


## 1% Fluorine Free Foam

SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER			
Product Name:	1% Fluorine Free Foam	Other Names:	FFF or F3
Recommended Use:	Fire Suppression Foam		
Supplier Name:	JSG Industrial System Pty Ltd	Address:	Unit 1, 21 Amour St Revesby 2212 Australia
Telephone No.:	+61 2 9914 8720	Fax No.:	+61 2 9914 8798
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Information Department:	Product Safety Department	Date Reviewed:	February 2018

SECTION 2: HAZARDS IDENTIFICATION			
Physical/Chemical Hazards:	Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008	Human Health Hazards:	 <p>Contains: 1-propanaminium, N-(3-aminopropyl)-2-hydroxy-N, N-dimethyl-3-sulfo-, N-coco acyl derivs., hydroxides, inner salts.</p> <p>H-statements            H315 Causes skin irritation.            H318 Causes serious eye damage.</p> <p>P-statements            P280 Wear protective gloves, protective clothing and eye protection/face protection.            P264 Wash hands thoroughly after handling.            P302 + P352 IF ON SKIN: Wash with plenty of water and soap. P332 + P313            If skin irritation occurs: Get medical advice/attention.            P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.            P310 Immediately call a POISON CENTER/doctor.</p>

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS						
<b>Preparation</b>						
Chemical Name*	CAS Number	Percentage %	EC Number	Classification	Note	Remark
D-Glucopyranose, Oligomers, Decyl Octyl Glycosides	68515-73-1	C<3 %	500-220-1	Eye Dam. 1; H318	1	Constituent
2-Butoyethoxy Ethanol	112-34-5	C<5 %	203-961-6	Eye Irrit. 2; H319	1,2,4	Constituent
1-Propanaminium, N-(3-Aminipropyl)-2-Hydroxy-N, N-Dimethyl-3-Sulfo, N-Cocoacyldervis, Hydroxides, Inner Salts	68139-30-0	C<5 %	268-761-3	Eye Dam. 1; H318	1	Constituent

1-Propanaminium, 3-Amino-N-(Carboxymethyl)-N, N-Dimethyl, N-Cocoacyldervis, Hydroxides, Inner Salts	61789-40-0	C<3 %	263-058-8	Eye Dam. 1; H318	1	Constituent
Sucrose	57-50-1	C>1%	200-334-9		1,2,4	Constituent
Sodium Octyl Sulphate	142-31-4	C<10 %	205-535-5	Skin Irrit. 2; H315 Eye Dam. 1; H318	1	Constituent
Alcohols, C9-11, Brached And Linear, Ethoxylated Sulphates, Sodium Salts(>1<2.5 Mol Eo)	160901-28-0	C<3 %	500-465-4	Skin Irrit. 2; H315 Eye Dam. 1; H318		
Sodium Decyl Sulphate	142-87-0	C≤1 %	205-568-5	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412		
Sulphuric Acid, Mono-C12-14(Even Numbered)-Alkylesters, Compounds With Triethanolamine		C<10 %		Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412		

**Notes:**

1. For H-statements in full: see heading 16
2. Substance with a Community workplace exposure limit
3. Specific concentration limits, see heading 16
4. Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

## SECTION 4: FIRST AID MEASURES

### First Aid Measures

General	<p>Check the vital functions.  <b>Unconscious:</b> maintain adequate airway and respiration.  <b>Respiratory arrest:</b> artificial respiration or oxygen.  <b>Cardiac arrest:</b> perform resuscitation.  <b>Victim conscious with laboured breathing:</b> half-seated.  <b>Victim in shock:</b> on his back with legs slightly raised.  <b>Vomiting:</b> prevent asphyxia/aspiration pneumonia.                      Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.</p>		
After skin contact	Wash immediately with lots of water. Take victim to a doctor if irritation persists.	After eye contact	Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Take victim to an ophthalmologist.
After ingestion	Rinse mouth with water. Consult a doctor/medical service if you feel unwell.	After inhalation	Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
<b>Effects and Symptoms</b>			
After inhalation	No effects known	After skin contact	Tingling/irritation of the skin
After eye contact	Inflammation/damage of the eye tissue. Corrosion of the eye tissue	After ingestion	No effects known

## SECTION 5: FIRE FIGHTING MEASURES

Extinguishing Media	Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.	Advice for fire-fighters:	<b>Instructions</b>  Cool tanks/drums with water spray/remove them into safety. Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water.  <b>Special protective equipment for fire-fighters</b>  Gloves. Face-shield. Protective clothing.  Heat/fire exposure: compressed air/oxygen apparatus.
Exposure Hazards	Upon Combustion: release of toxic and corrosive gases/vapors (nitrous vapors, sulphur oxides, carbon monoxide - carbon dioxide).		

## SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	No naked flames. <b>Protective equipment for non-emergency personnel</b> See section 8 <b>Protective equipment for emergency responders</b> Gloves. Face-shield. Protective clothing. Suitable protective clothing as described in section 8
Environmental Precautions and Clean-up Methods:	Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Take up liquid spill into inert absorbent material, e.g.: sand/earth. Scoop absorbed substance into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

## SECTION 7: HANDLING AND STORAGE

Precautions for safe handling	Keep away from naked flames/heat. Observe normal hygiene standards. Keep container tightly closed.	Safe storage requirements	Storage temperature: -30 - 49 °C. Store in a cool area. Keep out of direct sunlight. Keep container in a well-ventilated place. Meet the legal requirements.
		Keep away from	Heat sources, oxidizing agents.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limit values	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.		
	<b>The Netherlands</b>		
	2- (2-butoxyethoxy) ethanol	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	7.4 ppm
		Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	50 mg/m <sup>3</sup>
		Short time value (Public occupational exposure limit value)	15 ppm
		Short time value (Public occupational exposure limit value)	100 mg/m <sup>3</sup>

