SAFETY DATA SHEET

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

FA CLEAN

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

1.1. Product identifier

Product name : FA 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

1.3. Details of the supplier of the safety data sheet

Supplier of the safety data sheet

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

Manufacturer of the product

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

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

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

2.2. Label elements

Signal word Warning

H-statements

H319 Causes serious eye irritation.

P-statements

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

2.3. Other hazards

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≤8%	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
sulfuric acid, mono C12-14-alkyl esters, sodium salts 01-2119489463-28	85586-07-8 287-809-4	C≤1%	Acute Tox. 4; H302 Eye Dam. 1; H318 Skin Irrit. 2; H315 Aquatic Chronic 3; H412 Eye Irrit. 2; H319: 10%≤ C<20%, (ECHA) Eye Dam. 1; H318: C≥20%, (ECHA)	(1)	Constituent	
ammonia 01-2119488876-14	1336-21-6 215-647-6	C≤0.2%	Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 STOT SE 3; H335: C≥5%, (CLP Annex VI (ATP 0))	(1)(2)(10)	Constituent	M: 1 (Acute, BIG)

(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:
Gastrointestinal complaints.

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
Upon combustion: formation of CO, CO2 and small quantities of nitrous vapours, sulphur oxides.

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.

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. Observe normal hygiene standards. Keep container tightly closed.

7.2. Conditions for safe storage, including any incompatibilities
7.2.1 Safe storage requirements:
Storage temperature: < 50 °C. Meet the legal requirements. Keep container in a well-ventilated place. Protect against frost. Keep out of direct sunlight.

7.2.2 Keep away from:
Heat sources, (strong) acids.

7.2.3 Suitable packaging material:
No data available

7.2.4 Non suitable packaging material:
No data available

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

Ammonia, anhydrous	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)	14 mg/m³
	Short time value (Indicative occupational exposure limit value)	50 ppm
	Short time value (Indicative occupational exposure limit value)	36 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
Ammoniac	Time-weighted average exposure limit 8 h	20 ppm
	Time-weighted average exposure limit 8 h	14 mg/m³
	Short time value	50 ppm
	Short time value	36 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
Ammoniak	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)	14 mg/m³
	Short time value (Public occupational exposure limit value)	50 ppm
	Short time value (Public occupational exposure limit value)	36 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
Ammoniac anhydre	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	10 ppm
	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	7 mg/m³
	Short time value (VRC: Valeur réglementaire contraignante)	20 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	14 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
Ammoniak	Time-weighted average exposure limit 8 h (TRGS 900)	20 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	14 mg/m³

Austria

2-Butoxyethanol	Tagesmittelwert (MAK)	20 ppm
	Tagesmittelwert (MAK)	98 mg/m³
	Kurzzeitwert 30(Miw) 4x (MAK)	40 ppm
	Kurzzeitwert 30(Miw) 4x (MAK)	200 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
Ammonia, anhydrous	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))	18 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	35 ppm
	Short time value (Workplace exposure limit (EH40/2005))	25 mg/m³

USA (TLV-ACGIH)

2-Butoxyethanol	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	20 ppm
Ammonia	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	25 ppm
	Short time value (TLV - Adopted Value)	35 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	

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

8.1.2 Sampling methods

Product name	Test	Number
2-Butoxyethanol (Alcohols IV)	NIOSH	1403
2-Butoxyethanol (Butyl Cellosolve solvent)	OSHA	83
Ammonia (organic and inorganic gases by Extractive FTIR)	NIOSH	3800
Ammonia	NIOSH	6015
Ammonia	NIOSH	6015REV
Ammonia	NIOSH	6016
Ammonia	NON	41
Ammonia	OSHA	ID188
Butoxyacetic acid	NIOSH	8316
Butyl cellosolve (Volatile Organic compounds)	NIOSH	2549
Butyl Cellosolve	OSHA	83

