SAFETY DATA SHEET

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

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

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 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

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
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

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	M-factors and ATE
2-butoxyethanol 01-2119475108-36	111-76-2 203-905-0	C<5%	Acute Tox. 4; H332 Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319	(1)(2)(10)	Constituent	ATE oral: 1200 mg/kg
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.

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.

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, 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. 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/m³
	Short time value (Indicative occupational exposure limit value)	50 ppm
	Short time value (Indicative occupational exposure limit value)	246 mg/m³

Belgium

2-Butoxyéthanol	Time-weighted average exposure limit 8 h	20 ppm
	Time-weighted average exposure limit 8 h	98 mg/m³
	Short time value	50 ppm
	Short time value	246 mg/m³
Alcool isopropylique	Time-weighted average exposure limit 8 h	200 ppm
	Time-weighted average exposure limit 8 h	500 mg/m³
	Short time value	400 ppm
	Short time value	1000 mg/m³

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/m³
	Short time value (Public occupational exposure limit value)	50 ppm
	Short time value (Public occupational exposure limit value)	246 mg/m³

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/m³
	Short time value (VRC: Valeur réglementaire contraignante)	50 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	246 mg/m³
Alcool isopropylique	Short time value (VL: Valeur non réglementaire indicative)	400 ppm
	Short time value (VL: Valeur non réglementaire indicative)	980 mg/m³

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/m³
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/m³

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/m³
	Short time value (Workplace exposure limit (EH40/2005))	50 ppm
	Short time value (Workplace exposure limit (EH40/2005))	246 mg/m³
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/m³
	Short time value (Workplace exposure limit (EH40/2005))	500 ppm
	Short time value (Workplace exposure limit (EH40/2005))	1250 mg/m³

USA (TLV-ACGIH)

2-Butoxyethanol	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: expositionsende, bzw. schichtende bei langzeitexposition: nach mehreren vorangegangenen schichten	150 mg/g Kreatinin	
Propan-2-ol (Aceton)	Urin: expositionsende, bzw. schichtende	25 mg/l	
Propan-2-ol (Aceton)	Vollblut: expositionsende, bzw. schichtende	25 mg/l	

UK

2-Butoxyethanol (butoxyacetic acid)	Urine: post shift	240 mmol/mol creatinine	

USA (BEI-ACGIH)

2-buthoxyethanol (Butoxyacetic acid (BAA))	urine: end of shift	200 mg/g creatinine	With hydrolysis
2-Propanol (Acetone)	Urine: end of shift at end of workweek	40 mg/L	Background, Nonspecific

8.1.2 Sampling methods

Product name	Test	Number
2-Butoxyethanol (Alcohols IV)	NIOSH	1403
2-Butoxyethanol (Butyl Cellosolve solvent)	OSHA	83

Product name	Test	Number
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 Threshold values

DNEL/DMEL - Workers

2-butoxyethanol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	98 mg/m³	
	Acute systemic effects inhalation	1091 mg/m³	
	Acute local effects inhalation	246 mg/m³	
	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/m³	
	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/m³	
	Acute systemic effects inhalation	426 mg/m³	
	Acute local effects inhalation	147 mg/m³	
	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/m³	
	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	
Fresh water (intermittent releases)	26.4 mg/l	
STP	463 mg/l	
Fresh water sediment	34.6 mg/kg sediment dw	
Marine water sediment	3.46 mg/kg sediment dw	
Soil	2.33 mg/kg soil dw	
Oral	20 mg/kg food	

propan-2-ol

Compartments	Value	Remark
Fresh water	140.9 mg/l	
Fresh water (intermittent releases)	140.9 mg/l	
Marine water	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. 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.

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
Odour	Characteristic odour
Odour threshold	No data available in the literature
Colour	Green
Particle size	Not applicable (liquid)
Explosion limits	0.85 - 24.6 vol %
Flammability	Not classified as flammable
Log Kow	Not applicable (mixture)
Dynamic viscosity	1 mPa.s ; 20 °C
Kinematic viscosity	1 mm²/s ; 20 °C
Melting point	0 °C
Boiling point	76 °C - 360 °C
Relative vapour density	No data available in the literature
Vapour pressure	No data available in the literature
Solubility	Water ; soluble
Relative density	1.02 ; 20 °C
Absolute density	1018 kg/m³ ; 20 °C
Decomposition temperature	No data available in the literature
Auto-ignition temperature	200 °C
Flash point	No data available in the literature
pH	9.1

9.2. Other information

Evaporation rate	1.3 ; Butyl acetate

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

HP CLEAN
No (test)data on the mixture available
Judgement is based on the relevant ingredients