EU		
2- (2-butoxyethoxy) ethanol	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	10 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	67.5 mg/m <sup>3</sup>
	Short time value (Public occupational exposure limit value)	15 ppm
	Short time value (Public occupational exposure limit value)	101.2 mg/m <sup>3</sup>
Belgium		
2- (2-butoxyethoxy) ethanol	2-(2-butoxyethoxy)ethanol	10 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	67.5 mg/m <sup>3</sup>
	Short time value (Public occupational exposure limit value)	15 ppm
	Short time value (Public occupational exposure limit value)	101.2 mg/m <sup>3</sup>
Saccharose	Time-weighted average exposure limit 8 h	10 mg/m <sup>3</sup>
USA (TLV-ACGIH)		
Diethylene glycol monobutyl ether	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	10 ppm (IFV)
Sucrose	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	10 mg/m <sup>3</sup>
(IFV): Inhalable fraction and vapor		
Germany		
2- (2-Butoxyethoxy) ethanol	Time-weighted average exposure limit 8 h (TRGS 900)	10 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	67 mg/m <sup>3</sup>
France		
2- (2-Butoxyethoxy) ethanol	Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)	10 ppm
	Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)	67.5 mg/m <sup>3</sup>
	Short time value (VRI: Valeur réglementaire indicative)	15 ppm
	Short time value (VRI: Valeur réglementaire indicative)	101.2 mg/m <sup>3</sup>
Saccharose	Time-weighted average exposure limit 8 h (VL: Valeur nonréglementaire indicative)	10 mg/m <sup>3</sup>
UK		
2- (2-Butoxyethoxy) ethanol	Time-weighted average exposure limit 8 h (Workplace exposure limit - (EH40/2005))	10 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit - (EH40/2005))	67.5 mg/m <sup>3</sup>
	Short time value (Workplace exposure limit (EH40/2005))	15 ppm
	Short time value (Workplace exposure limit (EH40/2005))	101.2 mg/m <sup>3</sup>
Sucrose	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	10 mg/m <sup>3</sup>
	Short time value (Workplace exposure limit (EH40/2005))	20 mg/m <sup>3</sup>

Sampling methods	Sulfites, & Sulfates NIOSH 6004			
DNEL/PNEC values	<b>DNEL - Workers</b>			
	Ingredient	Effect level (DNEL/DMEL)	Type	Value
	D-glucopyranose, oligomers, decyl octyl glycosides	DNEL	Long-term systemic effects inhalation	420 mg/m <sup>3</sup>
			Long-term systemic effects dermal	595000 mg/kg bw/day
	2- (2-butoxyethoxy) ethanol	DNEL	Long-term systemic effects inhalation	67.5 mg/m <sup>3</sup>
			Long-term local effects inhalation	67.5 mg/m <sup>3</sup>
			Acute local effects inhalation	101.2 mg/m <sup>3</sup>
			Long-term systemic effects dermal	83 mg/kg bw/day
	Sodium octyl sulphate	DNEL	Long-term systemic effects inhalation	285 mg/m <sup>3</sup>
			Long-term systemic effects dermal	4060 mg/kg bw/day
	Sodium decyl sulphate	DNEL	Long-term systemic effects inhalation	285 mg/m <sup>3</sup>
			Long-term systemic effects dermal	4060 mg/kg bw/day
	Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine	DNEL	Long-term systemic effects inhalation	285 mg/m <sup>3</sup>
Long-term systemic effects dermal			4060 mg/kg bw/day	
DNEL/PNEC values	<b>DNEL - General population</b>			
	Ingredient	Effect level (DNEL/DMEL)	Type	Value
	D-glucopyranose, oligomers, decyl octyl glycosides	DNEL	Long-term systemic effects inhalation	124 mg/m <sup>3</sup>
			Long-term systemic effects dermal	357000 mg/kg bw/day
			Long-term systemic effects oral	35.7 mg/kg bw/day
	2- (2-butoxyethoxy) ethanol	DNEL	Long-term systemic effects inhalation	40.5 mg/m <sup>3</sup>
			Long-term local effects inhalation	40.5 mg/m <sup>3</sup>
			Acute local effects inhalation	60.7 mg/m <sup>3</sup>
			Long-term systemic effects dermal	50 mg/kg bw/day
	Sodium octyl sulphate	DNEL	Long-term systemic effects inhalation	85 mg/m <sup>3</sup>
			Long-term systemic effects dermal	24400 mg/kg bw/day
			Long-term systemic effects oral	24 mg/kg bw/day
	Sodium decyl sulphate	DNEL	Long-term systemic effects inhalation	85 mg/m <sup>3</sup>
			Long-term systemic effects dermal	2440 mg/kg bw/day
			Long-term systemic effects oral	24 mg/kg bw/day
	Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine	DNEL	Long-term systemic effects inhalation	285 mg/m <sup>3</sup>
			Long-term systemic effects dermal	4060 mg/kg bw/day
			Long-term systemic effects oral	24 mg/kg bw/day

<b>PNEC</b>		
<b>Ingredient</b>	<b>Compartments</b>	<b>Value</b>
D-glucopyranose, oligomers, decyl octyl glycosides	Fresh water	0.176 mg/l
	Marine water	0.0176 mg/l
	Aqua (intermittent releases)	0.27 mg/l
	STP	560 mg/l
	Fresh water sediment	1.516 mg/kg sediment dw
	Marine water sediment	0.152 mg/kg sediment dw
	Soil	0.654 mg/kg soil dw
	Food	111.11 mg/kg food
2- (2-butoxyethoxy) ethanol	Fresh water	1.1 mg/l
	Marine water	0.11 mg/l
	Aqua (intermittent releases)	11 mg/l
	Fresh water sediment	4.4 mg/kg sediment dw
	Marine water sediment	0.44 mg/kg sediment dw
	Soil	0.32 mg/kg soil dw
	STP	200 mg/l
	Food	56 mg/kg food
Sodium octyl sulphate	Fresh water	0.1357 mg/l
	Marine water	0.01357 mg/l
	STP	1.35 mg/l
	Fresh water sediment	1.5 mg/kg sediment dw
	Marine water sediment	0.15 mg/kg sediment dw
	Soil	0.22 mg/kg soil dw
Sodium decyl sulphate	Fresh water	0.095 mg/l
	Marine water	0.0095 mg/l
	Aqua (intermittent releases)	0.086 mg/l
	STP	1.35 mg/l
	Fresh water sediment	1.5 mg/kg sediment dw
	Marine water sediment	0.15 mg/kg sediment dw
	Soil	0.2445 mg/kg soil dw
Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine	Fresh water	0.012 mg/l
	Marine water	0.0012 mg/l
	Aqua (intermittent releases)	0.036 mg/l
	STP	1.35 mg/l
	Fresh water sediment	0.422 mg/kg sediment dw
	Marine water sediment	0.0422 mg/kg sediment dw
	Soil	0.083 mg/kg soil dw