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	

sulfuric acid, mono C12-14-alkyl esters, sodium salts

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	285 mg/m³	
	Long-term systemic effects dermal	4060 mg/kg bw/day	

ammonia

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	47.6 mg/m³	Test data of the pure substance
	Acute systemic effects inhalation	47.6 mg/m³	Test data of the pure substance
	Long-term local effects inhalation	14 mg/m³	Test data of the pure substance
	Acute local effects inhalation	36 mg/m³	Test data of the pure substance
	Long-term systemic effects dermal	6.8 mg/kg bw/day	Test data of the pure substance
	Acute systemic effects dermal	6.8 mg/kg bw/day	Test data of the pure substance

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	

sulfuric acid, mono C12-14-alkyl esters, sodium salts

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	85 mg/m³	
	Long-term systemic effects dermal	2440 mg/kg bw/day	
	Long-term systemic effects oral	24 mg/kg bw/day	

ammonia

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	23.8 mg/m³	Test data of the pure substance
	Acute systemic effects inhalation	23.8 mg/m³	Test data of the pure substance
	Long-term local effects inhalation	2.8 mg/m³	Test data of the pure substance
	Acute local effects inhalation	7.2 mg/m³	Test data of the pure substance
	Long-term systemic effects dermal	68 mg/kg bw/day	Test data of the pure substance
	Acute systemic effects dermal	68 mg/kg bw/day	Test data of the pure substance
	Long-term systemic effects oral	6.8 mg/kg bw/day	Test data of the pure substance
	Acute systemic effects oral	6.8 mg/kg bw/day	Test data of the pure substance

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	

sulfuric acid, mono C12-14-alkyl esters, sodium salts

Compartments	Value	Remark
Fresh water	0.131 mg/l	
Salt water	0.013 mg/l	
Fresh water (intermittent releases)	0.036 mg/l	
STP	1.35 mg/l	
Fresh water sediment	4.61 mg/kg sediment dw	
Marine water sediment	0.461 mg/kg sediment dw	
Soil	0.846 mg/kg soil dw	

ammonia

Compartments	Value	Remark
Fresh water	0.001 mg/l	Test data of the pure substance
Marine water	0.001 mg/l	Test data of the pure substance
Fresh water (intermittent releases)	0.007 mg/l	Test data of the pure substance

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. 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 at conc. in air > exposure limit.

b) Hand protection:

Protective gloves against chemicals (EN 374).

Materials	Measured breakthrough time	Thickness	Protection index	Remark
nitrile rubber	> 480 minutes	0.35 mm	Class 6	

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	No data available on colour
Particle size	Not applicable (liquid)
Explosion limits	1.13 - 12 vol %
Flammability	Not classified as flammable
Log Kow	Not applicable (mixture)

Dynamic viscosity	1 mPa.s ; 20 °C
Kinematic viscosity	1 mm²/s ; 40 °C
Melting point	0 °C
Boiling point	82 °C - 173 °C
Relative vapour density	No data available in the literature
Vapour pressure	43 hPa ; 20 °C
Solubility	Water ; complete
Relative density	1.0 ; 20 °C
Absolute density	1000 kg/m³ ; 20 °C
Decomposition temperature	No data available in the literature
Auto-ignition temperature	230 °C
Flash point	No data available in the literature
pH	11.0

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.

10.5. Incompatible materials

(strong) acids.

10.6. Hazardous decomposition products

Upon combustion: formation of CO, CO2 and small quantities of nitrous vapours, sulphur oxides.

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

FA 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.

sulfuric acid, mono C12-14-alkyl esters, sodium salts

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	EU Method B.1 tris	500 mg/kg bw - 2000 mg/kg bw		Rat (male / female)	Experimental value	
Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rat (male / female)	Read-across	
Inhalation						Data waiving	

ammonia

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	350 mg/kg bw		Rat (male)	Experimental value	Aqueous solution
Dermal						Data waiving	
Inhalation	LC50		9850 mg/m³ air	60 minutes	Rat (male)	Experimental value	Test data of the pure substance

Conclusion

Not classified for acute toxicity

Corrosion/irritation

FA CLEAN

No (test)data on the mixture available

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	

sulfuric acid, mono C12-14-alkyl esters, sodium salts

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating	Equivalent to OECD 405		24; 48; 72 hours	Rabbit	Read-across	30% aqueous solution
Eye	Serious eye damage; category 1					Expert judgement	Pure substance
Skin	Irritating	Equivalent to OECD 404	24 h	24; 72 hours	Rabbit	Read-across	

ammonia

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye damage; category 1					Annex VI	
Skin	Corrosive; category 1B					Annex VI	

Conclusion

Causes serious eye irritation.

