of issue: 17-02-2014

Revision date: 17-02-2014

Supersedes: 17-02-2014

Version: 1.2

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

### 1.1. Product identifier

Product form : Mixture  
Product name : Rymax Vector 4  
Product code : lub009020  
Product group : Trade product

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

#### 1.2.1. Relevant identified uses

Intended for general public  
Main use category : industrial use, professional use, consumer use  
Use of the substance/mixture : Brake fluid.

#### 1.2.2. Uses advised against

No additional information available

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

Rymax b.v.  
Delweg 8  
6902 PJ Zevenaar  
The Netherlands  
info@rymax-lubricants.com  
tel: +31 (0) 316-740856

### 1.4. Emergency telephone number

Emergency number : +31 (0)316 740 856  
(Monday to Friday: 8:00 - 17:00)

Country	Organisation/Company	Address	Emergency number
GREECE	Poisons Information Centre Children's Hospital "Aglaia. Kyriakou"	11527Athens	+30 10 779 3777
ICELAND	Iceland Poisons Information Centre Landspítali University Hospital	Fossvogi 108Reykjavik	+354 525 111 +354 543 2222
IRELAND (REPUBLIC OF)	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9Dublin	: +353 1 8379964
ISRAEL	Israel Poisons Information Centre Rambam Medical Centre	PO Box 9602 31096Haifa	+972 4 854 1900
UNITED KINGDOM	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre, Wolfson Unit	Claremont Place Newcastle-upon-Tyne NE1 4LPNewcastle	0870 600 6266 (UK only)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Eye Irrit. 2 H319

Full text of H-phrases: see section 16

#### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xi; R36

Full text of R-phrases: see section 16

#### Adverse physicochemical, human health and environmental effects

No additional information available

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### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

CLP Signal word :

Warning

Hazard statements (CLP) :

H319 - Causes serious eye irritation

Precautionary statements (CLP) :

P102 - Keep out of reach of children  
P264 - Wash hands thoroughly after handling  
P280 - Wear Eye protection, Protective gloves  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P337+P313 - If eye irritation persists: Get medical advice/attention

### 2.3. Other hazards

Other hazards not contributing to the classification :

Attacks some forms of plastics, rubber, and coatings.

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%	Classification according to Directive 67/548/EEC
2-[2-(2-butoxyethoxy)ethoxy]ethanol	(CAS No)143-22-6 (EC no)205-592-6 (EC index no)603-183-00-0 (REACH-no)01-21195457107-38	25 - 35	Xi; R41
Diethylene glycol	(CAS No)111-46-6 (EC no)203-872-2 (EC index no)603-140-00-6 (REACH-no)01-2119457857-21	5 - 10	Xn; R22
Ethenediol	(CAS No)107-21-1 (EC no)203-473-3 (EC index no)603-027-00-1 (REACH-no)01-2119456816-28	5 - 10	Xn; R22
2-(2-butoxyethoxy)ethanol	(CAS No)112-34-5 (EC no)203-961-6 (EC index no)603-096-00-8 (REACH-no)01-2119475104-44	2,5 - 5	Xi; R36
2-(2-methoxyethoxy)ethanol	(CAS No)111-77-3 (EC no)203-906-6 (EC index no)603-107-00-6	2,5 - 5	Repr.Cat.3; R63

Name	Product identifier	Specific concentration limits
2-[2-(2-butoxyethoxy)ethoxy]ethanol	(CAS No)143-22-6 (EC no)205-592-6 (EC index no)603-183-00-0 (REACH-no)01-21195457107-38	(20 =< C < 30) Xi;R36 (C >= 30) Xi;R41

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-[2-(2-butoxyethoxy)ethoxy]ethanol	(CAS No)143-22-6 (EC no)205-592-6 (EC index no)603-183-00-0 (REACH-no)01-21195457107-38	25 - 35	Eye Dam. 1, H318
Diethylene glycol	(CAS No)111-46-6 (EC no)203-872-2 (EC index no)603-140-00-6 (REACH-no)01-2119457857-21	5 - 10	Acute Tox. 4 (Oral), H302
Ethenediol	(CAS No)107-21-1 (EC no)203-473-3 (EC index no)603-027-00-1 (REACH-no)01-2119456816-28	5 - 10	Acute Tox. 4 (Oral), H302 STOT RE 2, H373