Exposure controls	<p><b>Exposure controls</b> 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.</p> <p><b>Appropriate engineering controls</b> Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry out operations in the open/under local exhaust/ventilation or with respiratory protection.</p> <p><b>Individual protection measures, such as personal protective equipment</b> Observe normal hygiene standards. Keep container tightly closed. Do not eat, drink or smoke during work.  a) Respiratory protection: Wear gas mask with filter type A if conc. in air &gt; exposure limit.  b) Hand protection: Chemical-resistant gloves.  c) Eye protection: Face shield.  d) Skin protection: Protective clothing.</p> <p><b>Environmental exposure controls</b> See section 6 and 13</p>
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**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

Physical State:	Liquid	Explosion limits	Not applicable
Odour	Pleasant odour	Flammability	Non combustible
Odour threshold	No data available	Log Kow	Non combustible (mixture)
Colour	Colour Yellow to amber	Dynamic viscosity	Not applicable
Particle size	Not applicable (liquid)	Kinematic viscosity	37 mm <sup>2</sup> /s ; Measured value
Evaporation rate	No data available	Melting point	-15 °C
Relative vapour density	No data available	Boiling point	95 °C
Vapour pressure	24 hPa ; 20 °C	Flash point	Not applicable
Solubility	Complete in water	Solidification (freezing) point	-15 °C
Relative density	1.14	Critical temperature	> 60 °C
Decomposition temperature	No data available	Surface tension	0.027 N/m ; 25 °C ; 1 %
Auto-ignition temperature	No data available	Absolute density	1140 kg/m <sup>3</sup>
Explosive properties	No chemical group associated with explosive properties	pH	7 - 8.5 ; Measured value
Oxidising properties	No chemical group associated with oxidising properties		

**SECTION 10: STABILITY AND REACTIVITY**

Stability and Reactivity	<p><b>Reactivity</b> No data available.</p> <p><b>Chemical stability</b> Stable under normal conditions.</p> <p><b>Possibility of hazardous reactions</b> No data available.</p> <p><b>Conditions to avoid</b> Keep away from naked flames/heat.</p> <p><b>Incompatible materials</b> Oxidizing agents.</p> <p><b>Hazardous decomposition products</b> On burning: release of toxic and corrosive gases/vapours (nitrous vapours, sulphur oxides, carbon monoxide - carbon dioxide).</p>
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**SECTION 11: TOXICOLOGICAL INFORMATION**

**INFORMATION ON TOXICOLOGICAL EFFECTS**

Acute toxicity	<b>D-glucopyranose, oligomers, decyl octyl glycosides</b>						
	Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination
	Oral	LD50	OECD 423	> 2000 mg/kg bw	14 day(s)	Rat (male/female)	Experimental value
	Dermal	LD50	Equivalent to OECD 402	> 2000 mg/kg bw	24 h	Rabbit (male/female)	Experimental value
	Inhalation						Data waiving
	<b>2- (2-butoxyethoxy) ethanol</b>						
	Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination
	Oral	LD50	Equivalent to OECD 401	2410 mg/kg bw		Mouse (male)	Experimental value
	Dermal	LD50	Equivalent to OECD 402	2764 mg/kg bw		Rabbit (male)	Experimental value
	Inhalation	IRT (inhalation risk test)	BASF test	> 29 ppm	2 h	Rat	Experimental value
	<b>Sucrose</b>						
	Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination
	Oral	LD50		29700 mg/kg		Rat	Literature study
	<b>Sodium octyl sulphate</b>						
	Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination
	Oral	LD50	OECD 423	> 2000 mg/kg bw		Rat (female)	Experimental value
	Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rat (male/female)	Experimental value
	Inhalation						Data waiving
	<b>Sodium decyl sulphate</b>						
	Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination
	Oral	LD50	OECD 401	1200 mg/kg bw		Rat (female)	Read-across
	Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rat (male/female)	Read-across
	Inhalation						Data waiving
	<b>Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine</b>						
	Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination
	Oral	LD50	OECD 420	500 mg/kg bw-2000 mg/kg bw		Rat (female)	Read-across
	Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rat (male/female)	Read-across
Corrosion/irritation	<b>D-glucopyranose, oligomers, decyl octyl glycosides</b>						
	Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination
	Eye	Serious eye damage	OECD 405		24; 48; 72 h	Rabbit	Read-across
	Skin	Not irritating	OECD 404	4 h	24; 48; 72 h	Rabbit	Experimental value
	<b>2-(2-butoxyethoxy)ethanol</b>						
	Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination
	Eye	Highly irritating	OECD 405		24; 48; 72 h	Rabbit	Weight of evidence
	Skin	Slightly irritating	OECD 404		24; 48; 72 h	Rabbit	Experimental value
	<b>1-propanaminium, N-(3-aminopropyl)-2-hydroxy-N,N-dimethyl-3-sulfo-, N-coco acyl derivs., hydroxides, inner salts</b>						
	Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination
	Eye	Serious eye damage					Literature study