2-butoxyethanol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	ATE		1200 mg/kg bw			Annex VI	
Oral	LD50	Equivalent to OECD 401	1746 mg/kg bw		Rat (male)	Experimental value	
Oral	LD50	OECD 401	1414 mg/kg bw		Guinea pig (male / female)	Experimental value	
Dermal	LD50	OECD 402	> 2000 mg/kg bw		Rat (male / female)	Experimental value	
Inhalation (vapours)	LC50		> 4.26 mg/l	4 h	Rat (male / female)	Experimental value	

The acute toxicity of this substance to rats, mice and rabbits is higher than it is to humans. Rats, mice and rabbits are highly susceptible to haemolysis following exposure to this substance and data from such species will overestimate the hazard to humans. Humans are not prone to such effects. The guinea pig is a much better model for predicting the hazard to humans.

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	16400 ml/kg bw	24 h	Rabbit	Experimental value	
Dermal	LD50	Equivalent to OECD 402	12882 mg/kg bw	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

HP CLEAN

No (test)data on the mixture available

Classification is based on the relevant ingredients

2-butoxyethanol

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating	OECD 405	24 h	24; 48; 72 hours	Rabbit	Experimental value	Single treatment with rinsing
Skin	Irritating	EU Method B.4	4 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		24 hours	Rabbit	Experimental value	Single treatment
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

HP CLEAN

No (test)data on the mixture available

Judgement is based on the relevant ingredients

2-butoxyethanol

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	

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

HP CLEAN

No (test)data on the mixture available

Judgement is based on the relevant ingredients

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		No effect	90 days (continuous)	Rat (male)	Experimental value
Oral (drinking water)	NOAEL	Equivalent to OECD 408	< 82 mg/kg bw/day		No effect	90 day(s)	Rat (female)	Experimental value
Dermal	NOAEL	Equivalent to OECD 411	> 150 mg/kg bw/day		No effect	13 weeks (5 days / week)	Rabbit (male / female)	Experimental value
Inhalation (vapours)	NOAEC	Equivalent to OECD 413	< 31 ppm		No effect	14 weeks (6h / day, 5 days / week)	Rat (female)	Experimental value
Inhalation (vapours)	NOAEC	Equivalent to OECD 413	62.5 ppm		No effect	14 weeks (6h / day, 5 days / week)	Rat (male)	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)	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)

HP CLEAN

No (test)data on the mixture available

Judgement is based on the relevant ingredients

2-butoxyethanol

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

HP CLEAN

No (test)data on the mixture available

Judgement is based on the relevant ingredients

2-butoxyethanol

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Intraperitoneal)	Equivalent to OECD 474	3 dose(s)/24-hour interval	Mouse (male)		Experimental value

propan-2-ol

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

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

HP CLEAN

No (test)data on the mixture available

Judgement is based on the relevant ingredients

2-butoxyethanol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation (vapours)	NOAEC	Equivalent to OECD 451	> 125 ppm	104 weeks (6h / day, 5 days / week)	Rat (male / female)	No carcinogenic effect		Experimental value

propan-2-ol

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

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

HP CLEAN

No (test)data on the mixture available

Judgement is based on the relevant ingredients

2-butoxyethanol

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEC	Equivalent to OECD 414	200 mg/kg bw/day	3 days (gestation, daily)	Rat	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	Equivalent to OECD 414	30 mg/kg bw/day	3 days (gestation, daily)	Rat	No effect		Experimental value
Effects on fertility (Oral (drinking water))	NOAEL	Fertility Assessment	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 (Oral (stomach tube))	NOAEL	Equivalent to OECD 414	400 mg/kg bw/day	10 day(s)	Rat	No effect	Foetus	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 (drinking water))	NOAEL	Equivalent to OECD 415	853 mg/kg bw/day	21 day(s) - 70 day (s)	Rat (male / female)	No effect		Experimental value

Conclusion

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.

11.2. Information on other hazards

No evidence of endocrine disrupting properties

SECTION 12: Ecological information

12.1. Toxicity

HP CLEAN

No (test)data on the mixture available

Judgement of the mixture is based on the relevant ingredients

2-butoxyethanol

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	1474 mg/l	96 h	Oncorhynchus mykiss	Static system	Fresh water	Experimental value; Nominal concentration
Acute toxicity crustacea	EC50	OECD 202	1550 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Locomotor effect
Toxicity algae and other aquatic plants	ErC50	OECD 201	1840 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Nominal concentration
	NOEC	OECD 201	286 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity fish	NOEC	Equivalent to OECD 204	> 100 mg/l	21 day(s)	Danio rerio	Semi-static system	Fresh water	Experimental value; Nominal concentration
Long-term toxicity aquatic crustacea	NOEC	OECD 211	100 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; Reproduction
Toxicity aquatic micro-organisms	Toxicity threshold	Equivalent to DIN 38412/8	700 mg/l	16 h	Pseudomonas putida	Static system	Fresh water	Experimental value; Nominal concentration