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-(2-butoxyethoxy)ethanol	(CAS No)112-34-5 (EC no)203-961-6 (EC index no)603-096-00-8 (REACH-no)01-2119475104-44	2,5 - 5	Eye Irrit. 2, H319
2-(2-methoxyethoxy)ethanol	(CAS No)111-77-3 (EC no)203-906-6 (EC index no)603-107-00-6	2,5 - 5	Repr. 2, H361d
Name	Product identifier	Specific concentration limits	
2-[2-(2-butoxyethoxy)ethoxy]ethanol	(CAS No)143-22-6 (EC no)205-592-6 (EC index no)603-183-00-0 (REACH-no)01-21195457107-38	(20 =< C < 30) Eye Irrit. 2, H319 (C >= 30) Eye Dam. 1, H318	

Full text of R- and H-phrases: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Seek medical attention if ill effect develops.
First-aid measures after inhalation	: Take victim to fresh air, in a quiet place, in an half laying position and if necessary take medical advice. Allow the victim to rest.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Seek medical attention if ill effect or irritation develops.
First-aid measures after eye contact	: Remove contact lenses, if present and easy to do. Continue rinsing. Ensure adequate flushing of eyes by separating eyelids with the fingers. Obtain medical attention if pain, blinking, tears or redness persist.
First-aid measures after ingestion	: Consult a doctor/medical service if you feel unwell. If vomiting occurs spontaneously, keep head below the hips to prevent aspiration. Do not induce vomiting.

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

Symptoms/injuries after inhalation	: At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility. May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs.
Symptoms/injuries after skin contact	: Unlikely to cause harm to the skin on brief or occasional contact but prolonged or repeated exposure may lead to dermatitis. High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed.
Symptoms/injuries after eye contact	: Unlikely to cause more than transient stinging or redness if accidental eye contact occurs.
Symptoms/injuries after ingestion	: Bad taste. Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhoea.
Symptoms/injuries upon intravenous administration	: Unknown.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Carbon dioxide (CO <sub>2</sub> ), dry chemical powder, foam. Water fog.
Unsuitable extinguishing media	: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

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

Fire hazard	: Combustion generates : CO, CO <sub>2</sub> .
Explosion hazard	: Not expected to be a fire/explosion hazard under normal conditions of use.

### 5.3. Advice for firefighters

Precautionary measures fire	: Do not enter fire area without proper protective equipment, including respiratory protection.
Firefighting instructions	: Use water spray or fog for cooling exposed containers.
Protection during firefighting	: Use self-contained breathing apparatus and chemically protective clothing.
Other information	: Prevent fire-fighting water from entering environment. Sweep up and remove to a suitable, clearly marked container for disposal in accordance with local regulations.

## SECTION 6: Accidental release measures

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

General measures	: Spill area may be slippery. Prevent soil and water pollution. Prevent entry to sewers and public waters.
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### 6.1.1. For non-emergency personnel

- Protective equipment : When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required. Use protective clothing.
- Emergency procedures : Consider evacuation.

### 6.1.2. For emergency responders

- Protective equipment : When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.
- Emergency procedures : No specific measures are necessary.

### 6.2. Environmental precautions

Dike for recovery or absorb with appropriate material. Notify authorities if product enters sewers or public waters. Prevent soil and water pollution. Prevent liquid from entering sewers, watercourses, underground or low areas. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

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

- For containment : Large quantities: Contain large spillage with sand or earth.
- Methods for cleaning up : Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Take up large spills with pump or vacuum and finish with dry chemical absorbent.
- Other information : Use suitable disposal containers. Sweep up and remove to a suitable, clearly marked container for disposal in accordance with local regulations.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Additional hazards when processed : Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.
- Precautions for safe handling : Avoid prolonged and repeated contact with skin. May be dangerously slippery if spilled. Where contact with eyes or skin is likely, wear suitable protection. Do not eat, drink or smoke during use. Remove contaminated clothing and shoes.
- Hygiene measures : Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems. Handle in accordance with good industrial hygiene and safety practice. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Where contact with eyes or skin is likely, wear suitable protection. Wash contaminated clothing before reuse.

