

# SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2020/878

## NOVAKLEEN

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

#### 1.1. Product identifier

**Product name** : NOVAKLEEN  
**Registration number REACH** : Not applicable (mixture)  
**Product type REACH** : Mixture

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

##### 1.2.1 Relevant identified uses

Detergent according to Regulation (EC) No 648/2004

##### 1.2.2 Uses advised against

No uses advised against known

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

##### Supplier of the safety data sheet

Novatio\*  
Industrielaan 5B  
B-2250 Olen  
☎ +32 14 25 76 40  
☎ +32 14 22 02 66  
info@novatio.be  
\*NOVATIO is a registered trademark of Novatech International N.V.

##### Manufacturer of the product

Novatech International N.V.  
Industrielaan 5B  
B-2250 Olen  
☎ +32 14 85 97 37  
☎ +32 14 85 97 38  
info@novatech.be

#### 1.4. Emergency telephone number

24h/24h (Telephone advice: English, French, German, Dutch) :  
+32 14 58 45 45 (BIG)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Class	Category	Hazard statements
Eye Irrit.	category 2	H319: Causes serious eye irritation.

#### 2.2. Label elements



**Signal word** Warning

##### H-statements

H319 Causes serious eye irritation.

##### P-statements

P280 Wear eye protection.

P264 Wash hands thoroughly after handling.

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

Caution! Substance is absorbed through the skin

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## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark	M-factors and ATE
2-(2-butoxyethoxy)ethanol 01-2119475104-44	112-34-5 203-961-6	C<5%	Eye Irrit. 2; H319	(1)(2)(10)	Constituent	
alcohols, C9-11, ethoxylated	68439-46-3	C<5%	Acute Tox. 4; H302 Eye Dam. 1; H318 Skin Irrit. 2; H315	(1)(10)	Constituent	
propan-2-ol 01-2119457558-25	67-63-0 200-661-7	C<5%	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	(1)(2)(10)	Constituent	

(1) For H- and EUH-statements in full: see section 16

(2) Substance with a Community workplace exposure limit

(10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General:

Observe (own) safety. If possible, approach victim and check vital functions. In case of injury and/or intoxication, call the European emergency number 112. Treat symptoms starting with most life-threatening injuries and disorders. Keep victim under observation, possibility of delayed symptoms.

#### After inhalation:

Remove victim into fresh air. In case of respiratory problems, consult a doctor/medical service.

#### After skin contact:

If possible, wipe up/dry remove chemical. Then rinse/shower immediately with (lukewarm) water. If irritation persists, consult a doctor/medical service.

#### After eye contact:

Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, consult a doctor/medical service.

#### After ingestion:

Rinse mouth with water. If you feel unwell, consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center.

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

#### 4.2.1 Acute symptoms

##### After inhalation:

No effects known.

##### After skin contact:

No effects known.

##### After eye contact:

Irritation of the eye tissue.

##### After ingestion:

AFTER INGESTION OF HIGH QUANTITIES: Vomiting. Abdominal pain. Diarrhoea. Dizziness. Headache.

#### 4.2.2 Delayed symptoms

No effects known.

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

If applicable and available it will be listed below.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### 5.1.1 Suitable extinguishing media:

Small fire: Quick-acting ABC powder extinguisher, Quick-acting BC powder extinguisher, Quick-acting class B foam extinguisher, Quick-acting CO2 extinguisher.

Major fire: Class B foam (alcohol-resistant), Water spray if puddle cannot expand.

#### 5.1.2 Unsuitable extinguishing media:

Small fire: Water (quick-acting extinguisher, reel); risk of puddle expansion.

Major fire: Water; risk of puddle expansion.

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

In case of fire: possible release of toxic/corrosive gases/vapours.

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## 5.3. Advice for firefighters

### 5.3.1 Instructions:

No specific fire-fighting instructions required.

### 5.3.2 Special protective equipment for fire-fighters:

Gloves (EN 374). Safety glasses (EN 166). Protective clothing (EN 14605 or EN 13034). Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

## SECTION 6: Accidental release measures

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

No naked flames. Exposure to fire/heat: keep upwind. Exposure to fire/heat: have neighbourhood close doors and windows.

#### 6.1.1 Protective equipment for non-emergency personnel

See section 8.2

#### 6.1.2 Protective equipment for emergency responders

Gloves (EN 374). Safety glasses (EN 166). Protective clothing (EN 14605 or EN 13034).

Suitable protective clothing

See section 8.2

### 6.2. Environmental precautions

Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply.

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

Take up liquid spill into inert absorbent material. Scoop absorbed substance into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

### 6.4. Reference to other sections

See section 13.

## SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 7.1. Precautions for safe handling

Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Observe normal hygiene standards. Keep container tightly closed.

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

#### 7.2.1 Safe storage requirements:

Meet the legal requirements. Keep container in a well-ventilated place. Protect against frost. Keep out of direct sunlight.

#### 7.2.2 Keep away from:

Heat sources.

#### 7.2.3 Suitable packaging material:

Synthetic material.

#### 7.2.4 Non suitable packaging material:

Metal.

### 7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 Occupational exposure

##### a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

#### EU

2-(2-Butoxyethoxy)ethanol	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	10 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	67.5 mg/m <sup>3</sup>
	Short time value (Indicative occupational exposure limit value)	15 ppm
	Short time value (Indicative occupational exposure limit value)	101.2 mg/m <sup>3</sup>

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## Belgium

2-(2-Butoxyéthoxy)éthanol	Time-weighted average exposure limit 8 h	10 ppm
	Time-weighted average exposure limit 8 h	67.5 mg/m <sup>3</sup>
	Short time value	15 ppm
	Short time value	101.2 mg/m <sup>3</sup>
Alcool isopropylique	Time-weighted average exposure limit 8 h	200 ppm
	Time-weighted average exposure limit 8 h	500 mg/m <sup>3</sup>
	Short time value	400 ppm
	Short time value	1000 mg/m <sup>3</sup>

## The Netherlands

2-(2-Butoxyethoxy)ethanol	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	7.4 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	50 mg/m <sup>3</sup>
	Short time value (Public occupational exposure limit value)	14.8 ppm
	Short time value (Public occupational exposure limit value)	100 mg/m <sup>3</sup>

## France

2-(2-butoxyethoxy)éthanol	Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)	10 ppm
	Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)	67.5 mg/m <sup>3</sup>
	Short time value (VRI: Valeur réglementaire indicative)	15 ppm
	Short time value (VRI: Valeur réglementaire indicative)	101.2 mg/m <sup>3</sup>
Alcool isopropylique	Short time value (VL: Valeur non réglementaire indicative)	400 ppm
	Short time value (VL: Valeur non réglementaire indicative)	980 mg/m <sup>3</sup>

## Germany

2-(2-Butoxyethoxy)ethanol	Time-weighted average exposure limit 8 h (TRGS 900)	10 ppm (1)
	Time-weighted average exposure limit 8 h (TRGS 900)	67 mg/m <sup>3</sup> (1)
	<i>Summe aus Dampf und Aerosolen.</i>	
Propan-2-ol	Time-weighted average exposure limit 8 h (TRGS 900)	200 ppm (2)
	Time-weighted average exposure limit 8 h (TRGS 900)	500 mg/m <sup>3</sup> (2)

(1) UF: 1,5 (I)

(2) UF: 2 (II)

## Austria

2-Propanol	Tagesmittelwert (MAK)	200 ppm
	Tagesmittelwert (MAK)	500 mg/m <sup>3</sup>
	Kurzzeitwert 15(Miw) 4x (MAK)	800 ppm
	Kurzzeitwert 15(Miw) 4x (MAK)	2000 mg/m <sup>3</sup>
Butyldiglykol	Tagesmittelwert (MAK)	10 ppm
	Tagesmittelwert (MAK)	67.5 mg/m <sup>3</sup>
	Kurzzeitwert 15(Miw) 4x (MAK)	15 ppm
	Kurzzeitwert 15(Miw) 4x (MAK)	101.2 mg/m <sup>3</sup>

## UK

2-(2-Butoxyethoxy)ethanol	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	10 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	67.5 mg/m <sup>3</sup>
	Short time value (Workplace exposure limit (EH40/2005))	15 ppm
	Short time value (Workplace exposure limit (EH40/2005))	101.2 mg/m <sup>3</sup>
Propan-2-ol	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	400 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	999 mg/m <sup>3</sup>
	Short time value (Workplace exposure limit (EH40/2005))	500 ppm
	Short time value (Workplace exposure limit (EH40/2005))	1250 mg/m <sup>3</sup>

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## Ireland

2-(2-Butoxyethoxy)ethanol	Time-weighted average exposure limit 8 h (Binding occupational exposure limit values)	10 ppm
	Time-weighted average exposure limit 8 h (Binding occupational exposure limit values)	67.5 mg/m <sup>3</sup>
	Short time value (Binding occupational exposure limit values)	12 ppm
	Short time value (Binding occupational exposure limit values)	101.2 mg/m <sup>3</sup>
Isopropyl alcohol	Time-weighted average exposure limit 8 h (Advisory occupational exposure limit values)	200 ppm
	Short time value (Advisory occupational exposure limit values)	400 ppm

## USA (TLV-ACGIH)

2-propanol	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	200 ppm
	Short time value (TLV - Adopted Value)	400 ppm
Diethylene glycol monobutyl ether	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	10 ppm (1)

(1) (IFV): Inhalable fraction and vapor

### b) National biological limit values

If limit values are applicable and available these will be listed below.