1-propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts							
Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	
Eye	Serious eye damage					Literature study	
Sucrose							
Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	
Eye	Not irritating					Literature study	
Skin	Not irritating					Literature study	
Sodium octyl sulphate							
Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	
Eye	Irritating	OECD 405			Rabbit	Read-across	
Skin	Irritating	OECD 404	4 h	24; 72 h	Rabbit	Experimental value	
Alcohols, C9-11, branched and linear, ethoxylated, sulfates, sodium salts (>1 <2.5 mol EO)							
Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	
Eye	Serious eye damage					Literature study	
Skin	Irritating					Literature study	
Sodium decyl sulphate							
Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	
Eye	Serious eye damage; category					Literature study	
Eye	Irritating	OECD 405			Rabbit	Read-across	
Skin	Irritating	OECD 404	4h	1; 24; 48; 72 h 7; 14 days	Rabbit	Read-across	
Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine							
Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	
Eye	Irritating	OECD 405		24; 48; 72 h	Rabbit	Experimental value	
Skin	Irritating	OECD 404	4 h	24; 48; 72 h	Rabbit	Experimental value	
<b>Remark:</b> Aqueous solution							
<b>Conclusion:</b> Causes serious eye damage. Causes skin irritation. Not classified as irritating to the respiratory system							
Respiratory or skin sensitisation	D-glucopyranose, oligomers, decyl octyl glycosides						
	Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination
	Skin	Not sensitizing	Equivalent to OECD 429			Mouse	Experimental value
	Skin	Not sensitizing	OECD 406			Guinea pig (female)	Read-across
	2- (2-butoxyethoxy) ethanol						
	Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination
	Skin	Not sensitizing	Equivalent to OECD 406		24; 48 hours	Guinea pig (male/female)	Experimental value
	Sodium octyl sulphate						
	Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination
	Skin	Not sensitizing	Equivalent to OECD 429			Mouse (female)	Experimental value
Sodium decyl sulphate							
Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	
Skin	Not sensitizing	Equivalent to OECD 429			Mouse	Read-across	

Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine								
Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination		
Skin	Not sensitizing	Equivalent to OECD 406		24; 48 h	Guinea pig	Experimental value		
<b>Conclusion:</b> Not classified as sensitizing for skin. Not classified as sensitizing for inhalation.								
Specific target organ toxicity								
D-glucopyranose, oligomers, decyl octyl glycosides								
Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	EPA OTS 795.2600	100 mg/kg bw/day		No effect	90 day(s)	Rat (male/female)	Read-across
2- (2-butoxyethoxy) ethanol								
Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral	NOAEL	OECD 408	250 mg/kg bw/day		Overall effects	90 days (continuous)	Rat (male/female)	Experimental value
Dermal	NOAEL	Equivalent to OECD 411	< 200 mg/kg bw/day	Skin	Irritation	13 weeks (daily, 5 days/week)	Rat (male/female)	Experimental value
Inhalation	NOAEL	OECD 413	14 ppm	Lungs		90 day(s)	Rat (male/female)	Experimental value
Sodium octyl sulphate								
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		No adverse systemic effects	13 weeks (daily)	Rat (male/female)	Read-across
Oral (diet)	LOAEL	Equivalent to OECD 408	1016 mg/kg bw/day		Systemic effects	13 weeks (daily)	Rat (male/female)	Read-across
Dermal	NOAEL	Equivalent to OECD 411	10 %		No effect	13 weeks (2 times/week)	Mouse (male/female)	Read-across
Dermal	LOAEL	Equivalent to OECD 411	12.5 %	Skin	Caustic burns/ corrosion of the skin	13 weeks (2 times/week)	Mouse (male/female)	Read-across
Sodium decyl sulphate								
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 (daily)	Rat (male/female)	Read-across
Oral (diet)	LOAEL	Equivalent to OECD 408	1016 mg/kg bw/day	Liver	Weight gain	13 weeks (daily)	Rat (male/female)	Read-across
Dermal	NOAEL	Equivalent to OECD 411	10 %		No effect		Mouse (male/female)	Read-across

Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine								
Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral	NOAEL	Equivalent to OECD 408	488 mg/kg bw/day		No adverse systemic effects	13 weeks (daily)	Rat (male/female)	Read-across
Oral	LOAEL	Equivalent to OECD 408	1016 mg/kg bw/day		Systemic effects	13 weeks (daily)	Rat (male/female)	Read-across
Dermal	NOAEL	Equivalent to OECD 411	10 %		No effect	13 weeks (2 times/week)	Mouse (male/female)	Read-across
Dermal	LOAEL	Equivalent to OECD 411	12.5 %			13 weeks (2 times/week)	Mouse (male/female)	Read-across
<b>Conclusion:</b> Not classified for subchronic toxicity								
Mutagenicity (in vitro)								
D-glucopyranose, oligomers, decyl octyl glycosides								
Result		Method	Test substrate		Effect	Value determination		
Negative with metabolic activation, negative without metabolic activation		Equivalent to OECD 476	Mouse (lymphoma L5178Y cells)		No effect	Experimental value		
Negative with metabolic activation, negative without metabolic activation		OECD 473	Chinese hamster lung fibroblasts		No effect	Read-across		
2- (2-butoxyethoxy) ethanol								
Result		Method	Test substrate		Effect	Value determination		
Negative		Equivalent to OECD 471	Bacteria (S.typhimurium)			Experimental value		
Negative		Equivalent to OECD 476	Chinese hamster ovary (CHO)			Experimental value		
Sodium octyl sulphate								
Result		Method	Test substrate		Effect	Value determination		
Negative with metabolic activation, negative without metabolic activation		OECD 471	Bacteria (S.typhimurium)		No effect	Experimental value		
Negative with metabolic activation, negative without metabolic activation		Equivalent to OECD 473	Chinese hamster ovary (CHO)		No effect	Read-across		
Negative with metabolic activation, negative without metabolic activation		Equivalent to OECD 476	Mouse (lymphoma L5178Y cells)		No effect	Weight of evidence		
Sodium decyl sulphate								
Result		Method	Test substrate		Effect	Value determination		
Negative with metabolic activation, negative without metabolic activation		OECD 471	Bacteria (S.typhimurium)		No effect	Experimental value		
Negative with metabolic activation, negative without metabolic activation		Equivalent to OECD 473	Chinese hamster ovary (CHO)		No effect	Read-across		
Negative with metabolic activation, negative without metabolic activation		Equivalent to OECD 476						