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

- Technical measures : Keep container tightly closed and in well ventilated place.
- Storage conditions : Store in original container.
- Incompatible products : Reacts vigorously with strong oxidizers and acids.
- Maximum storage period : 5 year
- Storage temperature :  $\leq 40^{\circ}\text{C}$ .
- Prohibitions on mixed storage : Keep away from : oxidizing materials. strong acids.
- Storage area : Store at ambient temperature.
- Special rules on packaging : Keep container tightly closed and dry.

### 7.3. Specific end use(s)

Brake fluid.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6)		
Austria	MAK Short time value (ppm)	0 ppm

  

2-(2-butoxyethoxy)ethanol (112-34-5)		
EU	IOELV TWA (mg/m <sup>3</sup> )	67,5 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	10 ppm
EU	IOELV STEL (mg/m <sup>3</sup> )	101,2 mg/m <sup>3</sup>
EU	IOELV STEL (ppm)	15 ppm
Austria	MAK (mg/m <sup>3</sup> )	67,5 mg/m <sup>3</sup>

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<b>2-(2-butoxyethoxy)ethanol (112-34-5)</b>		
Austria	MAK (ppm)	10 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	101,2 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	15 ppm
Belgium	Limit value (mg/m <sup>3</sup> )	67,5 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	10 ppm
Belgium	Short time value (mg/m <sup>3</sup> )	101,2 mg/m <sup>3</sup>
Belgium	Short time value (ppm)	15 ppm
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Denmark	Grænseværdie (kortvarig) (mg/m <sup>3</sup> )	200 mg/m <sup>3</sup>
France	VME (mg/m <sup>3</sup> )	67,5 mg/m <sup>3</sup>
France	VME (ppm)	10 ppm
France	VLE (mg/m <sup>3</sup> )	101,2 mg/m <sup>3</sup>
France	VLE (ppm)	15 ppm
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	5,1 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	2 ppm
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (ppm)	15 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	200 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	30 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	67,5 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	10 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	101,2 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	15 ppm
USA - ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	67,5 mg/m <sup>3</sup>
USA - ACGIH	ACGIH TWA (ppm)	10 ppm
USA - ACGIH	ACGIH STEL (mg/m <sup>3</sup> )	101,2 mg/m <sup>3</sup>
USA - ACGIH	ACGIH STEL (ppm)	15 ppm

<b>2-(2-methoxyethoxy)ethanol (111-77-3)</b>		
EU	IOELV TWA (mg/m <sup>3</sup> )	50,1 mg/m <sup>3</sup>
EU	IOELV STEL (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Austria	MAK (mg/m <sup>3</sup> )	50,1 mg/m <sup>3</sup>
Austria	MAK (ppm)	10 ppm
Belgium	Limit value (mg/m <sup>3</sup> )	50,1 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	10 ppm
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
France	VME (mg/m <sup>3</sup> )	50,1 mg/m <sup>3</sup>
France	VME (ppm)	10 ppm
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	50,1 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	10 ppm
Italy	OEL TWA (mg/m <sup>3</sup> )	50,1 mg/m <sup>3</sup>
Italy	OEL TWA (ppm)	10 ppm
Latvia	OEL TWA (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Latvia	OEL TWA (ppm)	20 ppm
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	45 mg/m <sup>3</sup>

<b>Diethylene glycol (111-46-6)</b>		
Austria	MAK (mg/m <sup>3</sup> )	44 mg/m <sup>3</sup>
Austria	MAK (ppm)	10 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	176 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	40 ppm
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	22 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (ppm)	5 ppm
Denmark	Grænseværdie (kortvarig) (mg/m <sup>3</sup> )	11 mg/m <sup>3</sup>
Denmark	Grænseværdie (kortvarig) (ppm)	2,5 ppm