## Germany

Propan-2-ol (Aceton)	Urin: expositionsende, bzw. schichtende	25 mg/l	
Propan-2-ol (Aceton)	Vollblut: expositionsende, bzw. schichtende	25 mg/l	

## USA (BEI-ACGIH)

2-Propanol (Acetone)	Urine: end of shift at end of workweek	40 mg/L	Background, Nonspecific
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### 8.1.2 Sampling methods

Product name	Test	Number
Butyl Carbitol	OSHA	2095
Isopropanol (Volatile Organic compounds)	NIOSH	2549
Isopropyl Alcohol (Alcohols I)	NIOSH	1400
Isopropyl Alcohol	NIOSH	3900
Isopropyl Alcohol	OSHA	5001

### 8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

### 8.1.4 Threshold values

#### DNEL/DMEL - Workers

##### 2-(2-butoxyethoxy)ethanol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	67.5 mg/m <sup>3</sup>	
	Acute local effects inhalation	101.2 mg/m <sup>3</sup>	

##### propan-2-ol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	500 mg/m <sup>3</sup>	
	Acute systemic effects inhalation	1000 mg/m <sup>3</sup>	
	Long-term systemic effects dermal	888 mg/kg bw/day	

#### DNEL/DMEL - General population

##### 2-(2-butoxyethoxy)ethanol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects oral	6.25 mg/kg bw/day	

##### propan-2-ol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	89 mg/m <sup>3</sup>	
	Acute systemic effects inhalation	178 mg/m <sup>3</sup>	
	Long-term systemic effects dermal	319 mg/kg bw/day	
	Long-term systemic effects oral	26 mg/kg bw/day	
	Acute systemic effects oral	51 mg/kg bw/day	

### 8.1.5 Control banding

If applicable and available it will be listed below.

## 8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 8.2.1 Appropriate engineering controls

Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

### 8.2.2 Individual protection measures, such as personal protective equipment

Observe normal hygiene standards. Do not eat, drink or smoke during work.

#### a) Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit.

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**b) Hand protection:**

Protective gloves against chemicals (EN 374).

**c) Eye protection:**

Safety glasses (EN 166).

**d) Skin protection:**

Protective clothing (EN 14605 or EN 13034).

**8.2.3 Environmental exposure controls:**

See sections 6.2, 6.3 and 13

## SECTION 9: Physical and chemical properties

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

Physical form	Liquid
Colour	Colourless
Odour	Characteristic odour
Odour threshold	No data available in the literature
Melting point	0 °C
Boiling point	76 °C - 360 °C
Flammability	Not classified as flammable
Explosion limits	0.85 - 24.6 vol %
Flash point	No data available in the literature
Auto-ignition temperature	200 °C
Decomposition temperature	No data available in the literature
pH	9.1
Kinematic viscosity	1 mm <sup>2</sup> /s ; 20 °C
Dynamic viscosity	1 mPa.s ; 20 °C
Solubility	Water ; soluble
Log Kow	Not applicable (mixture)
Vapour pressure	No data available in the literature
Absolute density	1018 kg/m <sup>3</sup> ; 20 °C
Relative density	1.02 ; 20 °C
Relative vapour density	No data available in the literature
Particle size	Not applicable (liquid)

### 9.2. Other information

Evaporation rate	1.3 ; Butyl acetate
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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Heating increases the fire hazard. Basic reaction.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No data available.

### 10.4. Conditions to avoid

**Precautionary measures**

Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks.

### 10.5. Incompatible materials

No data available.

