

# SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2015/830



## HP CLEAN

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

#### 1.1. Product identifier

Product name : HP CLEAN  
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

Cleansing product  
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

TEC7\*  
Industrielaan 5B  
B-2250 Olen  
☎ +32 14 85 97 37  
☎ +32 14 85 97 38  
info@tec7.be  
\*TEC7 is a registered trademark of Novatech International  
Industrielaan 5B

##### Manufacturer of the product

Novatech International N.V.  
Industrielaan 5B  
B-2250 Olen  
☎ +32 14 85 97 37  
☎ +32 14 85 97 38  
info@tec7.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

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

#### 2.2. Label elements

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

#### 2.3. Other hazards

No other hazards known

### 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
2-butoxyethanol 01-2119475108-36	111-76-2 203-905-0	1%<C<2.5%	Acute Tox. 4; H332 Acute Tox. 4; H312 Acute Tox. 4; H302 Eye Irrit. 2; H319 Skin Irrit. 2; H315	(1)(2)(10)	Constituent

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134-16433-486-en

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propan-2-ol 01-2119457558-25	67-63-0 200-661-7	1%<C<2.5%	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	(1)(2)(10)	Constituent
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- (1) For H-statements in full: see heading 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:

If you feel unwell, seek medical advice.

#### After inhalation:

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

#### After skin contact:

Rinse with water. Take victim to a doctor if irritation persists.

#### After eye contact:

Rinse with water. Take victim to an ophthalmologist if irritation persists.

#### After ingestion:

Rinse mouth with water. Do not induce vomiting. Consult a doctor/medical service if you feel unwell.

### 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:

Redness 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:

Water spray. Polyvalent foam. BC powder. Carbon dioxide.

#### 5.1.2 Unsuitable extinguishing media:

No unsuitable extinguishing media known.

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

Upon combustion CO and CO<sub>2</sub> are formed (carbon monoxide - carbon dioxide).

### 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. Safety glasses. Protective clothing. Heat/fire exposure: compressed air/oxygen apparatus.

## SECTION 6: Accidental release measures

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

No naked flames.

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

See heading 8.2

#### 6.1.2 Protective equipment for emergency responders

Gloves. Safety glasses. Protective clothing.

##### Suitable protective clothing

See heading 8.2

### 6.2. Environmental precautions

Contain released substance, pump into suitable containers. Plug the leak, cut off the supply.

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

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Take up liquid spill into 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 heading 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. Finely divided: spark- and 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:

Store in a cool area. Keep container in a well-ventilated place. Meet the legal requirements. Max. storage time: 365 day(s).

#### 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-Butoxyethanol	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	20 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	98 mg/m <sup>3</sup>
	Short time value (Indicative occupational exposure limit value)	50 ppm
	Short time value (Indicative occupational exposure limit value)	246 mg/m <sup>3</sup>

#### Belgium

2-Butoxyéthanol	Time-weighted average exposure limit 8 h	20 ppm
	Time-weighted average exposure limit 8 h	98 mg/m <sup>3</sup>
	Short time value	50 ppm
	Short time value	246 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-Butoxyethanol	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	20 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	100 mg/m <sup>3</sup>
	Short time value (Public occupational exposure limit value)	50 ppm
	Short time value (Public occupational exposure limit value)	246 mg/m <sup>3</sup>
2-Propanol	Time-weighted average exposure limit 8 h (Private occupational exposure limit value)	260 ppm
	Time-weighted average exposure limit 8 h (Private occupational exposure limit value)	650 mg/m <sup>3</sup>

#### France

2-Butoxyéthanol	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	10 ppm
	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	49 mg/m <sup>3</sup>
	Short time value (VRC: Valeur réglementaire contraignante)	50 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	246 mg/m <sup>3</sup>

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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-Butoxyethanol	Time-weighted average exposure limit 8 h (TRGS 900)	10 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	49 mg/m <sup>3</sup>
Propan-2-ol	Time-weighted average exposure limit 8 h (TRGS 900)	200 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	500 mg/m <sup>3</sup>