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								Data waiving
Long-term toxicity aquatic crustacea	NOEC		2344 µmol/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-butoxyethanol

Biodegradation water

Method	Value	Duration	Value determination
OECD 301B	90.4 %; Carbon dioxide	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.90	5.459 h	1.5E6 /cm³	QSAR

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	17.668 h	1.5E6 /cm³	Calculated value

Conclusion

Water

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

12.3. Bioaccumulative potential

HP CLEAN

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

2-butoxyethanol

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
					Data waiving

Log Kow

Method	Remark	Value	Temperature	Value determination
BASF test		0.81	25 °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-butoxyethanol

(log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	0.451 - 0.882	Calculated 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

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	0.185 - 0.541	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

HP CLEAN

Greenhouse gases

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)

Water ecotoxicity pH

pH shift

2-butoxyethanol

Groundwater

Groundwater pollutant

alcohols, C9-11, ethoxylated
Groundwater
Groundwater pollutant

propan-2-ol
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), Rail (RID), Inland waterways (ADN), Sea (IMDG/IMSBC), Air (ICAO-TI/IATA-DGR)

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	

14.7. Maritime transport in bulk according to IMO instruments

Annex II of MARPOL 73/78	Not applicable, based on available data

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	

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

2-butoxyethanol

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 · alcohols, C9-11, ethoxylated · propan-2-ol	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: (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; (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; (c) hazard class 4.1; (d) hazard class 5.1.	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, — 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: — can be used as fuel in decorative oil lamps for supply to the general public, and, — present an aspiration hazard and are labelled with 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: 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”; 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”; 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.
· propan-2-ol	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.	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: — metallic glitter intended mainly for decoration, — artificial snow and frost, — “whoopee” cushions, — silly string aerosols, — imitation excrement, — horns for parties, — decorative flakes and foams, — artificial cobwebs, — stink bombs. 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: “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.
· 2-butoxyethanol · propan-2-ol	Substances falling within one or more of the following points: (a) substances classified as any of the following in Part 3 of Annex VI to Regulation (EC) No 1272/2008: — 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 — reproductive toxicant category 1A, 1B or 2 but excluding any such substances classified due to effects only following exposure by inhalation — skin sensitiser category 1, 1A or 1B — skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2 — serious eye damage category 1 or eye irritant category 2 (b) substances listed in Annex II to Regulation (EC) No 1223/2009 of the European Parliament and of the Council (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.	1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or are present in the following circumstances: (a) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight; (b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight; (c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight; (d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than: (i) 0,1 % by weight, if the substance is used solely as a pH regulator; (ii) 0,01 % by weight, in all other cases; (e) in the case of a substance listed in Annex II to Regulation (EC) No 1223/2009 (*), the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight; (f) in the case of a substance for which a condition of one or more of the following kinds is specified in column g (Product type, Body parts) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight: (i) “Rinse-off products”; (ii) “Not to be used in products applied on mucous membranes”; (iii) “Not to be used in eye products”; (g) in the case of a substance for which a condition is specified in column h (Maximum concentration in ready for use preparation) or column i (Other) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration, or in some other way, that does not accord with the condition specified in that column; (h) in the case of a substance listed in Appendix 13 to this Annex, the substance is present