### 10.6. Hazardous decomposition products

No data available.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### 11.1.1 Test results

**Acute toxicity**

**NOVAKLEEN**

No (test)data on the mixture available

Judgement is based on the relevant ingredients

# NOVAKLEEN

## 2-(2-butoxyethoxy)ethanol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	2410 mg/kg bw - 5530 mg/kg bw		Mouse (male)	Experimental value	
Dermal	LD50	Equivalent to OECD 402	2764 mg/kg bw	24 h	Rabbit (male)	Experimental value	
Inhalation (aerosol)	IRT (inhalation risk test)	BASF test	> 29 ppm	2 h	Rat	Experimental value	

## alcohols, C9-11, ethoxylated

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral			category 4			Literature study	

## propan-2-ol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	5840 mg/kg bw		Rat	Experimental value	
Dermal	LD50	Equivalent to OECD 402	13120 mg/kg bw/day	24 h	Rabbit	Experimental value	Converted value
Inhalation (vapours)	LC50	Equivalent to OECD 403	> 10000 ppm	6 h	Rat (male / female)	Experimental value	

### **Conclusion**

Not classified for acute toxicity

### **Corrosion/irritation**

#### NOVAKLEEN

No (test)data on the mixture available

Classification is based on the relevant ingredients

## 2-(2-butoxyethoxy)ethanol

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Highly irritating	OECD 405	72 h	24; 48; 72 hours	Rabbit	Experimental value	Single treatment with rinsing
Skin	Slightly irritating	OECD 404	1 h	24; 48; 72 hours	Rabbit	Experimental value	

## alcohols, C9-11, ethoxylated

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye damage; category 1					Literature study	
Skin	Irritating; category 2					Literature study	

## propan-2-ol

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating	Equivalent to OECD 405		1; 2; 3; 4; 7; 10; 14 days	Rabbit	Experimental value	Single treatment without rinsing
Skin	Not irritating		4 h	4; 24; 48; 72 hours	Rabbit	Experimental value	

### **Conclusion**

Causes serious eye irritation.

Not classified as irritating to the skin

Not classified as irritating to the respiratory system

### **Respiratory or skin sensitisation**

#### NOVAKLEEN

No (test)data on the mixture available

Judgement is based on the relevant ingredients

## 2-(2-butoxyethoxy)ethanol

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Equivalent to OECD 406			Guinea pig (male / female)	Experimental value	

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## propan-2-ol

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406			Guinea pig (male / female)	Experimental value	

## Conclusion

Not classified as sensitizing for skin

Not classified as sensitizing for inhalation

## Specific target organ toxicity

## NOVAKLEEN

No (test)data on the mixture available

Judgement is based on the relevant ingredients

## 2-(2-butoxyethoxy)ethanol

Route of exposure	Parameter	Method	Value	Organ/Effect	Exposure time	Species	Value determination	Remark
Oral (drinking water)	NOAEL	OECD 408	250 mg/kg bw/day	No effect	90 days (continuous)	Rat (male / female)	Experimental value	
Dermal	NOAEL local effects	EPA TSCA consent order	< 200 mg/kg bw/day	Skin (no effect)	13 weeks (daily, 5 days / week)	Rat (male / female)	Experimental value	
Dermal	NOAEL systemic effects	EPA OTS 798.6050	2000 mg/kg bw/day	No adverse systemic effects	13 weeks (daily, 5 days / week)	Rat (male / female)	Experimental value	
Inhalation	NOAEL	OECD 413	94 mg/m <sup>3</sup> air	Lungs (no effect)	90 days (6h / day)	Rat (male / female)	Experimental value	

## propan-2-ol

Route of exposure	Parameter	Method	Value	Organ/Effect	Exposure time	Species	Value determination	Remark
Oral							Data waiving	
Inhalation (vapours)	NOAEC	OECD 451	5000 ppm	No adverse systemic effects	104 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value	
Inhalation (vapours)	Dose level	Equivalent to OECD 403	5000 ppm	Central nervous system (drowsiness, dizziness)	6 h	Rat (male / female)	Experimental value	

## Conclusion

Not classified for subchronic toxicity

## Mutagenicity (in vitro)

## NOVAKLEEN

No (test)data on the mixture available

Judgement is based on the relevant ingredients

## 2-(2-butoxyethoxy)ethanol

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 476	Chinese hamster ovary (CHO)		Experimental value	
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S. typhimurium and E. coli)		Experimental value	

## propan-2-ol

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S. typhimurium)	No effect	Experimental value	
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 476	Chinese hamster ovary (CHO)	No effect	Experimental value	

## Mutagenicity (in vivo)

## NOVAKLEEN

No (test)data on the mixture available

Judgement is based on the relevant ingredients

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## 2-(2-butoxyethoxy)ethanol

Result	Method	Exposure time	Test substrate	Organ/Effect	Value determination	Remark
Negative (Oral (stomach tube))	Equivalent to OECD 475		Mouse (male / female)	No effect	Experimental value	Single treatment

## propan-2-ol

Result	Method	Exposure time	Test substrate	Organ/Effect	Value determination	Remark
Negative (Intraperitoneal)	Equivalent to OECD 474		Mouse (male / female)	No effect	Experimental value	Single intraperitoneal injection