## UK

2-Butoxyethanol	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	25 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	123 mg/m <sup>3</sup>
	Short time value (Workplace exposure limit (EH40/2005))	50 ppm
	Short time value (Workplace exposure limit (EH40/2005))	246 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>

## USA (TLV-ACGIH)

2-Butoxyethanol (EGBE)	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	20 ppm
2-propanol	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	200 ppm
	Short time value (TLV - Adopted Value)	400 ppm

### b) National biological limit values

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

#### Germany

2-Butoxyethanol (Butoxyessigsäure (nach Hydrolyse))	Urin: bei langzeitexposition: nach mehreren vorangegangenen schichten	200 mg/l	11/2012 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG
2-Butoxyethanol (Butoxyessigsäure)	Urin: bei langzeitexposition: nach mehreren vorangegangenen schichten	100 mg/l	11/2012 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG
Propan-2-ol (Aceton)	Urin: expositionsende, bzw. schichtende	25 mg/l	11/2012 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG
Propan-2-ol (Aceton)	Vollblut: expositionsende, bzw. schichtende	25 mg/l	11/2012 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG
Vitamin K-Antagonisten (Quick-Wert)	Vollblut: keine beschränkung	Reduktion auf nicht weniger als 70%	11/2012 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG

#### USA (BEI-ACGIH)

2-butoxyethanol (Butoxyacetic acid (BAA))	urine: end of shift	200 mg/g creatinine	
2-Propanol (Acetone)	Urine: end of shift at end of workweek	40 mg/L	

### 8.1.2 Sampling methods

If applicable and available it will be listed below.

2-Butoxyethanol (Alcohols IV)	NIOSH	1403
2-Butoxyethanol (Butyl Cellosolve solvent)	OSHA	83
Butoxyacetic acid	NIOSH	8316
Butyl cellosolve (Volatile Organic compounds)	NIOSH	2549
Butyl Cellosolve	OSHA	83
Isopropanol (Volatile Organic compounds)	NIOSH	2549
Isopropyl Alcohol (Alcohols I)	NIOSH	1400
Isopropyl Alcohol	OSHA	109

### 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 DNEL/PNEC values

##### DNEL/DMEL - Workers

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## 2-butoxyethanol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	98 mg/m <sup>3</sup>	
	Acute systemic effects inhalation	1091 mg/m <sup>3</sup>	
	Acute local effects inhalation	246 mg/m <sup>3</sup>	
	Long-term systemic effects dermal	125 mg/kg bw/day	
	Acute systemic effects dermal	89 mg/kg bw/day	

## propan-2-ol

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

## DNEL/DMEL - General population

### 2-butoxyethanol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	59 mg/m <sup>3</sup>	
	Acute systemic effects inhalation	426 mg/m <sup>3</sup>	
	Acute local effects inhalation	147 mg/m <sup>3</sup>	
	Long-term systemic effects dermal	75 mg/kg bw/day	
	Acute systemic effects dermal	89 mg/kg bw/day	
	Long-term systemic effects oral	6.3 mg/kg bw/day	
	Acute systemic effects oral	26.7 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>	
	Long-term systemic effects dermal	319 mg/kg bw/day	
	Long-term systemic effects oral	26 mg/kg bw/day	

## PNEC

### 2-butoxyethanol

Compartments	Value	Remark
Fresh water	8.8 mg/l	
Marine water	0.88 mg/l	
Aqua (intermittent releases)	9.1 mg/l	
Fresh water sediment	34.6 mg/kg sediment dw	
Marine water sediment	3.46 mg/kg sediment dw	
STP	463 mg/l	
Soil	2.33 mg/kg soil dw	
Oral	0.02 g/kg food	

### propan-2-ol

Compartments	Value	Remark
Fresh water	140.9 mg/l	
Marine water	140.9 mg/l	
Aqua (intermittent releases)	140.9 mg/l	
STP	2251 mg/l	
Fresh water sediment	552 mg/kg sediment dw	
Marine water sediment	552 mg/kg sediment dw	
Soil	28 mg/kg soil dw	
Oral	160 mg/kg food	

### 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. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks. 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. Keep container tightly closed. Do not eat, drink or smoke during work.