Not classified as irritating to the respiratory system

Not classified as irritating to the skin

Respiratory or skin sensitisation

FA 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	

sulfuric acid, mono C12-14-alkyl esters, sodium salts

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Guinea pig maximisation test			Guinea pig	Read-across	

ammonia

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin						Data waiving	
Inhalation						Data waiving	

Conclusion

Not classified as sensitizing for skin

Not classified as sensitizing for inhalation

Specific target organ toxicity

FA 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

sulfuric acid, mono C12-14-alkyl esters, sodium salts

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (diet)	NOAEL	Equivalent to OECD 408	488 mg/kg bw/day	Liver	No effect	13 weeks (7 days / week)	Rat (male / female)	Read-across
Dermal	NOAEL	Equivalent to OECD 411	400 mg/kg bw		No effect	13 weeks (2 times / week)	Mouse (male / female)	Experimental value

ammonia

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	OECD 422	250 mg/kg bw/day	General	No effect	35 day(s)	Rat (male / female)	Read-across
Oral (stomach tube)	LOAEL	OECD 422	750 mg/kg bw/day	General	Overall effects	35 day(s)	Rat (male / female)	Read-across
Dermal								Data waiving
Inhalation (gases)	LOEL	Subchronic toxicity test	119 mg/m³ air	General	Histopathology	18 weeks (6h / day, 5 days / week)	Guinea pig (male)	Experimental value

Conclusion

Not classified for subchronic toxicity

Mutagenicity (in vitro)

FA 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	

sulfuric acid, mono C12-14-alkyl esters, sodium salts

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S.typhimurium)		Experimental value	
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 476	Mouse (lymphoma L5178Y cells)		Experimental value	

ammonia

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	Test data of the pure substance

Mutagenicity (in vivo)

FA 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

sulfuric acid, mono C12-14-alkyl esters, sodium salts

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Oral (diet))	Equivalent to OECD 475	90 day(s)	Rat (male / female)	Bone marrow	Read-across

ammonia

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative	Equivalent to OECD 474		Mouse (male)	Bone marrow	Read-across

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

FA 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

sulfuric acid, mono C12-14-alkyl esters, sodium salts

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Oral (diet)	NOEL	Equivalent to OECD 453	> 1125 mg/kg bw/day	104 weeks (7 days / week)	Rat (male / female)	No carcinogenic effect		Read-across

ammonia

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Oral	NOAEL	Equivalent to OECD 453	256 mg/kg bw/day	104 weeks (daily)	Rat (female)	No carcinogenic effect		Read-across

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

FA 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

sulfuric acid, mono C12-14-alkyl esters, sodium salts

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOEL	Equivalent to OECD 414	250 mg/kg bw/day	10 days (1x / day)	Rat	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOEL	Equivalent to OECD 414	250 mg/kg bw/day	10 days (1x / day)	Rat	No effect		Experimental value
Effects on fertility								Data waiving

ammonia

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEL	Equivalent to OECD 414	100 mg/kg bw/day	23 day(s)	Rabbit	No effect		Read-across
Maternal toxicity	NOAEL	Equivalent to OECD 414	1 mg/kg bw/day	23 day(s)	Rabbit	No effect		Read-across
Effects on fertility	NOAEL (P)	OECD 422	1500 mg/kg bw/day	28 day(s) - 53 day (s)	Rat (male / female)	No effect		Read-across

Conclusion

Not classified for reprotoxic or developmental toxicity

Toxicity other effects

FA CLEAN

No (test)data on the mixture available

Chronic effects from short and long-term exposure

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No effects known.