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<b>Diethylene glycol (111-46-6)</b>		
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	44 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	10 ppm
Germany	TRGS 900 Limitation of exposure peaks (mg/m <sup>3</sup> )	176 mg/m <sup>3</sup>
Germany	TRGS 900 Limitation of exposure peaks (ppm)	40 ppm
Latvia	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	90 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	20 ppm
Sweden	takgränsvärde (TGV) (mg/m <sup>3</sup> )	45
Sweden	takgränsvärde (TGV) (ppm)	10 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	101 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	23 ppm
Switzerland	VME (mg/m <sup>3</sup> )	44 mg/m <sup>3</sup>
Switzerland	VME (ppm)	10 ppm
Switzerland	VLE (mg/m <sup>3</sup> )	176 mg/m <sup>3</sup>
Switzerland	VLE (ppm)	40 ppm

<b>Ethanediol (107-21-1)</b>		
EU	IOELV TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	20 ppm
EU	IOELV STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
EU	IOELV STEL (ppm)	40 ppm
Austria	MAK (mg/m <sup>3</sup> )	26 mg/m <sup>3</sup>
Austria	MAK (ppm)	10 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	20 ppm
Belgium	Limit value (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	20 ppm
Belgium	Short time value (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Belgium	Short time value (ppm)	40 ppm
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Bulgaria	OEL TWA (ppm)	0 ppm
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Bulgaria	OEL STEL (ppm)	40 ppm
Cyprus	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Cyprus	OEL TWA (ppm)	20 ppm
Cyprus	OEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Cyprus	OEL STEL (ppm)	40 ppm
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (ppm)	10 ppm
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Finland	HTP-arvo (8h) (ppm)	20 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min)	100 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min) (ppm)	40 ppm
France	VME (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup> (indicative limit)
France	VME (ppm)	20 ppm (indicative limit)
France	VLE (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup> (indicative limit)
France	VLE (ppm)	40 ppm (indicative limit)
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	26 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	10 ppm
Gibraltar	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Gibraltar	OEL TWA (ppm)	20 ppm
Gibraltar	OEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Gibraltar	OEL STEL (ppm)	40 ppm
Greece	OEL TWA (mg/m <sup>3</sup> )	125 mg/m <sup>3</sup>
Greece	OEL TWA (ppm)	50 ppm

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Ethanediol (107-21-1)		
Greece	OEL STEL (mg/m <sup>3</sup> )	125 mg/m <sup>3</sup>
Greece	OEL STEL (ppm)	50 ppm
Hungary	AK-érték	52 mg/m <sup>3</sup>
Hungary	CK-érték	104 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	20 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	40 ppm
Italy	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Italy	OEL TWA (ppm)	20 ppm
Italy	OEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Italy	OEL STEL (ppm)	40 ppm
Latvia	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Latvia	OEL TWA (ppm)	20 ppm
Lithuania	IPRV (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	10 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	20 ppm
Malta	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Malta	OEL TWA (ppm)	20 ppm
Malta	OEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Malta	OEL STEL (ppm)	40 ppm
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Netherlands	Grenswaarde TGG 15MIN (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Poland	NDS (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Poland	NDSch (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Romania	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	20 ppm
Romania	OEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	40 ppm
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	20 ppm
Slovakia	NPHV (Hraničná) (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Slovakia	NPHV (Hraničná) (ppm)	40 ppm
Spain	VLA-ED (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup> (indicative limit value)
Spain	VLA-ED (ppm)	20 ppm (indicative limit value)
Spain	VLA-EC (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Spain	VLA-EC (ppm)	40 ppm
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (ppm)	10 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	20 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	20 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	30 mg/m <sup>3</sup> (calculated)
United Kingdom	WEL STEL (ppm)	40 ppm
Norway	Gjennomsnittsverdier (AN) (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Norway	Gjennomsnittsverdier (AN) (ppm)	20 ppm
Norway	Gjennomsnittsverdier (Kortidsverdi) (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Norway	Gjennomsnittsverdier (Kortidsverdi) (ppm)	40 ppm
Norway	Gjennomsnittsverdier (Takverdi) (ppm)	25

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according to Regulation (EC) No. 453/2010

Ethanediol (107-21-1)		
Switzerland	VME (mg/m <sup>3</sup> )	26 mg/m <sup>3</sup>
Switzerland	VME (ppm)	10 ppm
Switzerland	VLE (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Switzerland	VLE (ppm)	20 ppm
USA - ACGIH	ACGIH Ceiling (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>

### 8.2. Exposure controls

Appropriate engineering controls

: Large quantities: Contain large spillage with sand or earth.