#### a) Respiratory protection:

Insufficient ventilation: wear respiratory protection. Wear gas mask with filter type A if conc. in air > exposure limit.

#### b) Hand protection:

Gloves.

Materials	Breakthrough time	Thickness
butyl rubber	>480 minutes	

#### c) Eye protection:

Safety glasses.

#### d) Skin protection:

Protective clothing.

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**8.2.3 Environmental exposure controls:**  
See headings 6.2, 6.3 and 13

## SECTION 9: Physical and chemical properties

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

Physical form	Liquid
Odour	Characteristic odour
Odour threshold	No data available
Colour	Colourless
Particle size	Not applicable (liquid)
Explosion limits	0.85 - 24.6 vol %
Flammability	Non-flammable
Log Kow	Not applicable (mixture)
Dynamic viscosity	1 mPa.s ; 20 °C
Kinematic viscosity	1 mm <sup>2</sup> /s ; 20 °C
Melting point	0 °C
Boiling point	76 °C - 360 °C
Flash point	> 70 °C
Evaporation rate	No data available
Relative vapour density	No data available
Vapour pressure	No data available
Solubility	water ; soluble
Relative density	1.0 ; 20 °C
Decomposition temperature	No data available
Auto-ignition temperature	200 °C
Explosive properties	No chemical group associated with explosive properties
Oxidising properties	No chemical group associated with oxidising properties
pH	9.1

### 9.2. Other information

Absolute density	1018 kg/m <sup>3</sup> ; 20 °C
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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Heating increases the fire hazard.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No data available.

### 10.4. Conditions to avoid

Keep away from naked flames/heat. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks.

### 10.5. Incompatible materials

No data available.

### 10.6. Hazardous decomposition products

Upon combustion CO and CO<sub>2</sub> are formed (carbon monoxide - carbon dioxide).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### 11.1.1 Test results

#### Acute toxicity

#### HP CLEAN

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		2437 mg/kg bw		Rat	Calculated value	

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## 2-butoxyethanol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	1746 mg/kg bw		Rat (male)	Experimental value	
Dermal			category 4			Annex VI	
Dermal	LD50	OECD 402	> 2000 mg/kg bw		Rat (male/female)	Experimental value	
Inhalation			category 4			Annex VI	
Inhalation (vapours)	LC50	Equivalent to OECD 403	2.2 mg/l	4 h	Rat (female)	Experimental value	
Inhalation (vapours)	LC50	Equivalent to OECD 403	450 ppm	4 h	Rat (female)	Experimental value	

## 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	24 h	Rabbit	Experimental value	
Inhalation (vapours)	LC50	Equivalent to OECD 403	> 10000 ppm	6 h	Rat (male/female)	Experimental value	

Judgement is based on the relevant ingredients

### Conclusion

Not classified for acute toxicity

### Corrosion/irritation

#### HP CLEAN

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Not applicable (in vitro test)	Not irritating	OECD 437			Bovine eye (in vitro)	Experimental value	10 % aqueous solution
Not applicable (in vitro test)	Moderately irritating	OECD 437			Bovine eye (in vitro)	Experimental value	Anhydrous form
Not applicable (in vitro test)	Not corrosive	OECD 435			Not available	Experimental value	
Not applicable (in vitro test)	Not irritating	OECD 435			Not available	Calculated value	

## 2-butoxyethanol

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating	OECD 405		24; 48; 72 hours	Rabbit	Experimental value	
Skin	Irritating	OECD 404		24; 48; 72 hours	Rabbit	Experimental value	

## propan-2-ol

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating	Equivalent to OECD 405		24 hours	Rabbit	Experimental value	Single treatment
Skin	Not irritating		4 h	4; 24; 48; 72 hours	Rabbit	Experimental value	

Judgement of the mixture is based on test data on the mixture as a whole

### Conclusion

Not classified as irritating to the skin

Not classified as irritating to the eyes

Not classified as irritating to the respiratory system

### Respiratory or skin sensitisation

#### HP CLEAN

No (test) data on the mixture available

## 2-butoxyethanol

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406		24; 48 hours	Guinea pig (male/female)	Experimental value	