11.2. Information on other hazards

No evidence of endocrine disrupting properties

SECTION 12: Ecological information

12.1. Toxicity

FA 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

sulfuric acid, mono C12-14-alkyl esters, sodium salts

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	3.6 mg/l	96 h	Oncorhynchus mykiss	Semi-static system	Fresh water	Experimental value; GLP
Acute toxicity crustacea	EC50	EU Method	4.7 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	NOEC	EU Method C.3	0.6 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity fish	NOEC		≥ 1.367 mg/l	42 day(s)	Pimephales promelas	Flow-through system	Fresh water	Read-across; Growth
Long-term toxicity aquatic crustacea	NOEC	Other	0.14 mg/l	21 day(s)	Daphnia magna	Static system	Fresh water	Weight of evidence; Lethal

ammonia

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50		0.6 mg/l	96 h	Oncorhynchus mykiss	Flow-through system	Fresh water	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

sulfuric acid, mono C12-14-alkyl esters, sodium salts

Biodegradation water

Method	Value	Duration	Value determination
OECD 301D	90 % - 100 %; GLP	28 day(s)	Experimental value

Conclusion

Water

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

12.3. Bioaccumulative potential

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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

sulfuric acid, mono C12-14-alkyl esters, sodium salts

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 123		0.78	22 °C	Experimental value

ammonia

Log Kow

Method	Remark	Value	Temperature	Value determination
		0.23	25 °C	Estimated value

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

sulfuric acid, mono C12-14-alkyl esters, sodium salts

(log) Koc

Parameter	Method	Value	Value determination
Koc		316 - 446	Read-across
log Koc		2.5 - 2.65	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

FA 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

sulfuric acid, mono C12-14-alkyl esters, sodium salts

Groundwater

Groundwater pollutant

Water ecotoxicity pH

pH shift

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

No data available

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
8.250 %	
82.252 g/l	

Indicative occupational exposure limit values (Directive 98/24/EC, 2000/39/EC, 2004/37/EC and amendments)

2-butoxyethanol

Product name	Skin resorption
2-Butoxyethanol	Skin

Directive 2012/18/EU (Seveso III)

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

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

<5% anionic surfactants, perfumes, citral

European drinking water standards (98/83/EC and 2020/2184)

sulfuric acid, mono C12-14-alkyl esters, sodium salts

Parameter	Parametric value	Note	Reference
Sodium	200 mg/l		Listed in Annex I, Part C, of Directive (EU) 2020/2184 on the quality of water intended for human consumption.

ammonia

Parameter	Parametric value	Note	Reference
Ammonium	0.5 mg/l		Listed in Annex I, Part C, of Directive (EU) 2020/2184 on the quality of water intended for human consumption.

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 · ammonia	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.
· 2-butoxyethanol · ammonia	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	Mixtures for tattooing purposes are subject to the restrictions of Regulation (EU) 2020/2081

	(d) substances listed in Appendix 13 to this Annex. The ancillary requirements in paragraphs 7 and 8 of column 2 of this entry apply to all mixtures for use for tattooing purposes, whether or not they contain a substance falling within points (a) to (d) of this column of this entry.	

National legislation Belgium

FA 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

FA CLEAN

Waterbezwaarlijkheid	B (3); Algemene Beoordelingsmethodiek (ABM)

2-butoxyethanol

Huidopname (wettelijk)	2-Butoxyethanol; H

National legislation France

FA CLEAN

No data available

2-butoxyethanol

Risque de pénétration percutanée	2-Butoxyéthanol; Risque de pénétration percutanée

National legislation Germany

FA CLEAN

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

sulfuric acid, mono C12-14-alkyl esters, sodium salts

TA-Luft	5.2.1

ammonia

TRGS900 - Risiko der Fruchtschädigung	Ammoniak; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden

National legislation Austria

FA CLEAN

No data available

2-butoxyethanol

besondere Gefahr der Hautresorption	2-Butoxyethanol; H

National legislation United Kingdom

FA CLEAN

No data available

2-butoxyethanol

Skin absorption	2-Butoxyethanol; Sk

Other relevant data

FA CLEAN

No data available

2-butoxyethanol

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

15.2. Chemical safety assessment

No chemical safety assessment has been conducted for the mixture.

SECTION 16: Other information

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

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H400 Very toxic to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

(*)	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.