	<b>sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine</b>								
	Result	Method	Test substrate	Effect	Value determination				
	Negative	OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value				
	Negative	Equivalent to OECD 476	Mouse (lymphoma L5178Y cells)	No effect	Read-across				
	<b>Conclusion CMR</b> Not classified for mutagenic or genotoxic toxicity								
Mutagenicity (in vivo)	<b>D-glucopyranose, oligomers, decyl octyl glycosides</b>								
	Result	Method	Test substrate	Organ	Value determination				
	Negative	OECD 474	Mouse (male)	Bone marrow	Read-across				
	<b>2- (2-butoxyethoxy) ethanol</b>								
	Result	Method	Test substrate	Organ	Value determination				
	Negative	Equivalent to OECD 475	Mouse (male/female)		Experimental value				
	<b>Sodium octyl sulphate</b>								
	Result	Method	Test substrate	Organ	Value determination				
	Negative	OECD 478	Mouse (male/female)		Read-across				
	<b>Sodium decyl sulphate</b>								
	Result	Method	Test substrate	Organ	Value determination				
	Negative	Equivalent to OECD 478	Mouse (male/female)		Read-across				
	<b>Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine</b>								
	Result	Method	Test substrate	Organ	Value determination				
	Negative	OECD 474	Mouse (male/female)		Experimental value				
	<b>Conclusion CMR</b> Not classified for mutagenic or genotoxic toxicity								
	Carcinogenicity	<b>D-glucopyranose, oligomers, decyl octyl glycosides</b>							
Route of exposure		Parameter	Method	Value	Exposure time	Species	Value determination	Organ	Effect
Inhalation							Data waiving		
Dermal							Data waiving		
Oral							Data waiving		
<b>Sodium octyl sulphate</b>									
Route of exposure		Parameter	Method	Value	Exposure time	Species	Value determination	Organ	Effect
Oral		NOEL	Equivalent to OECD 453	> 1125 mg/kg bw/day	104 weeks (daily)	Rat (male/female)	Read-across		No neoplastic effects
<b>Sodium decyl sulphate</b>									
Route of exposure		Parameter	Method	Value	Exposure time	Species	Value determination	Organ	Effect
Oral		NOEL	Equivalent to OECD 453	> 1125 mg/kg bw/day	2 year(s)	Rat (male/female)	Read-across		No carcinogenic effect

Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine								
Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Organ	Effect
Oral	NOEL	Equivalent to OECD 453	> 1125 mg/kg bw/day	104 weeks (daily)	Rat (male/female)	Read-across		No neoplastic effects
<b>Conclusion CMR</b> Not classified for carcinogenicity								
Reproductive toxicity								
D-glucopyranose, oligomers, decyl octyl glycosides								
Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Organ	Effect
Developmental toxicity	NOAEL	OECD 414	1000 mg/kg bw/day	10 day(s)	Rat	Read-across		No effect
Maternal toxicity	NOAEL	OECD 414	1000 mg/kg bw/day	10 day(s)	Rat	Read-across		No effect
Effects on fertility	NOAEL	OECD 421	1000 mg/kg bw/day		Rat (male/female)	Read-across		No effect
2-(2-butoxyethoxy)ethanol								
Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Organ	Effect
Developmental toxicity	NOAEL	Equivalent to OECD 414	633 mg/kg bw/day	0 - 20 days (gestation, daily)	Rat	Experimental value		
Effects on fertility	NOAEL (P)	NTP continuous breeding protocol	720 mg/kg bw/day	14 week(s)	Mouse (male/female)	Read-across		Body weight reduction
Sodium octyl sulphate								
Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Organ	Effect
Developmental toxicity	NOEL	Equivalent to OECD 414	250 mg/kg bw/day	10 day(s)	Rat (female)	Read-across		No effect
Maternal toxicity	NOEL	Equivalent to OECD 414	250 mg/kg bw/day	10 day(s)	Rat (female)	Read-across		No effect
Effects on fertility						Data waiving		
Sodium decyl sulphate								
Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Organ	Effect
Developmental toxicity	NOEL	Equivalent to OECD 414	250 mg/kg bw/day	10 day(s)	Rat	Read-across		No effect
Maternal toxicity	NOEL	Equivalent to OECD 414	250 mg/kg bw/day	10 day(s)	Rat	Read-across		
Effects on fertility						Data waiving		
Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine								
Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Organ	Effect
Developmental toxicity	NOEL	Equivalent to OECD 414	250 mg/kg bw/day	10 day(s)	Rat	Read-across		No effect
Maternal toxicity	NOEL	Equivalent to OECD 414	250 mg/kg bw/day	10 day(s)	Rat	Read-across		No effect
<b>Conclusion CMR:</b> Not classified for reprotoxic or developmental toxicity								

Chronic effects from short and long-term exposure	No effects known
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**SECTION 12: ECOLOGICAL INFORMATION**

Specific target organ toxicity	D-glucopyranose, oligomers, decyl octyl glycosides								
	Route of exposure	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	Equivalent to OECD 203	126 mg/l	96 h	Danio rerio	Semi-static system	Fresh water	Experimental value	
Acute toxicity invertebrates	EC50	OECD 202	> 100 mg/l	48 h	Daphnia magna	Semi-static system	Fresh water	Experimental value	
Toxicity algae and other aquatic plants	ErC50	DIN 38412-9	27.22 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Experimental value; GLP	
Long-term toxicity fish	NOEC	OECD 204	1 mg/l - 3.2 mg/l	28 day(s)	Danio rerio	Flow-through system	Fresh water	Read-across	
Long-term toxicity aquatic invertebrates	EC10	OECD 202	1.762 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Read-across	
Toxicity aquatic micro-organisms	EC50	Other	> 560 mg/l	6 h	Pseudomonas putida	Static system	Fresh water	Experimental value; GLP	
Toxicity sediment organisms	LC50	Other	3318.81 mg/kg sediment dw	10 day(s)	Corophium volutator	Static system	Salt water	Experimental value; GLP	
	NOEC	Other	262.16 mg/kg sediment dw	10 day(s)	Corophium volutator	Static system	Salt water	Experimental value; GLP	

Route of exposure	Parameter	Method	Value	Duration	Species	Value determination
Toxicity soil macro-organisms	LC0	OECD 207	≥ 654 mg/kg	14 day(s)	Eisenia sp.	Read-across
Toxicity terrestrial plants	NOEC	OECD 208	≥ 654 mg/kg	14 day(s)	Avena sativa	Read-across
	NOEC	OECD 208	≥ 654 mg/kg	14 day(s)	Brassica rapa	Read-across
	NOEC	OECD 208	≥ 654 mg/kg	14 day(s)	Lycopersicon esculentum	Read-across