## propan-2-ol

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406	3 weeks (6h/day, 1 day/week)	24; 48 hours	Guinea pig (male/female)	Experimental value	

Judgement is based on the relevant ingredients

### Conclusion

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Not classified as sensitizing for skin  
Not classified as sensitizing for inhalation

## Specific target organ toxicity

### HP CLEAN

No (test) data on the mixture available

#### 2-butoxyethanol

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (drinking water)	NOAEL	Equivalent to OECD 408	< 69 mg/kg bw/day			90 days (continuous)	Rat (male)	Experimental value
Dermal	NOAEL	Equivalent to OECD 411	150 mg/kg bw/day		No effect	90 day(s)	Rabbit (male/female)	Experimental value
Inhalation	LOAEC	OECD 453	152 mg/m <sup>3</sup>	Blood	Histology	102 weeks (daily, 5 days/week)	Rat (male/female)	Experimental value

#### propan-2-ol

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral								Data waiving
Dermal								Data waiving
Inhalation (vapours)	NOAEC	OECD 451	5000 ppm		No effect	104 weeks (6h/day, 5 days/week)	Rat (male/female)	Experimental value
Inhalation (vapours)	NOAEL	OECD 413	5000 ppm		No effect	13 weeks (6h/day, 5 days/week)	Rat (male/female)	Experimental value
Inhalation (vapours)	Dose level	OECD 403	5000 ppm	Central nervous system	Drowsiness, dizziness	6 h	Rat (male/female)	Experimental value

Judgement is based on the relevant ingredients

### Conclusion

Not classified for subchronic toxicity

## Mutagenicity (in vitro)

### HP CLEAN

No (test) data on the mixture available

#### 2-butoxyethanol

Result	Method	Test substrate	Effect	Value determination
Negative	Equivalent to OECD 471	Bacteria (S.typhimurium)		Experimental value
Negative	Equivalent to OECD 476	Hamster ovary		Experimental value

#### propan-2-ol

Result	Method	Test substrate	Effect	Value determination
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)

### HP CLEAN

No (test) data on the mixture available

#### 2-butoxyethanol

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative	Equivalent to OECD 474		Mouse (male)		Experimental value

#### propan-2-ol

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative	Equivalent to OECD 474		Mouse (male/female)		Experimental value

## Carcinogenicity

### HP CLEAN

No (test) data on the mixture available

#### 2-butoxyethanol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation	NOAEC	Equivalent to OECD 451	0 ppm	2 year(s)	Rat (male/female)	Neoplastic effects		Experimental value
Inhalation	NOAEC	Equivalent to OECD 451	125 ppm	2 year(s)	Mouse (male/female)	Neoplastic effects		Experimental value

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## propan-2-ol

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

## Reproductive toxicity

### HP CLEAN

No (test) data on the mixture available

### 2-butoxyethanol

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEL	OECD 414	100 mg/kg bw/day	5 day(s)	Rat	Weight changes		Experimental value
	NOAEC	Equivalent to OECD 414	100 ppm	12 day(s)	Rabbit			Experimental value
Effects on fertility	NOAEL (P/F1/F2)	Other	720 mg/kg bw/day	14 weeks (daily)	Mouse (male/female)	No effect		Experimental value

## propan-2-ol

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEL	Equivalent to OECD 414	400 mg/kg bw/day	10 day(s)	Rat	No effect	Foetus	Experimental value
	NOAEL	Equivalent to OECD 414	480 mg/kg bw/day	13 day(s)	Rabbit	No effect	Foetus	Experimental value
Maternal toxicity	NOAEL	Equivalent to OECD 414	400 mg/kg bw/day	10 day(s)	Rat (female)	No effect		Experimental value
Effects on fertility	NOAEL	Equivalent to OECD 415	853 mg/kg bw/day	21 day(s) - 70 day(s)	Rat (male/female)	No effect		Experimental value