### Conclusion

Not classified for mutagenic or genotoxic toxicity

## Carcinogenicity

### NOVAKLEEN

No (test)data on the mixture available

Judgement is based on the relevant ingredients

## propan-2-ol

Route of exposure	Parameter	Method	Value	Organ/Effect	Exposure time	Species	Value determination	Remark
Inhalation (vapours)	NOEL	OECD 451	5000 ppm	No carcinogenic effect	104 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value	

### Conclusion

Not classified for carcinogenicity

## Reproductive toxicity

### NOVAKLEEN

No (test)data on the mixture available

Judgement is based on the relevant ingredients

## 2-(2-butoxyethoxy)ethanol

Category	Parameter	Method	Value	Exposure time	Species	Effect	Value determination	Remark
Developmental toxicity (Oral (diet))	Dose level	Equivalent to OECD 414	633 mg/kg bw/day	21 days (gestation, daily)	Rat	No effect	Experimental value	
Maternal toxicity (Oral (diet))	Dose level	Equivalent to OECD 414	633 mg/kg bw/day	21 days (gestation, daily)	Rat	No effect	Experimental value	
Effects on fertility (Oral (drinking water))	NOAEL (P)	NTP continuous breeding protocol	720 mg/kg bw/day	14 week(s)	Mouse (male / female)	No effect	Experimental value	

## propan-2-ol

Category	Parameter	Method	Value	Exposure time	Species	Effect	Value determination	Remark
Developmental toxicity (Oral (stomach tube))	NOAEL	Equivalent to OECD 414	400 mg/kg bw/day	10 day(s)	Rat	Foetus (no effect)	Experimental value	
Maternal toxicity (Oral (stomach tube))	NOAEL	Equivalent to OECD 414	400 mg/kg bw/day	10 day(s)	Rat	No effect	Experimental value	
Effects on fertility (Oral (stomach tube))	NOAEL	Equivalent to OECD 416	> 1000 mg/kg bw/day		Rat (male / female)	No effect	Experimental value	

### Conclusion

Not classified for reprotoxic or developmental toxicity

## Aspiration hazard

### NOVAKLEEN

Judgement is based on the relevant ingredients

Not classified for aspiration toxicity

## Toxicity other effects

### NOVAKLEEN

No (test)data on the mixture available

## Chronic effects from short and long-term exposure

### NOVAKLEEN

No effects known.

## 11.2. Information on other hazards

No evidence of endocrine disrupting properties

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## SECTION 12: Ecological information

### 12.1. Toxicity

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No (test)data on the mixture available

Judgement of the mixture is based on the relevant ingredients

2-(2-butoxyethoxy)ethanol

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	Equivalent to OECD 203	1300 mg/l	96 h	Lepomis macrochirus	Static system	Fresh water	Experimental value; Nominal concentration
Acute toxicity crustacea	EC50	EU Method C.2	> 100 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Locomotor effect
Long-term toxicity fish	ChV	ECOSAR	370 mg/l	30 day(s)	Pisces		Fresh water	QSAR
Long-term toxicity aquatic crustacea	ChV	ECOSAR	139 mg/l		Invertebrata			QSAR
Toxicity aquatic micro-organisms	EC10	Equivalent to OECD 209	> 1995 mg/l	30 minutes	Activated sludge	Static system	Fresh water	Experimental value; Respiration

propan-2-ol

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	Equivalent to OECD 203	9640 mg/l - 10000 mg/l	96 h	Pimephales promelas	Flow-through system	Fresh water	Experimental value; Lethal
Acute toxicity crustacea	LC50	Equivalent to OECD 202	> 10000 mg/l	24 h	Daphnia magna	Static system	Fresh water	Experimental value; Locomotor effect
Toxicity algae and other aquatic plants	Toxicity threshold		1800 mg/l	7 day(s)	Scenedesmus quadricauda	Static system	Fresh water	Experimental value; Toxicity test
Long-term toxicity fish	NOELR	Petrotox computer model	> 1000 mg/l	28 day(s)	Brachydanio rerio			Estimated value
Long-term toxicity aquatic crustacea	NOEC		141 mg/l	16 day(s)	Daphnia magna		Fresh water	Experimental value; Growth
Toxicity aquatic micro-organisms	Toxicity threshold	Equivalent to DIN 38412/8	1050 mg/l	16 h	Pseudomonas putida	Static system	Fresh water	Experimental value; Toxicity test
	EC50	ISO 8192	41676 mg/l	30 minutes	Activated sludge			Experimental value