Personal protective equipment

: Gloves. In case of splash hazard: safety glasses. Eye protection should only be necessary where liquid could be splashed or sprayed.



Materials for protective clothing

: PVC gloves. Nitrile rubber. Butyl-rubber protective gloves.

Hand protection

: In case of repeated or prolonged contact wear gloves. The gloves should be replaced immediately in case of damage or signs of wear. It is recommended to use preventative skin protection (skin cream). The protection glove should be tested for its specific suitability (e.g. mechanical strength, product compatibility, anti-static properties).

Eye protection

: Eye protection should only be necessary where liquid could be splashed or sprayed.

Skin and body protection

: No special clothing/skin protection equipment is recommended under normal conditions of use. Avoid repeated or prolonged skin contact. If repeated skin contact or contamination of clothing is likely, protective clothing should be worn. Equipment should conform to EN 166.

Respiratory protection

: Respiratory protective equipment is not normally required where there is adequate natural or local exhaust ventilation to control exposure. Where excessive vapour, mist, or dust may result, use approved respiratory protection equipment. Respiratory protective equipment must be checked to ensure it fits correctly each time it is worn. Provided an air-filtering/air-purifying respirator is suitable, a filter for particulates can be used for mist or fume. Use filter type P or comparable standard. A combination filter for particles and organic gases and vapours (boiling point >65°C) may be required if vapour or abnormal odour is also present due to high product temperature. Use filter type AP or comparable standard.

Environmental exposure controls

: See Heading 12. See Heading 6.

Consumer exposure controls

: PVC gloves. Nitrile-rubber protective gloves. Butylrubber protective gloves.

Other information

: Do not put the product-soaked rags into the pockets of working clothes. Do not use cloths stained with the product to dry hands. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke during use. Wash contaminated clothing before reuse.



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### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: liquid
Appearance	: Oily. liquid.
Colour	: Yellow.
Odour	: characteristic.
Odour threshold	: no data available
pH	: 7 - 11,5
Relative evaporation rate (butylacetate=1)	: < 0,1
Melting point	: <= -36 °C.
Freezing point	: no data available
Boiling point	: > 260 °C.
Flash point	: > 120 °C.
Auto-ignition temperature	: > 300 °C.
Decomposition temperature	: > 300 °C.
Flammability (solid, gas)	: no data available
Vapour Pressure 20°C	: < 0,2 hPa
Relative vapour density at 20 °C	: > 1 (air=1)
Relative density	: no data available
Density	: 1,030 - 1,06 kg/l
Solubility	: Completely miscible with water.
Log Pow	: < 2
Viscosity, kinematic @ 20 °C	: 10 - 20 cSt
Viscosity, dynamic	: no data available
Explosive properties	: no data available
Oxidising properties	: no data available
Explosive limits	: 0,6 - 7 vol %

#### 9.2. Other information

VOC content	: < 1,15 %
Other properties	: Gas/vapour heavier than air at 20°C.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Stable under normal conditions of use.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

Refer to section 10.1 on Reactivity.

#### 10.4. Conditions to avoid

Moisture. Overheating.

#### 10.5. Incompatible materials

Strong oxidizing agents. strong acids.