Judgement is based on the relevant ingredients

### Conclusion CMR

Not classified for carcinogenicity

Not classified for mutagenic or genotoxic toxicity

Not classified for reprotoxic or developmental toxicity

## Toxicity other effects

### HP CLEAN

No (test) data on the mixture available

## Chronic effects from short and long-term exposure

### HP CLEAN

No effects known.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### HP CLEAN

No (test) data on the mixture available

#### 2-butoxyethanol

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	1474 ppm	96 h	Oncorhynchus mykiss	Static system	Fresh water	Experimental value
Acute toxicity invertebrates	EC50	OECD 202	1550 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value
Toxicity algae and other aquatic plants	EC50	OECD 201	911 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value
	NOEC	OECD 201	88 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value
Long-term toxicity fish	NOEC	Equivalent to OECD 204	> 100 mg/l	21 day(s)	Danio rerio	Semi-static system	Fresh water	Experimental value
Long-term toxicity aquatic invertebrates	NOEC	OECD 211	100 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value
Toxicity aquatic micro-organisms	Toxicity threshold	Other	463 mg/l	48 h		Static system	Fresh water	Experimental value

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## propan-2-ol

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	9640 mg/l	96 h	Pimephales promelas	Flow-through system	Fresh water	Experimental value; Lethal
Acute toxicity invertebrates	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	EC0		1800 mg/l	7 day(s)	Scenedesmus quadricauda	Static system	Fresh water	Experimental value; Toxicity test
Toxicity aquatic micro-organisms	EC50	ISO 8192	41676 mg/l	30 minutes	Bacteria			Experimental value; Activated sludge

Judgement of the mixture is based on the relevant ingredients

### Conclusion

pH shift

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

## 12.2. Persistence and degradability

### 2-butoxyethanol

#### Biodegradation water

Method	Value	Duration	Value determination
OECD 301B: CO2 Evolution Test	90.4 %	28 day(s)	Experimental value

#### Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.90	5.46 h	1500000 cm <sup>3</sup> /molecule.s	QSAR

## propan-2-ol

#### Biodegradation water

Method	Value	Duration	Value determination
OECD 301E: Modified OECD Screening Test	95 %	21 day(s)	Experimental value

### Conclusion

The surfactant(s) is/are biodegradable

## 12.3. Bioaccumulative potential

### HP CLEAN

#### Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

## 2-butoxyethanol

#### Log Kow

Method	Remark	Value	Temperature	Value determination
		0.81	20 °C	Test data

## propan-2-ol

#### Log Kow

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

### Conclusion

Does not contain bioaccumulative component(s)

## 12.4. Mobility in soil

### 2-butoxyethanol

#### Volatility (Henry's Law constant H)

Value	Method	Temperature	Remark	Value determination
0.041 atm m <sup>3</sup> /mol	Other	20 °C		Experimental value

#### Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level I	0.31 %	0 %	0.01 %	0.59 %	99.09 %	QSAR
Mackay level III	1.01 %	0 %	0.37 %	51.9 %	46.8 %	QSAR

### 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. Other adverse effects

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## Fluorinated greenhouse gases (Regulation (EU) No 517/2014)

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

## Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

### 2-butoxyethanol

#### Ground water

Ground water pollutant

### propan-2-ol

#### Ground water

Ground water 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

Can be considered as non hazardous waste according to Directive 2008/98/EC.

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

Neutralize. Remove to an authorized incinerator with energy recovery. Remove waste in accordance with local and/or national regulations. Avoid discharge of large amounts into the sewer.

#### 13.1.3 Packaging/Container

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

15 01 02 (plastic packaging).

## SECTION 14: Transport information

### Road (ADR)

#### 14.1. UN 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

Transport	Not subject
-----------	-------------

#### 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
--	----

#### 14.6. Special precautions for user

Special provisions	
Limited quantities	

### Inland waterways (ADN)

#### 14.1. UN number

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

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## 14.3. Transport hazard class(es)