### Conclusion

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

### 12.2. Persistence and degradability

2-(2-butoxyethoxy)ethanol

#### Biodegradation water

Method	Value	Duration	Value determination
OECD 301C	85 %; Oxygen consumption	28 day(s)	Experimental value

alcohols, C9-11, ethoxylated

#### Biodegradation water

Method	Value	Duration	Value determination
ISO 14593	72 %	28 day(s)	Weight of evidence

propan-2-ol

#### Biodegradation water

Method	Value	Duration	Value determination
EU Method C.5	53 %; Oxygen consumption	5 day(s)	Experimental value

#### Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.92	18 h	1.5E6 /cm <sup>3</sup>	Calculated value

### Conclusion

#### Water

The surfactant(s) is/are biodegradable according to Regulation (EC) No 648/2004

### 12.3. Bioaccumulative potential

NOVAKLEEN

Log Kow

Method	Remark	Value	Temperature	Value determination
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# NOVAKLEEN

Not applicable (mixture)

## 2-(2-butoxyethoxy)ethanol

### Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 117		1	20 °C	Experimental value

## alcohols, C9-11, ethoxylated

### BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		12.7 l/kg - 237 l/kg	72 h	Pimephales promelas	Read-across

### Log Kow

Method	Remark	Value	Temperature	Value determination
KOWWIN		3.3 - 3.73		QSAR

## propan-2-ol

### Log Kow

Method	Remark	Value	Temperature	Value determination
		0.05	25 °C	Weight of evidence approach

### Conclusion

Does not contain bioaccumulative component(s)

## 12.4. Mobility in soil

### 2-(2-butoxyethoxy)ethanol

#### (log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	0.64 - 1.0	Calculated value

#### Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level I	0.01 %	0 %	0.01 %	0.3 %	99.7 %	QSAR

## alcohols, C9-11, ethoxylated

#### (log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	1.399 - 1.656	Calculated value

## propan-2-ol

#### (log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	0.19 - 0.54	Calculated value

### Conclusion

Contains component(s) with potential for mobility in the soil

## 12.5. Results of PBT and vPvB assessment

Does not contain component(s) that meet(s) the criteria of PBT and/or vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006.

## 12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties

## 12.7. Other adverse effects

### NOVAKLEEN

#### Greenhouse gases

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 2024/573)

#### Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 2024/590)

#### Water ecotoxicity pH

pH shift

### 2-(2-butoxyethoxy)ethanol

#### Greenhouse gases

Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 2024/573)

#### Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 2024/590)

#### Groundwater

Groundwater pollutant

## alcohols, C9-11, ethoxylated

#### Groundwater

Groundwater pollutant

# NOVAKLEEN

## propan-2-ol

### Greenhouse gases

Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 2024/573)

### Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 2024/590)

### Groundwater

Groundwater pollutant

## SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 13.1. Waste treatment methods

#### 13.1.1 Provisions relating to waste

##### European Union

Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).

20 01 30 (separately collected fractions (except 15 01): detergents other than those mentioned in 20 01 29). Depending on branch of industry and production process, also other waste codes may be applicable.

#### 13.1.2 Disposal methods

Remove waste in accordance with local and/or national regulations. Do not discharge into drains or the environment. Dispose of at authorized waste collection point.

#### 13.1.3 Packaging/Container

##### European Union

Waste material code packaging (Directive 2008/98/EC).

15 01 02 (plastic packaging).

## SECTION 14: Transport information

### Road (ADR)

#### 14.1. UN number or ID number

Transport	Not subject
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#### 14.2. UN proper shipping name

#### 14.3. Transport hazard class(es)

Hazard identification number	
Class	
Classification code	

#### 14.4. Packing group

Packing group	
Labels	

#### 14.5. Environmental hazards

Environmentally hazardous substance mark	no
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#### 14.6. Special precautions for user

Special provisions	
Limited quantities	

### Rail (RID)

#### 14.1. UN number or ID number

Transport	Not subject
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#### 14.2. UN proper shipping name

#### 14.3. Transport hazard class(es)

Hazard identification number	
Class	
Classification code	

#### 14.4. Packing group

Packing group	
Labels	

#### 14.5. Environmental hazards

Environmentally hazardous substance mark	no
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#### 14.6. Special precautions for user

Special provisions	
Limited quantities	

### Inland waterways (ADN)

#### 14.1. UN number or ID number

UN number/ID number	9003
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#### 14.2. UN proper shipping name

Proper shipping name	substances with a flash-point above 60 °C and not more than 100 °C (2-(2-butoxyethoxy)ethanol; propan-2-ol)
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#### 14.3. Transport hazard class(es)

# NOVAKLEEN

Class	9
Classification code	M12
<b>14.4. Packing group</b>	
Packing group	
Labels	
<b>14.5. Environmental hazards</b>	
Environmentally hazardous substance mark	no
<b>14.6. Special precautions for user</b>	
Special provisions	
Limited quantities	
Specific mention	Dangerous only when carried in tank vessels.