		in the mixture in a concentration equal to or greater than the concentration limit specified for that substance in that Appendix. 2. For the purposes of this entry use of a mixture “for tattooing purposes” means injection or introduction of the mixture into a person’s skin, mucous membrane or eyeball, by any process or procedure (including procedures commonly referred to as L 423/12 EN Official Journal of the European Union 15.12.2020 permanent make-up, cosmetic tattooing, micro-blading and micro-pigmentation), with the aim of making a mark or design on his or her body. 3. If a substance not listed in Appendix 13 falls within more than one of points (a) to (g) of paragraph 1, the strictest concentration limit laid down in the points in question shall apply to that substance. If a substance listed in Appendix 13 also falls within one or more of points (a) to (g) of paragraph 1, the concentration limit laid down in point (h) of paragraph 1 shall apply to that substance. 4. By way of derogation, paragraph 1 shall not apply to the following substances until 4 January 2023: (a) Pigment Blue 15:3 (CI 74160, EC No 205-685-1, CAS No 147-14-8); (b) Pigment Green 7 (CI 74260, EC No 215-524-7, CAS No 1328-53-6). 5.If Part 3 of Annex VI to Regulation (EC) No 1272/2008 is amended after 4 January 2021 to classify or re-classify a substance such that the substance then becomes caught by point (a), (b), (c) or (d) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the date of application of that new or revised classification is after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect on the date of application of that new or revised classification. 6. If Annex II or Annex IV to Regulation (EC) No 1223/2009 is amended after 4 January 2021 to list or change the listing of a substance such that the substance then becomes caught by point (e), (f) or (g) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the amendment takes effect after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect from the date falling 18 months after entry into force of the act by which that amendment was made. 7. Suppliers placing a mixture on the market for use for tattooing purposes shall ensure that, after 4 January 2022, the mixture is marked with the following information: (a) the statement “Mixture for use in tattoos or permanent make-up”; (b) a reference number to uniquely identify the batch; (c) the list of ingredients in accordance with the nomenclature established in the glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common ingredient name, the IUPAC name. In the absence of a common ingredient name or IUPAC name, the CAS and EC number. Ingredients shall be listed in descending order by weight or volume of the ingredients at the time of formulation. “Ingredient” means any substance added during the process of formulation and present in the mixture for use for tattooing purposes. Impurities shall not be regarded as ingredients. If the name of a substance, used as ingredient within the meaning of this entry, is already required to be stated on the label in accordance with Regulation (EC) No 1272/2008, that ingredient does not need to be marked in accordance with this Regulation; (d) the additional statement “pH regulator” for substances falling under point (d)(i) of paragraph 1; (e) the statement "Contains nickel. Can cause allergic reactions." If the mixture contains nickel below the concentration limit specified in Appendix 13; (f) the statement "Contains chromium (VI). Can cause allergic reactions." if the mixture contains chromium (VI) below the concentration limit specified in Appendix 13; (g) safety instructions for use insofar as they are not already required to be stated on the label by Regulation (EC) No 1272/2008. The information shall be clearly visible, easily legible and marked in a way that is indelible. The information shall be written in the official language(s) of the Member State(s) where the mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise. Where necessary because of the size of the package, the information listed in the first subparagraph, except for point (a), shall be included instead in the instructions for use. Before using a mixture for tattooing purposes, the person using the mixture shall provide the person undergoing the procedure with the information marked on the package or included in the instructions for use pursuant to this paragraph. 8. Mixtures that do not contain the statement “Mixture for use in tattoos or permanent make-up” shall not be used for tattooing purposes. 9. This entry does not apply to substances that are gases at temperature of 20 °C and pressure of 101,3 kPa, or generate a vapour pressure of more than 300 kPa at temperature of 50 °C, with the exception of formaldehyde (CAS No 50-00-0, EC No 200-001-8). 10. This entry does not apply to the placing on the market of a mixture for use for tattooing purposes, or to the use of a mixture for tattooing purposes, when placed on the market exclusively as a medical device or an accessory to a medical device, within the meaning of Regulation (EU) 2017/745, or when used exclusively as a medical device or an accessory to a medical device, within the same meaning. Where the placing on the market or use may not be exclusively as a medical device or an accessory to a medical device, the requirements of Regulation (EU) 2017/745 and of this Regulation shall apply cumulatively.

National legislation Belgium

HP CLEAN

No data available

2-butoxyethanol

Résorption peau	2-Butoxyéthanol; 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.

National legislation The Netherlands

HP CLEAN

Waterbezwaarlijkheid	B (4); Algemene Beoordelingsmethodiek (ABM)

2-butoxyethanol

Huidopname (wettelijk)	2-Butoxyethanol; H

National legislation France

HP CLEAN

No data available

2-butoxyethanol

Risque de pénétration percutanée	2-Butoxyéthanol; Risquedepénétrationpercutanée

National legislation Germany

HP CLEAN

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-butoxyethanol

TA-Luft	5.2.5/I
TRGS900 - Risiko der Fruchtschädigung	2-Butoxyethanol; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden
Hautresorptive Stoffe	2-Butoxyethanol; H; Hautresorptiv

alcohols, C9-11, ethoxylated

TA-Luft	5.2.5/I

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 United Kingdom

HP CLEAN

No data available

2-butoxyethanol

Skin absorption	2-Butoxyethanol; Sk

Other relevant data

HP CLEAN

No data available

2-butoxyethanol

IARC - classification	3; 2-butoxyethanol
TLV - Carcinogen	2-Butoxyethanol; A3

propan-2-ol

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

15.2. Chemical safety assessment

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.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
ATE	Acute Toxicity Estimate
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
NOAEL	No Observed Adverse Effect Level

NOEC	No Observed Effect Concentration
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

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. 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.