Class	
Classification code	

## 14.4. Packing group

Packing group	
Labels	

## 14.5. Environmental hazards

Environmentally hazardous substance mark	no
--	----

## 14.6. Special precautions for user

Special provisions	
Limited quantities	

### Sea (IMDG/IMSBC)

#### 14.1. UN number

Transport	Not subject
-----------	-------------

#### 14.2. UN proper shipping name

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

Class	
-------	--

#### 14.4. Packing group

Packing group	
Labels	

#### 14.5. Environmental hazards

Marine pollutant	-
Environmentally hazardous substance mark	no

#### 14.6. Special precautions for user

Special provisions	
Limited quantities	

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Annex II of MARPOL 73/78	
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### Air (ICAO-TI/IATA-DGR)

#### 14.1. UN number

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

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

Class	
-------	--

#### 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	
Passenger and cargo transport: 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 %	

Indicative occupational exposure limit values (Directive 98/24/EC, 2000/39/EC and 2009/161/EU)

Product name	Skin resorption
2-Butoxyethanol	Skin

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

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

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.

	Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
· 2-butoxyethanol · propan-2-ol	Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard	1. Shall not be used in: — ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays, — tricks and jokes,

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	<p>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>— games for one or more participants, or any article intended to be used as such, even with ornamental aspects, 2. Articles not complying with paragraph 1 shall not be placed on the market. 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> <p>— can be used as fuel in decorative oil lamps for supply to the general public, and,</p> <p>— present an aspiration hazard and are labelled with R65 or H304, 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). 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 R65 or 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 R65 or 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 R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010. 6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public. 7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.'</p>
propan-2-ol	<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>— "whoopie" 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". 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. 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>

## National legislation Belgium

### HP CLEAN

No data available

### 2-butoxyethanol

Résorption peau	D; La mention "D" signifie que la résorption de l'agent, via la peau, les muqueuses ou les yeux, constitue une partie importante de l'exposition totale. Cette résorption peut se faire tant par contact direct que par présence de l'agent dans l'air.
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## National legislation The Netherlands

### HP CLEAN

Waste identification (the Netherlands)	LWCA (the Netherlands): KGA category 03
Waterbezwaarlijkheid	11

### 2-butoxyethanol

Huidopname (wettelijk)	H
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## National legislation France

### HP CLEAN

No data available

### 2-butoxyethanol

VME - Risque de pénétration percutanée	PP
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## National legislation Germany

### HP CLEAN

WGK	1; Classification water polluting based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 4)
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## 2-butoxyethanol

MAK - Krebserzeugend Kategorie	4
Schwangerschaft Gruppe	C
MAK 8-Stunden-Mittelwert ppm	2-Butoxyethanol; 10 ppm; MAK-Wert für die Summe der Luftkonzentrationen von 2-Butoxyethanol und 2-Butoxyethylacetat.
MAK 8-Stunden-Mittelwert mg/m <sup>3</sup>	2-Butoxyethanol; 49 mg/m <sup>3</sup>
TA-Luft	5.2.5
Risiko der Fruchtschädigung	Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden
Hautresorptive Stoffe	H; Hautresorptiv

## propan-2-ol

Schwangerschaft Gruppe	C
MAK 8-Stunden-Mittelwert ppm	2-Propanol; 200 ppm
MAK 8-Stunden-Mittelwert mg/m <sup>3</sup>	2-Propanol; 500 mg/m <sup>3</sup>
TA-Luft	5.2.5
Risiko der Fruchtschädigung	Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden

## **National legislation United Kingdom**

### HP CLEAN

No data available

### 2-butoxyethanol

Skin absorption	Sk
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## **Other relevant data**

### HP CLEAN

No data available

### 2-butoxyethanol

TLV - Carcinogen	2-Butoxyethanol (EGBE); A3
IARC - classification	3; 2-butoxyethanol

### propan-2-ol

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

## **15.2. Chemical safety assessment**

No chemical safety assessment is required.

## **SECTION 16: Other information**

### **Full text of any H-statements referred to under headings 2 and 3:**

- H225 Highly flammable liquid and vapour.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H336 May cause drowsiness or dizziness.

(\*) = INTERNAL CLASSIFICATION BY BIG

PBT-substances = persistent, bioaccumulative and toxic substances

CLP (EU-GHS) Classification, labelling and packaging (Globally Harmonised System in Europe)

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Old versions must be destroyed. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.

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