## Sea (IMDG/IMSBC)

<b>14.1. UN number or ID number</b>	
Transport	Not subject
<b>14.2. UN proper shipping name</b>	
<b>14.3. Transport hazard class(es)</b>	
Class	
<b>14.4. Packing group</b>	
Packing group	
Labels	
<b>14.5. Environmental hazards</b>	
Marine pollutant	
Environmentally hazardous substance mark	no
<b>14.6. Special precautions for user</b>	
Special provisions	
Limited quantities	
<b>14.7. Maritime transport in bulk according to IMO instruments</b>	
Annex II of MARPOL 73/78	Not applicable, based on available data

## Air (ICAO-TI/IATA-DGR)

<b>14.1. UN number or ID number</b>	
Transport	Not subject
<b>14.2. UN proper shipping name</b>	
<b>14.3. Transport hazard class(es)</b>	
Class	
<b>14.4. Packing group</b>	
Packing group	
Labels	
<b>14.5. Environmental hazards</b>	
Environmentally hazardous substance mark	no
<b>14.6. Special precautions for user</b>	
Special provisions	
<b>Passenger and cargo transport</b>	
Limited quantities: maximum net quantity per packaging	

## SECTION 15: Regulatory information

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

#### European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
1.78 %	
18.12 g/l	

Directive 2012/18/EU (Seveso III)

Not subject to registration according to Directive 2012/18/EU (Seveso III)

Ingredients according to Regulation (EC) No 648/2004 and amendments

<5% phosphates, <5% non-ionic surfactants, perfumes

REACH Candidate list

Does not contain component(s) included in candidate list of substances of very high concern (SVHC) for authorisation (Article 59 of Regulation (EC) No 1907/2006)

REACH Annex XIV - Authorisation

Does not contain component(s) included in Annex XIV of Regulation (EC) No 1907/2006: list of substances subject to authorisation

REACH Annex XVII - Restriction

Contains component(s) subject to restrictions of Annex XVII of Regulation (EC) No 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

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	Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
<ul style="list-style-type: none"> <li>· 2-(2-butoxyethoxy)ethanol</li> <li>· alcohols, C9-11, ethoxylated</li> <li>· propan-2-ol</li> </ul>	<p>Liquid substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008:</p> <p>(a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F;</p> <p>(b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10;</p> <p>(c) hazard class 4.1;</p> <p>(d) hazard class 5.1.</p>	<p>1. Shall not be used in:</p> <ul style="list-style-type: none"> <li>— ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,</li> <li>— tricks and jokes,</li> <li>— games for one or more participants, or any article intended to be used as such, even with ornamental aspects,</li> </ul> <p>2. Articles not complying with paragraph 1 shall not be placed on the market.</p> <p>3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:</p> <ul style="list-style-type: none"> <li>— can be used as fuel in decorative oil lamps for supply to the general public, and,</li> <li>— present an aspiration hazard and are labelled with H304,</li> </ul> <p>4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).</p> <p>5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:</p> <p>a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: “Keep lamps filled with this liquid out of the reach of children”; and, by 1 December 2010, “Just a sip of lamp oil — or even sucking the wick of lamps — may lead to life- threatening lung damage”;</p> <p>b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: “Just a sip of grill lighter may lead to life threatening lung damage”;</p> <p>c) lamp oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.</p>
<ul style="list-style-type: none"> <li>· propan-2-ol</li> </ul>	<p>Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to that Regulation or not.</p>	<p>1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:</p> <ul style="list-style-type: none"> <li>— metallic glitter intended mainly for decoration,</li> <li>— artificial snow and frost,</li> <li>— “whoopee” cushions,</li> <li>— silly string aerosols,</li> <li>— imitation excrement,</li> <li>— horns for parties,</li> <li>— decorative flakes and foams,</li> <li>— artificial cobwebs,</li> <li>— stink bombs.</li> </ul> <p>2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with:</p> <p>“For professional users only”.</p> <p>3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/ 324/EEC.</p> <p>4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.</p>
<ul style="list-style-type: none"> <li>· 2-(2-butoxyethoxy)ethanol</li> </ul>	<p>2-(2-butoxyethoxy)ethanol (DEGBE)</p>	<p>1. Shall not be placed on the market for the first time after 27 June 2010, for supply to the general public, as a constituent of spray paints or spray cleaners in aerosol dispensers in concentrations equal to or greater than 3 % by weight.</p> <p>2. Spray paints and spray cleaners in aerosol dispensers containing DEGBE and not conforming to paragraph 1 shall not be placed on the market for supply to the general public after 27 December 2010.</p> <p>3. Without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that paints other than spray paints containing DEGBE in concentrations equal to or greater than 3 % by weight of that are placed on the market for supply to the general public are visibly, legibly and indelibly marked by 27 December 2010 as follows: “Do not use in paint spraying equipment”.</p>
<ul style="list-style-type: none"> <li>· 2-(2-butoxyethoxy)ethanol</li> <li>· propan-2-ol</li> </ul>	<p>Substances falling within one or more of the following points:</p> <p>(a) substances classified as any of the following in Part 3 of Annex VI to Regulation (EC) No 1272/2008:</p> <ul style="list-style-type: none"> <li>— carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, but excluding any such substances classified due to effects only following exposure by inhalation</li> <li>— reproductive toxicant category 1A, 1B or 2 but excluding any such substances classified due to effects only following exposure by inhalation</li> <li>— skin sensitiser category 1, 1A or 1B</li> <li>— skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2</li> <li>— serious eye damage category 1 or eye irritant category 2</li> </ul> <p>(b) substances listed in Annex II to Regulation (EC) No 1223/2009 of the European Parliament and of the Council</p>	<p>Mixtures for tattooing purposes are subject to the restrictions of Regulation (EU) 2020/2081</p>