Specific target organ toxicity	2- (2-butoxyethoxy) ethanol								
	Route of exposure	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	Equivalent to OECD 203	1300 mg/l	96 h	Lepomis macrochirus	Static system	Fresh water	Experimental value	
Acute toxicity invertebrates	EC50	Equivalent to OECD 202	4950 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value	
Toxicity algae and other aquatic plants	EC50	OECD 201	> 100 mg/l	96 h	Desmodesmus subspicatus	Static system	Fresh water	Experimental value	
Toxicity aquatic micro-organisms	EC10	Equivalent to OECD 209	> 1995 mg/l	30 minutes	Activated sludge	Static system	Fresh water	Experimental value	

<b>Sodium octyl sulphate</b>									
Route of exposure	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination	
Acute toxicity fishes	LC50	OECD 203	> 100 mg/l	96 h	Danio rerio	Semi-static system	Fresh water	Experimental value; GLP	
Acute toxicity invertebrates	EC50	OECD 202	> 100 mg/l	48 h	Daphnia magna	Semi-static system	Fresh water	Experimental value; Locomotor effect	
Toxicity algae and other aquatic plants	EC50	EU Method C.3	> 511 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Read-across; Growth rate	
	EC10	EU Method C.3	199 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Read-across; Growth rate	
	NOEC	EU Method C.3	103 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Read-across; Growth rate	
	EC10	EU Method C.3	133 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Read-across; Biomass	
	EC50	EU Method C.3	511 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Read-across; Biomass	
Long-term toxicity fish	NOEC	Other	≥ 1.357 mg/l	42 day(s)	Pimephales promelas	Flow-through system	Fresh water	Read-across; Weight changes	
Long-term toxicity aquatic invertebrates	NOEC	OECD 211	1.4 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Read-across; Reproduction	
	LOEC	OECD 211	6.86 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Read-across; Reproduction	
Toxicity aquatic micro- organisms	EC50	Equivalent to OECD 209	135 mg/l	3 h	Activated sludge	Static system	Fresh water	Read-across; Respiration	
		Equivalent to OECD 209	188 mg/l	30 minutes	Activated sludge	Static system	Fresh water	Read-across; Respiration	
<b>Sodium decyl sulphate</b>									
Route of exposure	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination	
Acute toxicity fishes	LC50	JIS K0102-1986-71	13 mg/l	48 h	Cyprinus carpio	Static system	Fresh water	Experimental value	
Acute toxicity invertebrates	EC50	Other	470 mg/l	24 h	Daphnia magna		Fresh water	Experimental value; Locomotor effect	
Toxicity algae and other aquatic plants	EC50	OECD 201	8.64 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate	
	EC10	OECD 201	0.95 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate	
Long-term toxicity fish	NOEC	Other	≥ 1.357 mg/l	42 day(s)	Pimephales promelas	Flow-through system	Fresh water	Read-across	
Long-term toxicity aquatic invertebrates	NOEC	OECD 211	1.4 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; Reproduction	
Toxicity aquatic micro- organisms	EC50	Equivalent to OECD 209	135 mg/l	3 h	Activated sludge	Static system	Fresh water	Read-across	

Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine								
Acute toxicity fishes	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
Acute toxicity invertebrates	EC50	OECD 202	7.1 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value
Toxicity algae and other aquatic plants	ErC50	EU Method C.3	11 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity fish	NOEC		≥ 1.357 mg/l	42 day(s)	Pimephales promelas	Flow-through system	Fresh water	Read-across
Long-term toxicity aquatic invertebrates	NOEC	EPA 600/4-89/001	0.88 mg/l	7 day(s)	Ceriodaphnia dubia	Flow-through system	Fresh water	Read-across
Toxicity aquatic micro-organisms	EC50	OECD 209	135 mg/l	3 h	Activated sludge	Static system	Fresh water	Read-across
<b>Conclusion:</b> Harmless to activated sludge at sufficient dilution Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008								

Persistence and degradability	D-glucopyranose, oligomers, decyl octyl glycosides Biodegradation water			
	Method	Value	Duration	Value determination
	OECD 301E: Modified OECD Screening Test	100 %	28 day(s)	Experimental value
	2-(2-butoxyethoxy)ethanol Biodegradation water			
	Method	Value	Duration	Value determination
	OECD 301C: Modified MITI Test (I)	> 80 %	28 day(s)	Experimental value
	2- (2-butoxyethoxy)ethanol Phototransformation air (DT50 air)			
	Method	Value	Duration	Value determination
	AOPWIN	3.4 h	1.5x10 <sup>6</sup> /cm <sup>3</sup>	Experimental value
	1-propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts Biodegradation water			
	Method	Value	Duration	Value determination
	OECD 301D: Closed Bottle Test	86 %; GLP	28 day(s)	Experimental value
	Sodium octyl sulphate Biodegradation water			
	Method	Value	Duration	Value determination
	OECD 301B: CO2 Evolution Test	93 %	29 day(s)	Experimental value
	Sodium octyl sulphate Phototransformation air (DT50 air)			
	Method	Value	Duration	Value determination
	AOPWIN v1.91	42 h		QSAR
	Alcohols, C9-11, branched and linear, ethoxylated, sulfates, sodium salts (>1 <2.5 mol EO) Biodegradation water			
	Method	Value	Duration	Value determination
	ISO 14593	104 %	28 day(s)	Experimental value
	Sodium decyl sulphate Biodegradation water			
	Method	Value	Duration	Value determination
	OECD 301D: Closed Bottle Test	92 %	30 day(s)	Experimental value