#### 10.6. Hazardous decomposition products

CO, CO<sub>2</sub>.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met)

<b>Ethenediol (107-21-1)</b>	
LD50 oral rat	4000 mg/kg
LD50 dermal rat	> 3500 ml/kg
LD50 dermal	> 3500 mg/kg
LC50 inhalation rat (mg/l)	> 2,5 mg/l/4h (6h)
LC50 inhalation rat (Dust/Mist - mg/l/4h)	> 2,5 mg/l/4h (6h)

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Skin corrosion/irritation	: Not classified pH: 7 - 11,5
Serious eye damage/irritation	: Causes serious eye irritation. pH: 7 - 11,5
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

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Viscosity, kinematic @ 20 °C	10 - 20 mm <sup>2</sup> /s
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Other information : Toxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the toxicology of similar products. Likely route of exposure: ingestion, skin and eye.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

#### Ethanediol (107-21-1)

LC50 fishes 1	41000 mg/l (96h; Oncorhynchus mykiss)
EC50 Daphnia 1	46300 mg/l (48h; Daphnia magna)
EC50 other aquatic organisms 1	6500 (6500 - 13000) mg/l (96h; Pseudokirchneriella Subcapitata)
LC50 fish 2	14 (14 - 18) ml/l (96h; Oncorhynchus mykiss [static])
Threshold limit algae 1	10000 mg/l (168 h; Scenedesmus quadricauda)
Threshold limit algae 2	2000 mg/l (192 h; Microcystis aeruginosa)

### 12.2. Persistence and degradability

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Persistence and degradability	Not readily biodegradable.
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#### Ethanediol (107-21-1)

Persistence and degradability	Readily biodegradable in water. easily degradable in the soil.
Biochemical oxygen demand (BOD)	0,47 g O/g substance
Chemical oxygen demand (COD)	1,24 g O/g substance
ThOD	1,29 g O/g substance
BOD (% of ThOD)	0,36 % ThOD

### 12.3. Bioaccumulative potential

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Log Pow	< 2
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.

#### 2-[2-(2-butoxyethoxy)ethoxy]ethanol (143-22-6)

Log Pow	0,51
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#### Ethanediol (107-21-1)

Log Pow	-1,36
Bioaccumulative potential	No bioaccumulation.

### 12.4. Mobility in soil

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Ecology - soil	Spillages may penetrate the soil causing ground water contamination. This product floats on water and may affect the oxygen-balance in the water.
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#### Ethanediol (107-21-1)

Surface tension	0,048 N/m (20 °C)
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### 12.5. Results of PBT and vPvB assessment

No additional information available

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### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Do not discharge into drains or the environment.
Additional information	: Hazardous waste.
Ecology - waste materials	: Every mixture with foreign substances such as solvents, brake- and cooling liquids is forbidden. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly. When not empty dispose of this container at hazardous or special waste collection point.
European List of Waste (LoW) code	: 16 01 13* - brake fluids

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable
Proper Shipping Name (ADN)	: Not applicable
Proper Shipping Name (RID)	: Not applicable

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : Not applicable

#### IMDG

Transport hazard class(es) (IMDG) : Not applicable

#### IATA

Transport hazard class(es) (IATA) : Not applicable

#### ADN

Transport hazard class(es) (ADN) : Not applicable

#### RID

Transport hazard class(es) (RID) : Not applicable

### 14.4. Packing group

Packing group (UN)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable
Packing group (ADN)	: Not applicable
Packing group (RID)	: Not applicable

### 14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

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### 14.6. Special precautions for user

#### 14.6.1. Overland transport

#### 14.6.2. Transport by sea

#### 14.6.3. Air transport

#### 14.6.4. Inland waterway transport

Not subject to ADN : No

#### 14.6.5. Rail transport

Carriage prohibited (RID) : No

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Contains no substance on the REACH candidate list

VOC content : < 1,15 %

#### 15.1.2. National regulations

##### Germany

Water hazard class (WGK) : 1 - low hazard to waters

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Indication of changes:

8.1	Acute - systemic effects, dermal	Removed	
9.2	VOC content	Modified	
15.1	VOC content	Modified	
15.1	Water hazard class (WGK)	Modified	

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Repr. 2	Reproductive toxicity, Category 2
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
H302	Harmful if swallowed
H318	Causes serious eye damage
H319	Causes serious eye irritation
H361d	Suspected of damaging the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
R22	Harmful if swallowed
R36	Irritating to eyes
R41	Risk of serious damage to eyes
R63	Possible risk of harm to the unborn child
Xi	Irritant
Xn	Harmful

SDS EU (REACH Annex II)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*