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(c) substances listed in Annex IV to Regulation (EC) No 1223/2009 for which a condition is specified in at least one of the columns g, h and i of the table in that Annex (d) substances listed in Appendix 13 to this Annex.  
The ancillary requirements in paragraphs 7 and 8 of column 2 of this entry apply to all mixtures for use for tattooing purposes, whether or not they contain a substance falling within points (a) to (d) of this column of this entry.

## National legislation Belgium

### NOVAKLEEN

No data available

### propan-2-ol

Agents cancérogènes, mutagènes et reprotoxiques et aux agents possédant des propriétés perturbant le système endocrinien (Code du bien-être au travail, Livre VI, titre 2)	alcool isopropylique; VI.2.2.; Liste des procédés au cours desquels une substance ou un mélange se dégage; Procédé à l'acide fort dans la fabrication d'alcool isopropylique.
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## National legislation The Netherlands

### NOVAKLEEN

Waterbezwaarlijkheid	B (5); Algemene Beoordelingsmethodiek (ABM)
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### 2-(2-butoxyethoxy)ethanol

Huidopname (wettelijk)	2-(2-Butoxyethoxy)ethanol; H
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## National legislation France

### NOVAKLEEN

No data available

## National legislation Germany

### NOVAKLEEN

Lagerklasse (TRGS510)	10: Brennbare Flüssigkeiten die keiner der vorgenannten LGK zuzuordnen sind
WGK	1; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017

### 2-(2-butoxyethoxy)ethanol

TA-Luft	5.2.5
TRGS900 - Risiko der Fruchtschädigung	2-(2-Butoxyethoxy)ethanol; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden

### alcohols, C9-11, ethoxylated

TA-Luft	5.2.5/I
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### propan-2-ol

TA-Luft	5.2.5
TRGS900 - Risiko der Fruchtschädigung	Propan-2-ol; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden

## National legislation Austria

### NOVAKLEEN

No data available

## National legislation United Kingdom

### NOVAKLEEN

No data available

## National legislation Ireland

### NOVAKLEEN

No data available

### propan-2-ol

Skin resorption	Isopropyl alcohol; Skin
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## Other relevant data

### NOVAKLEEN

No data available

### propan-2-ol

TLV - Carcinogen	2-propanol; A4
IARC - classification	3; Isopropanol

## 15.2. Chemical safety assessment

No chemical safety assessment is required for a mixture.

# NOVAKLEEN

## SECTION 16: Other information

### Full text of any H- and EUH-statements referred to under section 3:

H225 Highly flammable liquid and vapour.  
H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
ATE	Acute Toxicity Estimate
BCF	Bioconcentration Factor
BEI	Biological Exposure Indices
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC10	Effect Concentration 10 %
EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
GLP	Good Laboratory Practice
LC0	Lethal Concentration 0 %
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
LOAEC/LOAEL	Lowest Observed Adverse Effect Concentration/Lowest Observed Adverse Effect Level
NOAEC/NOAEL	No Observed Adverse Effect Concentration/No Observed Adverse Effect Level
NOEC/NOEL	No Observed Effect Concentration/No Observed Effect Level
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative

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