	<b>Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine Biodegradation water</b>			
	Method	Value	Duration	Value determination
	EU Method C.4	95 %	28 day(s)	Experimental value
	<b>Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine Phototransformation air (DT50 air)</b>			
	Method	Value	Duration	Value determination
	AOPWIN v1.91	AOPWIN v1.91	28 day(s)	Experimental value
		22 h	0.5E6 /cm <sup>3</sup>	QSAR
	<b>Conclusion:</b> Contains readily biodegradable component(s)			
Persistence and degradability	<b>D-glucopyranose, oligomers, decyl octyl glycosides Log Kow</b>			
	Method	Remark	Value	Temperature
	EU Method A.8		1.72	40 °C
	<b>2- (2-butoxyethoxy) ethanol Log Kow</b>			
	Method	Remark	Value	Temperature
	Equivalent to OECD 107		1	20 °C
	<b>1- Propanaminium, N-(3-aminopropyl)-2-hydroxy-N,N-dimethyl-3-sulfo-, N-coco acyl derivs., hydroxides, inner salts BCF other aquatic organisms</b>			
	Parameter	Remark	Value	Temperature
	BCF		< 71	
	<b>1- Propanaminium, N-(3-aminopropyl)-2-hydroxy-N,N-dimethyl-3-sulfo-, N-coco acyl derivs., hydroxides, inner salts Log Kow</b>			
	Method	Remark	Value	Temperature
			≤ 1.65	
	<b>1- Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts BCF other aquatic organisms</b>			
	Parameter	Remark	Value	Temperature
	BCF Evolution Test		70.79	
	<b>1- Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts Log Kow</b>			
	Method	Remark	Value	Temperature
			0.69	
	<b>Sucrose Log Kow</b>			
	Method	Remark	Value	Temperature
			-3.70	
	<b>Sodium octyl sulphate Log Kow</b>			
	Method	Remark	Value	Temperature
OECD 107	Calculated	< -2.31	20 °C	
<b>Alcohols, C9-11, branched and linear, ethoxylated, sulfates, sodium salts (&gt;1 &lt;2.5 mol EO) Log Kow</b>				
Method	Remark	Value	Temperature	
OECD 107		≤ -0.858	20 °C	
<b>Sodium decyl sulphate Log Kow</b>				
Method	Remark	Value	Temperature	
		0.71		
OECD 123		1.72	25 °C	

	<b>Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine Log Kow</b>						
	Method	Remark	Value	Temperature	Value determination		
	OECD 107		≤ -0.866	20 °C	Calculated		
	<b>Conclusion:</b> Does not contain bioaccumulative component(s)						
Persistence and degradability	<b>D-glucopyranose, oligomers, decyl octyl glycosides (log) Koc</b>						
	Parameter		Method	Value	Value determination		
	log Koc		OECD 121	1.7	Read-across		
	<b>D-glucopyranose, oligomers, decyl octyl glycosides Volatility (Henry's Law constant H)</b>						
	Value	Method	Temperature	Remark	Value determination		
	1.13E-013 atm m <sup>3</sup> /mol	SRC HENRYWIN v3.20	25 °C		QSAR		
	<b>2-(2-butoxyethoxy)ethanol Percent distribution</b>						
	Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
	Mackay level I	0.01 %	0 %	0.01 %	0.32 %	99.66 %	QSAR
	<b>2-(2-butoxyethoxy)ethanol Percent distribution</b>						
	Value	Method	Temperature	Remark	Value determination		
	4.47E-11 atm m <sup>3</sup> /mol		25 °C		Estimated value		
	<b>Sodium octyl sulphate (log) Koc</b>						
	Parameter		Method	Value	Value determination		
	log Koc		Other	1.88 - 2	Experimental value		
<b>Sodium decyl sulphate (log) Koc</b>							
Parameter		Method	Value	Value determination			
log Koc		Other	2.09 - 2.25	Experimental value			
<b>Sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine (log) Koc</b>							
Parameter		Method	Value	Value determination			
log Koc		Other	2.5 - 3.2	Read-across			
	<b>Conclusion:</b> Contains component(s) with potential for mobility in the soil						
Results of PBT and vPvB assessment	Due to insufficient data no statement can be made whether the component(s) fulfil(s) the criteria of PBT and vPvB according to Annex XIII of Regulation (EC) No 1907/2006.						
Other adverse effects	Global warming potential (GWP): None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EC) No 517/2014) Ozone-depleting potential (ODP): Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)						
	<b>D-glucopyranose, oligomers, decyl octyl glycosides</b> Global warming potential (GWP): Not included in the list of fluorinated greenhouse gases (Regulation (EC) No 517/2014)						
	<b>2- (2-butoxyethoxy) ethanol</b> Global warming potential (GWP): Not included in the list of fluorinated greenhouse gases (Regulation (EC) No 517/2014) Ground water: Ground water pollutant						
	<b>Sodium octyl sulphate</b> Global warming potential (GWP): Not included in the list of fluorinated greenhouse gases (Regulation (EC) No 517/2014)						
	<b>Sodium decyl sulphate</b> Global warming potential (GWP): Not included in the list of fluorinated greenhouse gases (Regulation (EC) No 517/2014)						

## SECTION 13: DISPOSAL CONSIDERATIONS

Provisions relating to waste	Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC). 07 06 04* (wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics: other organic solvents, washing liquids and mother liquors) . Hazardous waste according to Directive 2008/98/EC.
Disposal methods	Recycle/reuse. Dilute. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. May be discharged to wastewater treatment installation or reed bed. Contains a component for which a prohibition exists against discharge into surface water. Contains no organic halogen which may add to the AOX value.
Packaging/Container	Waste material code packaging (Directive 2008/98/EC). 15 01 10* (packaging containing residues of or contaminated by dangerous substances).

## SECTION 14: TRANSPORT INFORMATION

UN Number:	N/A	Class and Subsidiary Risk:	N/A
Special Precautions for User:	None	UN Proper Shipping Name:	N/A
Packing Group:	N/A	Hazchem Code:	Not hazardous

## SECTION 15: REGULATORY INFORMATION

Specific regulation:	<p>European legislation: VOC content Directive 2010/75/EU Plant protection products - listed ingredient Contains component(s) included in implementing Regulation (EU) No 540/2011 European drinking water standards (Directive 98/83/EC)</p> <p><b>Sodium octyl sulphate</b></p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Parametric value</th> <th>Note</th> <th>Reference</th> </tr> </thead> <tbody> <tr> <td>Sodium</td> <td>200 mg/l</td> <td></td> <td>Listed in Annex I, Part C, of Directive 98/83/EC on the quality of water intended for human consumption.</td> </tr> </tbody> </table> <p><b>Sodium decyl sulphate</b></p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Parametric value</th> <th>Note</th> <th>Reference</th> </tr> </thead> <tbody> <tr> <td>Sodium</td> <td>200 mg/l</td> <td></td> <td>Listed in Annex I, Part C, of Directive 98/83/EC on the quality of water intended for human consumption.</td> </tr> </tbody> </table> <p>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</p> <table border="1"> <tr> <td>2- (2-butoxyethoxy) ethanol</td> <td> <p>Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008:</p> <p>a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8</p> </td> <td> <p>1. Shall not be used in:</p> <ul style="list-style-type: none"> <li>Ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,</li> <li>Tricks and jokes,</li> <li>Games for one or more participants, or any article intended to be used as such, even with ornamental aspects.</li> </ul> <p>2. Articles not complying with paragraph 1 shall not be placed on the market.</p> <p>3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:</p> </td> </tr> </table>			Parameter	Parametric value	Note	Reference	Sodium	200 mg/l		Listed in Annex I, Part C, of Directive 98/83/EC on the quality of water intended for human consumption.	Parameter	Parametric value	Note	Reference	Sodium	200 mg/l		Listed in Annex I, Part C, of Directive 98/83/EC on the quality of water intended for human consumption.	2- (2-butoxyethoxy) ethanol	<p>Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008:</p> <p>a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8</p>	<p>1. Shall not be used in:</p> <ul style="list-style-type: none"> <li>Ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,</li> <li>Tricks and jokes,</li> <li>Games for one or more participants, or any article intended to be used as such, even with ornamental aspects.</li> </ul> <p>2. Articles not complying with paragraph 1 shall not be placed on the market.</p> <p>3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:</p>
Parameter	Parametric value	Note	Reference																			
Sodium	200 mg/l		Listed in Annex I, Part C, of Directive 98/83/EC on the quality of water intended for human consumption.																			
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Sodium	200 mg/l		Listed in Annex I, Part C, of Directive 98/83/EC on the quality of water intended for human consumption.																			
2- (2-butoxyethoxy) ethanol	<p>Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008:</p> <p>a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8</p>	<p>1. Shall not be used in:</p> <ul style="list-style-type: none"> <li>Ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,</li> <li>Tricks and jokes,</li> <li>Games for one or more participants, or any article intended to be used as such, even with ornamental aspects.</li> </ul> <p>2. Articles not complying with paragraph 1 shall not be placed on the market.</p> <p>3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:</p>																				

		<p>types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F;</p> <p><b>b)</b> hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10;</p> <p><b>c)</b> hazard class 4.1;</p> <p><b>d)</b> hazard class 5.1.</p>	<ul style="list-style-type: none"> <li>• can be used as fuel in decorative oil lamps for supply to the general public.</li> <li>• Present an aspiration hazard and are labelled with R65 or H304,</li> </ul> <p>4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).</p> <p>5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:</p> <p>For revision: 2; 3; 16 Date of revision: 2015-06-04 Publication date: 2012-02-08 Product number: 52334 19 / 20</p> <p><b>a)</b> lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil - or even sucking the wick of lamps - may lead to life - threatening lung damage";</p> <p><b>b)</b> grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: "Just a sip of grill lighter may lead to life threatening lung damage";</p> <p><b>c)</b> lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.</p> <p>6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public. 7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.'</p>
	2- (2-butoxyethoxy) ethanol	2- (2-butoxyethoxy) ethanol (DEGBE)	<p>1. Shall not be placed on the market for the first time after 27 June 2010, for supply to the general public, as a constituent of spray paints or spray cleaners in aerosol dispensers in concentrations equal to or greater than 3 % by weight.</p> <p>2. Spray paints and spray cleaners in aerosol dispensers containing DEGBE and not conforming to paragraph 1 shall not be placed on the market for supply to the general public after 27 December 2010. 3. Without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that paints other than spray paints containing DEGBE in concentrations equal to or greater than 3 % by weight of that are placed on the market for supply to the general public are visibly, legibly and indelibly marked by 27 December 2010 as follows: "Do not use in paint spraying equipment".</p>

<b>National legislation The Netherlands</b>	
Waste identification (the Netherlands)	LWCA (the Netherlands): KGA category 03
Waterbezwaarlijkheid	7
<b>National legislation Germany</b>	
WGK	1; Classification water polluting based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 4)
Schwangerschaft Gruppe	C
MAK 8-Stunden-Mittelwert ppm	Butyldiglykol; 10 ppm; MAK-Wert für die Summe der Luftkonzentrationen von Butyldiglykol und Butyldiglykolacetat.
MAK 8-Stunden-Mittelwert mg/m <sup>3</sup>	Butyldiglykol; 67 mg/m <sup>3</sup>
TA-Luft	5.2.5
<b>Sodium octyl sulphate</b>	
TA-Luft	5.2.1
<b>National legislation France</b> No data available	
<b>National legislation Belgium</b> No data available	
<b>Other relevant data</b> No data available	
Chemical safety assessment	No chemical safety assessment is required.

## SECTION 16: OTHER INFORMATION

General:	<p>This data is based on our present knowledge. However, it shall not constitute a guarantee for any specific product featured and shall not establish a legally valid contractual relationship.</p> <p>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.</p> <p>New safety data sheets are written from time to time. Only the most recent versions may be used. Old versions must be destroyed. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. risk.</p> <p>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.</p>
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Department Issuing Data Specification Sheet:	Product Safety Department		Contact:	Customer Support +61 2 9914 8720
Specific concentration limits CLP	sodium octyl sulphate	C ≥ 20 %	Eye Damage 1;H318	ECHA
		10 % ≤ C < 20 %	Eye Irrit 2;H319	ECHA
	sodium decyl sulphate	C ≥ 20 %	Eye Damage 1;H318	ECHA
		10 % ≤ C < 20 %	Eye Irrit. 2;H319	ECHA
	sulfuric acid, mono-C12-14 (even numbered)-alkyl esters, compds. with triethanolamine	C ≥ 20 %	Eye Damage 1;H318	ECHA
		10 % ≤ C < 20 %	Eye Irrit 2;H319	ECHA
Full text of any H-statements referred to under headings 2 and 3	<p>H302 Harmful if swallowed.  H315 Causes skin irritation.  H318 Causes serious eye damage.  H319 Causes serious eye irritation.  H412 Harmful to aquatic life with long lasting effects.</p> <p>(*) = INTERNAL CLASSIFICATION BY BIG</p> <p>PBT-substances = persistent, bioaccumulative and toxic substances CLP (EU-GHS) Classification, labelling and packaging (Globally Harmonised System in Europe)</p>			